Feeling in the face of uncertainty: Tacit processes that reveal novel learning

David Kayrouz

A thesis submitted to

Auckland University of Technology

in fulfilment of the requirements for the degree of

Masters of Philosophy

2025

Auckland University of Technology

Faculty of Health and Environmental Sciences

Abstract

This study examines adults' bodily felt sense within learning processes that enable personal and group transformations during unexpected encounters. Employing the extended epistemology of Heron and Reason's (1997) ways of knowing, this study analyses the passage of six mature learners engaged in meaning making. As part of a co-operative inquiry the study uses artifacts for expression of a common experience while distinguishing between private and public domains of knowing. The qualities of knowing and knowledge pervading both private and public domains of perception are realised as tacit, implicit, and explicit forms of knowing-in-the-moment, guided by felt sense. The study's findings indicate that, in the public domain, meaningfulness related to a critical felt sense that has been realised in the private domain underpins successful group and personal transformations with learning.

Contents

Abstract ..... *i*

List of Figures ..... *v*

List of Tables ..... *vi*

List of Appendices ..... *vii*

Attestation of Authorship ..... *viii*

Acknowledgements ..... *ix*

Ethics Approval ..... *x*

Chapter 1 Introduction *1*

1.1.1 Reflexivity: My Positionality 2

1.1.2 Pre-understanding 3

1.1.3 Bridling Statement 4

1.1.4 Ontological Stance 5

1.1.5 Aims and Objectives 6

1.2 The Research Question 7

1.2.1 Methodology 7

1.2.2 Terminology 8

1.3 Thesis Overview 8

Chapter 2 Literature Review *10*

2.1 Introduction and Method 10

2.1.1 Extent of the Literature 11

2.1.2 Literature Search 11

2.1.3 Use of Terms 12

2.1.4 Knowing and Knowledge 13

2.1.5 Place of the Body 13

2.1.6 Three Ways of Knowing 14

2.2 Knowing Knowledge 15

2.2.1 Language 15

2.3 Knowing Affectively 17

2.3.1 Spaces of Tension 17

2.3.2 Affective Presentation as Synthesis 18

2.4 Knowing Reflexively and in Praxis 20

2.4.1 Analogically Mediated Inquiry 21

2.4.2 Making Decisions 21

2.4.3 Felt-sense 22

2.4.4 Tacit and Implicit Knowing 24

2.4.5 Mental Models as Conscious Knowing 25

2.5 Summary 26

Chapter 3 Methodology 28

3.1 Introduction 28

3.1.1 Philosophical Stance 28

3.2 Conceptual Framework 30

3.2.1 Public and Private 32

3.2.2 Four Modes of Knowing 33

3.2.3 Language Use with Co-operative Inquiry 35

3.2.4 Maintaining Affective Knowing 37

3.3 Method 38

3.3.1 Position of the Researcher 38

3.3.2 Ethics and Recruitment 39

3.3.3 Data Collection Meetings 40

3.3.4 The First Meeting 40

3.3.5 The Second Meeting 44

3.3.6 The Third Meeting as Collective 44

3.3.7 The Data 45

3.3.8 Available Data 46

3.3.9 Data Analysis 46

3.4 Summary 48

Chapter 4 Findings 49

4.1 Introduction 49

4.1.1 Initial Coding 50

4.1.2 Meta-themes 51

4.1.3 Private to Public 53

4.2 Meetings 54

4.2.1 Private Domain, Expression of Self Artifact 56

4.2.2 Private Domain, Expression of Others' Artifacts 59

4.2.3 Public Domain, Shared Expressions of Artifacts 61

4.2.4 Public Domain, Sharing Understanding of the Learning Process 63

4.3 Conclusion 68

Chapter 5 Discussion and Conclusions 69

5.1 Introduction 69

5.1.1 Finding Synthesis 69

5.1.2 Body in an Extended Epistemology 70

5.1.3 Place of Synthesis 71

5.1.4 Findings 71

5.2 Interpretations 73

5.2.1 Presentation Before Proposition 73

5.2.2 Body as Praxis 76

5.2.3 Felt-sense of Experiential Perspectives 76

5.3 Implications 78

5.3.1 Implications for Language 78

5.3.2 Status of Meaning 80

5.3.3 Thesis of my Thesis 83

5.4 Learning, Contributions, and Limitations 83

5.4.1 Personal Learning 83

5.4.2 Limitations and Strengths 84

5.4.3 Unique Contribution of this Thesis 85

5.4.4 Future Research 86

5.5 Conclusions 87

References 89

Appendices 99

List of Figures

Figure 1. Scumble & scumble example realised by researcher 42
Figure 2. Seascape with stingray and seahorse – Participant 1 43
Figure 3. The abductive workings of the whiteboard flow chart 54
Figure 4. Dancer & observing child – Participant 2 58
Figure 5. Kinetic work for a ball - Participant 3 60
Figure 6. Trumpet & Heart in rotating layers – Participant 4 63
Figure 7. Girl with tool – Participant 5 64
Figure 8. Faces & Hurricane – Participant 6 66

List of Tables

Table 1. The learning process as a conceptual framework 31
Table 2. Initial coded themes 51
Table 3. Relating data to the synthesis of the learner 55
Table 4. Self-expression of initial encounter 57
Table 5. Expression of other's artifacts 59
Table 6. Shared introductions as expressions and responses 62
Table 7. Ten preliminary questions of the co-operative inquiry 65
Table 8. Conclusions of the co-operative inquiry 67
Table 9. Synthesis of Knowing and Knowledge referencing Heron and Heidegger 75

List of Appendices

Appendix A. Glossary of Terms 99
Appendix B. Four modes of knowing in extended epistemology 101
Appendix C. Participation Task Brief 102
Appendix D. Research Poster AUT 106
Appendix E. Participant Information Sheet 107
Appendix F. Ethics consent letter 110

Attestation of Authorship

I hereby declare that this submission is my own work and that, to the best of my knowledge and belief, it contains no material previously published or written by another person (except where explicitly defined in the acknowledgements), nor used artificial intelligence tools or generative artificial intelligence tools (unless it is clearly stated, and referenced, along with the purpose of use), nor material which to a substantial extent has been submitted for the award of any other degree or diploma of a university or other institution of higher learning.

26/3/2025

Signature Date

Acknowledgements

To Wendelin Küpers, whose long friendship led to lasting years of deep reflection that shaped my thinking. To my supervisors, with heartfelt gratitude, Dr Heleen Reid and Professor Susan Crowther. Their unique constellation was one of caring encouragement and genial challenge as I grappled with the outcomes of my own felt-senses. To my wife, Susanne, who faithed in me through her support for this endeavour while our three children strived to fathom what I was up to.

Ethics Approval

Ethics approval was granted by: Auckland University of Technology Ethics Committee 17th October 2023 AUTEC Reference number 23/247. Appendix F

Chapter 1 Introduction

> Creativity is one of the major means by which the human being liberates himself from the fetters not only of his conditioned responses, but also of his usual choices. (Arieti, 1976, p. 4)

Wherever group training is facilitated to develop 'hands-on' capability, a challenge exists in being able to accurately design and share experiential understandings. Successful learning and adaption seek common understandings of perception and process; yet, possibilities for achieving consensus appear contradicted by the plurality of the human condition (Arendt, 2018). This study uses methodology and methods that bring theory and practice to experiential learning in a way that enhances the process. It shows that enhanced experiential learning happens when the basis of shared meaning shifts from an objective dialogue to the meaningfulness of subjective realities.

At its very heart, learning and adaption is identified as a synthesis of knowledge and felt senses in the act of knowing-in-the-moment.[1] This synthesis may be commonly viewed as creative capability (Sosa & Kayrouz, 2020) and seen as a pathway to the forms of unique expressions aligned with the arts. However, the current study takes a wider view of creative qualities by understanding creativity's dynamics as the core processes of praxis (McKerrow, 1989). Treating collaborative processes as synthesised in action recognises these relational qualities as relevant to the challenges of radical learning. Through doing, the relational qualities will be seen to nourish learning as a transformational act rather than emphasising transactional learning in a discourse that remains bound by the confines of rational logic.

Conversely, the boundless revelations of art, which often appear as illogical and originate from a different perspective, can be dismissed by the pragmatic thinker (Leavy, 2015). This misleading dichotomy entrenches a default response that appeals

[1] The use of hyphenation is discussed later in the chapter.

to a dualistic nature—one of the observer versus the other thing being observed, a world of subject and object (Heidegger, 2010; Merleau-Ponty, 2012).

Although the world is abundant with answers, on a daily basis people are required to act beyond the limits of what can be seen and known, as not all solutions can be neatly solved with ready answers. Human rationality is bounded (Gobet & Lane, 2012) and many decisions are made affectively incorporating personal biases (Kahneman, 2003). This is very evident to the human senses when knowledge or solutions surprise, confront, or puzzle assumptions, both individually and collectively. It can lead to a feeling of 'not everything adds up'.

In the light of contemporary knowledge, this thesis looks at process, as situated knowing-in-the-moment, and what that implies for learning processes. To accomplish this aim, the study brought together considerations of knowledge as past constructions from which individuals imagine ahead and examine them through what is emerging in present-moments-of-knowing-now. Although this thesis grounds its claims in the conventions of knowledge (as expected through its format, terminology verification etc.), meaning is to be found in the reader's knowing-of-it. This study will show knowing to be an improvisational process, where learning is found through situated action. The 'learning' that culminates in knowledge creation will be shown to be found through its relation to what is found in meaningfulness.

1.1.1 Reflexivity: My Positionality

My own path to learning has been through an initial apprenticeship as an engineer, establishing a manufacturing company and later, in my career, as an artist. Both vocations involved experiential learning, especially for the production of things. Yet, in both worlds the strategies of business and arts seemed very different. I experienced that business, as with science, values consistency, effectiveness, and minimising risk; whereas the arts is about non-conformity, embracing experimentation, and taking risks. I produced things in both, and it seemed to me I was just as creative in both fields, either as an engineer or as an artist solving novel challenges.

Working between these fields, what facilitated the creative process became a fascination as in practice my creative capability was a mark of success in both.

Whether working material or thinking abstractly I was aware I was in a constant process of learning and adapting. The common denominator of learnings appeared to be my personal and embodied forms of knowing.

As I worked materials, I could simultaneously *feel* them, while my abstract thoughts were *knowing about it*. These two ways of knowing, including occasional tacit revelations, were reflections on my actions and what I was learning. In a third way I could also reflexively know I was knowing. The reflexive knowing deepened the questioning of my affective connection to the world around me and examining what I perceive as clear or factual expressions.

Certainly, it was in the action of making something that knowing seemed most integrated despite realising my conscious attention could only focus on one way of knowing at the time. I came to understand my actions as synonymous with learning, putting creative capability at the centre of learning processes. I viewed radical learning as simultaneously involving three ways of knowing: knowledge as thinking, felt senses as feeling and emotions, and reflexivity as self-knowing.

1.1.2 Pre-understanding

These three ways of understanding the world form my positionality and influence how I reflect on and interpret my experiences as pre-understandings. Art practices, beyond product, brought home to me an emphasis on inquiry skills, where learning is directly related to the making process, especially for developing an awareness of personal processes. I experience and now come to realise that practical methods for the conscientisation of 'knowing how we know' [metacognition (Barzilai & Zohar, 2014)], particularly developed within community settings, encourages virtuous behaviours that collectively benefit groups' intellectual moral and social intentions. With these preunderstandings what I expect to learn is that:

1. Identifying non-verbal processes/methods could improve critical self-understanding (*reflexivity*) that make conscious a deepened understanding of group diversity (s*ocial learning*).

2. Confirming that these non-verbal processes/methods could enhance the creative capabilities of both individual and group through the context of their diversity (*context & process = capability*).
3. By deepening self-understanding (*reflexivity*) through co-operative exploration of knowing how we know, I would expect it to develop practical wisdom (*phronesis*) in the form of engaged critical reflection and developed creative capability (*capability-in-action as praxis*).

1.1.3 Bridling Statement

Accepting I cannot completely cut myself off from my pre-understandings, for transparency I disclose my relationship to this research by presenting a bridling statement (Stutey et al., 2020). This statement is aimed to address the preconceived ideas I hold and declare them as notes to myself for reflection before and during the research process. Definitions for some of the terms I have used will be found later in this chapter. The points served as a guide during this research for reviewing my assumptions when dwelling with the data. The following is my bridling statement when I asked, "what do I think I will learn?":

1. That the genesis of critical self-understanding lies in objective appraisal of subjective assumptions through firstly knowing how others perceive things via objects and phenomena (*presentational forms known affectively*).
2. That evidence of tacit assumptions can be found through offering radical non-verbal ways to express (*affective, artistic, presentational*), then explained justifying perception, meaning, intention (*verbally as propositions or practically*).
3. That there is a relationship between personal capabilities developed through working with creative media for adaptive learning (especially in unexpected circumstances) and critical self-understanding that enables appropriate behavioural responses (*phronesis*).
4. Where perceptive distinctions for knowing are developed, decisions between rational (*cognitive*), affective (*felt sense*), and reflexivity (*imagination*) facilitate higher levels of self-regulation and actualisation due to a refined capacity to change perceptive lenses for appraising detail and context appropriately (*consciously refined modes of perception*).

5. That heightening self-understanding is a result of a deepened reflexivity of social realities, found in embracing confirmation/critique from another's subjective expressions, if it is received as an affective social context (*high trust*).
6. That transformation of the human condition ultimately relies on subjective experiential confirmation (*affective knowing*).

1.1.4 Ontological Stance

I believe the world and all it can encompass is interconnected. I do not see myself as separate from the world regardless of how I might be limited while considering it conceptually or theoretically. Through two ways of knowing this view or understanding is founded and apparent to me. Firstly, as a sentient body, knowing an existential existence through my constant felt senses that affirm its consistent essences and coherence. Secondly, the foundation of my axiological stance is given through immanent conceptual glimpses and comprehension into its concrete existence that appears infinitely knowable and interpretable.

Through these two modes of knowing I experience my interconnection and various relationships with and in the world. Subjectively, I also experience a distinctive third state, that of knowing that I know. Within this meta-reflexive state of knowing I am aware of my interactive 'being' through the previously mentioned two ways of knowing the world with 'myself' in it.

Living in this participatory world (Gendlin, 1977; Heidegger, 2010; Merleau-Ponty, 2012), I understand as a process of being and becoming. While this statement is not a contradiction at face value, I find its implications more profound. As a subjective statement read linearly, the words are simple, causal, with a clear immediate meaning. However, considered further, the 'being' as part of 'becoming' presents a logical difficulty in grasping the status of 'now' within the duration of becoming. Conversely, the 'becoming' as implying motion, offers challenges when considering the 'stasis' of 'being'. I experience this tension as a subject/object dichotomy where my subjective understandings as constantly changing perceptions are challenged to align with the objective truths of this or that thing being fixed, unchangeable, or in paradoxical relationships (Gaim & Wåhlin, 2016; Götz, 2002; Sosa & Kayrouz, 2020). This pervasive conundrum appears in many ways and if individuals care to explore those tensions,

they prefigure opportunities for learning. I hold this conundrum central to making better sense of life and learning.

1.1.5 Aims and Objectives

This study investigates the learning process as knowing-in-the-moment guided by felt-sense, through three ways of knowing:

- Rational logic, as knowledge and expressed in language (Heidegger, 2002; Kent, 1993; Wittgenstein, 2009)
- Non-verbal, as art-based expression and analogically mediated (Arnheim, 1980; Barry, 1994; Eisner, 2002)
- Reflexively, as self-knowing in praxis (Freire, 2020; McKerrow, 1989)

The overall aim of the research is to examine these three processes of learners as they are learning. By additionally considering *felt-sense*, the study pays attention to finding what tacit processes might be made explicit in decisions that contribute to novel understandings (Mezirow, 1997). Austrian-American philosopher, Eugene Gendlin [1926-2017], used the felt-sense to point to the vague, non-emotional, pre-verbal or primordial sense of 'something' which is, in turn, experienced in the body (Gendlin, 1977). Fascinated by paradox, I experience what is tried in action is often counter-intuitive.

A salient example is the 1949 Mann Gulch disaster (Weick, 2009). In a grass fire attended by an elite team of 15 firefighters, 13 perished trying to escape up the sides of a valley from the wind fanned blaze. Two men survived on the valley floor. In the face of the rapidly oncoming blaze they set fire to the grass around them and laid on the burnt-out ground. Today this strategy is called backburning. While hindsight produces knowledge, what can be learnt from the 'in-the-moment' response the two survivors made? This study asks such a question by separately examining individual and group experiential learning processes during the process to comparing findings. This is expanded on in Chapter 3, methodology.

1.2 The Research Question

The essence of this work is an inquiry into the heart of learning, when the solutions sought are unknown. Learning may be viewed as touching on creative capabilities where individuals are challenged to understanding what is yet to be known. Michael Polanyi [1891-1976], a polymath, questioned this paradox through tacit knowing and is credited with saying "We know more than we can tell" (Polanyi, 1966, p. 4). As a starting point, I ask "What can we tell, that might be worth knowing?"

Limitations exist when uncertainty is not explored. When humans surrender to rational limitations or habit, they are working from what they already know. Contemporaries, both Polanyi, as scientist, and Weick [1936-], as an organisational theorist, pushed the limits of uncertainty by challenging the rational understandings of their time.

I have taken what I believe to be experienced and mature learners and placed them in unfamiliar circumstances where the solutions they are asked to find are entirely of their own volition. By breaking the learning process into clear stages that I believed could be examined, I designed my research process. I wanted to see from this process what tacit knowing might appear as explicit in action. So I asked the question: **"*What tacit processes do mature learners use to enable them to improvise and adapt in unexpected circumstances?*"**

1.2.1 Methodology

This qualitative research enquires into personal processes and is situated within a radical critical paradigm (Terry et al., 2017). A radical critical paradigm involves an understanding of where power might lay as imbalances in societal structures. Liberation from this state, through conscientisation of these structures, can lead to emancipatory outcomes in the way people interact (Freire, 2020).

The methodologies and methods I have applied to this research are an intentional attempt to reduce power structures in research methods and interactions with participants. They include the selection of materials and considerations for the timely use of objects and language as instruments of expression between participants; the intention being to facilitate a process resulting in free and autonomous expression. Interacting as a researcher, I have taken great care to ensure my stance is as objective

as possible. Acknowledging it is unrealistic to set aside my prior assumptions and experiences as shaping this work, for transparency, my stance prior as pre-positionality, ontological, and bridling statements, and my involvement during the research are declared.

This study brings together ideas from a broad range of disciplines around a central interest in embodied learning. Clarifying what the literature says about the three ways the body knows as learning lays the ground for the adopted methodology. This is fundamentally through the extended epistemology of knowing (J. Heron & P. Reason, 1997) which also guides the research method (Reason & Heron, 1999). The research involves six participants making artifacts and the analysis of data expressing their realities of this process. Of specific interest in their expression was Eugene Gendlin's (2018) notion of *bodily felt-sense*, held as constantly able to offer holistic bodily responses to lived experience.

1.2.2 Terminology

Hyphenated terms are intended to mean in-the-present-moment-of-knowing in the way the Greek idea of *phronesis* refers to practical wisdom as the application of *episteme* and *techne*. The hyphenations are intended to express situated and timely moments of knowing within the learning process along the lines of the Greek ideas of time as *chronos* and *kairo*s. For example, the way a series of images in a film might project a moment of knowing as part of movement that is ongoing.

In the methodology section, and later in the analysis, I use several ideas that I consider clarifying to the reader. As several disciplines using similar terms contribute to this study, it is inevitable definitions can cause confusion. The literature review flags this concern generally. However, the most important basic terms and their meanings as I intended them in this thesis can be found in a glossary of terms (Appendix A).

1.3 Thesis Overview

Chapter 2: Emphasises the role of the-body-in-action, as central to the literature being reviewed, as the primary study's focus is on knowing. The literature is discussed through the three ways that the body knows by considering language, arts processes,

and the self as reflexivity in praxis. Finally, the review considers the place of felt-sense as the body's continuous response to the world.

Chapter 3: Presents the philosophical positioning of the thesis and prepares the reader for the methodology establishing the conceptual framework that determined the study design. After an outline of the private and public domains of knowing, the design of the study's method as concurring within the extended epistemology of Heron and Reason (1997) is presented. This is followed by descriptions of the interview process and my efforts to maintain objectivity and distance with the gathering, processing, and analysis of the data. Collection and thematic analysis of the data is described, explaining how data were coded and the themes developed that led to the findings.

Chapter 4: Here, I analyse the findings. The theme development is described according to the four epistemological stages of knowing as they move from private to public domains. The findings of each of the stage is laid out as tables to show the participants' responses as a changing basis to their realities. Notably, as their expressions transitioned from the tasks in the private non-verbal domain of knowing to dialogue within that of the public domain.

Chapter 5: In the final discussion and conclusion, I share interpretations of the study findings across the four ways of knowing, presenting specific interpretations as relating to the process steps. The design methods and language as rhetoric influenced the outcomes of participants' learning, the place of praxis, and the combined effects on the participants' learning and adaption. The study limitations and strengths are outlined as having considerable implications for the further development of practical applications for 'hands on' learning.

Chapter 2 Literature Review

All human beings by nature desire to know. (Aristotle, 1980a, p. 21)

2.1 Introduction and Method

This chapter identifies and lays out a body of literature determining the many connections, gaps, and inconsistencies related to the experience of learning that are relevant to the research question: "What tacit processes do mature learners use to enable them to improvise and adapt in unexpected circumstances?".

The narrative review method used is "aimed at identifying and summarising what has been previously published avoiding duplications and seeking new study areas not yet addressed" (Ferrari et al., 2009, p. 230). The review shows the discourse on learning is vast but offers unique contributions from many different siloed fields of interest. Since Aristotle's writing on metaphysics (see opening quote), fields of literary information contributing to learning and adaption have accrued from many thinkers and disciplines. The resulting literature produces a near boundless and, at times, conflicting repertoire of knowledge and information that this chapter considers.

The approach to the literature review is guided by the sentient body as 'knowing-in-the-moment' and provides the central theme for reviewing what is appropriate. This narrative strategy offers an approach deemed "useful for topics that require a meaningful synthesis of research evidence that may be complex or broad and that require detailed nuanced description and interpretation" (Sukhera, 2022, p. 414). A comprehensive exploration of the complex qualities and dimensions that contribute multiple factors to the subject of learning is sourced in numerous scholarly books, peer reviewed academic papers, grey papers, and reports. Sources found are notably from the late 19th century to present.

While saturation cannot be guaranteed, Scopus and Google Scholar were used for rapid scoping reviews to check the extent of what is currently available from historical and emerging fields. This process provided valuable insights on the depth of material available for the review. The review then delves into the literature's complex discourse on learning, emphasising the importance of distinguishing between the concepts of

knowing and *knowledge*. It explores the literature for philosophical and practical nuances of learning as a process, rather than a mere accumulation of facts.

The chapter aims to expand on key terms and introduces related concepts that enhance understanding of the learning process. This aim is achieved by drawing on cross-disciplinary connections in ways that transcend conventional language and rational thought, highlighting a contemporary shift towards understanding the processes that generate new learning and knowledge. It will show that the knowing body's role is not just as a vessel for sensory input but is an active participant in the construction of knowledge.

2.1.1 Extent of the Literature

Through different disciplines, reoccurring themes are apparent in the learning literature. One trend is the pursuit of the 'what' of knowledge as a noun, quantity, verification, meaning et cetera. Alternatively, where learning was treated as a verb, interest considering the 'why' of process often produced new directions for enquiry (Argyris, 1977; Dreyfus & Dreyfus, 1986; Gendlin, 1977; Kolb, 2014; Polanyi, 1966). Further, key literature identified related to the phenomenon of transformation through continuous forms of experiential learning can be drawn from a wide range of disciplines. This requires consideration of their shared terms and an understanding of the disciplines 'raison d'être' to compare findings. The most prominent disciplines contributing to the review, that link well with the research question, include philosophy (Gendlin, 2018; Heidegger, 2010; Husserl, 1970; Merleau-Ponty, 2012; Polanyi, 1969); psychology (Arieti, 1976; Csikszentmihalyi, 2002; Richards, 2007); education (Biesta, 2015; Eisner, 2002; Freire, 2020); knowledge management (Argyris, 1977; Weick, 2012); behavioural sciences (Kahnemann & Tversky, 1992; Kolb, 2014); and creative practice (Eisner, 2002; Gardner & Gardner, 2008; Gombrich, 1995; Leavy, 2015)

2.1.2 Literature Search

With such a variety of information available, broad and rapid database searches, using a gerundial approach, enabled early visibility on suitable material. The primary use of verbs such as knowing, learning, sensing, inquiring, helpfully identified the pertinent

material. For example, changing the term learn to learning in Scopus reduced the number of papers from 8,521,420 to 2,674,657; a 68% reduction of 6 million papers. This strategy, used early for specific searches in different fields, provided a broad understanding of relevant literature within disciplines. Importantly, this approach was applied to other specialised terms such as 'tacit knowledge' (n = 7,987 papers) and 'tacit knowing' (n = 158 papers).

Despite tweaking key search terms to orient results towards processual interests, search results offered numerous outputs where knowledge in itself was treated as a resource (Alavi & Leidner, 2001). This could be interpreted as resulting from a dominant interest of the late 20th century "knowledge economy" (Powell & Snellman, 2004) and viewed as unlikely to contribute to processual reasoning.

2.1.3 Use of Terms

Narrowing the processual search field also presents a difficulty because of the use of ubiquitous terms such as creative, intuitive, understand, know, that can be poorly defined and understood. Twenty three years ago, professor of management, Stephen Gourlay (2002), summarised this concern regarding the terms knowledge and knowing and taking 'tacit knowledge' as one example of an inconsistent concept across disciplines. Gourlay outlined:

> The phrase 'tacit knowledge' is used in many fields of research and actively implying that the concept is of broad applicability and relevance. A database of books in print shows that currently 41 titles are concerned with tacit knowledge to some extent. These cover a wide range of disciplines and interests, including knowledge management, organisational learning, adult learning, research methods, business ethics, leadership, evolutionary and institutional economics, econometrics, mathematics, decision making, psychology, and religious thought. (p. 1)

Gourlay (2002) advised to view such terms as heuristic assumptions, which is why I have italicised, for clarity, the terms considered critical to the scope of this narrative review. This is due to the processual and interconnected nature of terms such as *thinking* to be used ubiquitously to indicate thoughts, judgment reasoning, imagining,

etcetera. Accordingly, key terms will be defined as heuristics, with their definitions pointing out their central purpose and meaning as a nexus in the context of the process being reviewed.

2.1.4 Knowing and Knowledge

Knowing is expressed as a living process that can produce knowledge as its output. Knowledge is, therefore, considered a fixed outcome of experience. Examining the interrelated information about knowing that research is challenged to connect (Aagaard-Hansen, 2007), this study attempts to avoid reified understandings of processes. The outcome of this review reveals and connects related qualities of process that produce novel outcomes with learning.

The qualities of process found throughout the literature are viewed as characteristics of the body's continuous perceptual and behavioural practices. These are seen as simultaneously supporting transformational learning that results in resourceful and pragmatic forms of adaption and response (Kolb, 2014; Mezirow, 1997). It is in deference to transactional processes, where learning is understood as the primary result of knowledge acquisition and shared as rational generalisable propositions (Sameroff, 2009).

2.1.5 Place of the Body

Since how knowledge is acquired, rather than knowledge itself, is the centre of interest, the knowing body takes an essential place in connecting the relevant literature. Here the body's place in 'action' is viewed as part of the human condition as suggested by philosopher Hannah Arendt [1906-1975]. Arendt (2018) links 'action' to learning through active engagement, dialogue, creativity, and self-reflection, emphasising the dynamic and interactive nature of all these processes. In this way, the knowing body (Gendlin, 1977; Merleau-Ponty, 2012) is a central focus and described through its knowledge, senses, and ability for reflexivity. Relevant interrelated concepts (creating, dialogue, reflection) will be introduced and discussed by laying out and linking the actions of the body through the processes of 'knowing how it knows' (Lai, 2011).

Ontologically, this study places the body in a connected world through a participatory paradigm (J. Heron & P. Reason, 1997). The participatory paradigm is akin to Heidegger's (2010) concept of Being and being, where the cosmos is seen as a primordial ontological datum and world as an epistemological construct (Alavi & Leidner, 2001). Adopting this stance means exploring the environment through the body's constant occupation of it. This realm is identified as being between an objective world of shared realities and the body's subjective knowing of those realities (Scriven, 1972). Through its persistent connection to and occupation of this realm, the living body is affirmed as the primary site of perception (Merleau-Ponty, 2012) constantly interacting through its felt-senses (Gendlin, 1977).

Since knowing is a continuous process of living, this review looks to discover understanding in the-present-moment-of-action (Dewey, 1986; Kolb, 2014). By confirming the idea that learning is a continuous result of interaction between the individual and its environment, it also acknowledges learners have been historically informed by their 'life world' (Dahlberg, 2006). These varied life experiences further contribute to the multiplicity of existing learning concepts that can be found within the literature.

2.1.6 Three Ways of Knowing

Having outlined the literary horizons and its limitations, I return to the centrality of the knowing-body-in-action. Through it I move to consider its knowing as *radical learning* by looking at a synthesis of three ways of knowing: knowing knowledge, knowing affectively, and knowing reflexively (Csikszentmihalyi, 2002, 2014; Kuhn, 2000). With *radical learning*, reference is made not only to acquiring facts as information (Goerner, 2007) or the responsive shaping of behaviours to accommodate our environment (Richards, 2007; Sundararajan & Averill, 2009). It additionally refers to a human agency for creative capability (Bandura, 2006), an ability to adapt proactively through initiatives that result in new ideas and novel actions (Dyke, 2009).

Radical learning goes beyond just knowing facts about the outside world. It involves developing the curiosity and ability to deeply explore the dimensions of inner bodily knowing, which leads to the creation of new knowledge (Ferrari et al., 2009; Stålne & Greca, 2022). These *inner dimensions* of bodily knowing are recognised as knowing

reflexively and viewed as metacognitive practices (Barzilai & Zohar, 2014) or, phrased alternatively, as knowing how we know. These three ways of knowing will now be explored under the headings: knowing knowledge; knowing affectively; and knowing self.

2.2 Knowing Knowledge

Knowing knowledge is defined as an outcome of rational thinking (Flavell, 1979). It constitutes an ability to produce information by offering logical propositions about things, including oneself. It is *knowledge* by description expressed in statements and theories that come with mastery of concepts and categories that language bestows (J. Heron & P. Reason, 1997). The existence of knowledge is purposeful in delivering understanding that is the same and coherent. Further, such knowledge is known to hold a power dynamic in learning (Gaventa & Cornwall, 2015), but this knowledge is not the same as knowing (Gourlay, 2002). Since the concern here is an exploration of process there lie conundrums. Without knowledge as naming, discussing knowing becomes problematic.

Among others, Martin Heidegger produced considerable literature on this problem. After laying ontological ground in “Identity and Difference,” Heidegger (2002) assured there could not be science without thinking receiving “the tools for this self-suspended structure from language” (p. 38). In relation to this thesis, as discourse, I would not be able to describe, express, or comment on the ideas of others, let alone express my own, without receiving language as a tool. Thus, language as a means of expression requires special attention in the context of this study.

2.2.1 Language

Heidegger (1993) viewed language as natural, a part of the human condition, and that through language we come to know the world. His view was that through naming things an ‘unconcealment’ (Wrathall, 2010) occurs and it becomes possible to appropriate things. For the creative person this approach opens a way to revealing what might already be there in a knowing moment of what is yet-to-be-known or, in Heideggerian way, unconcealed or pointed out in the present (Farber, 1958).

However, what Heidegger (2010) also revealed in the world as being named is another concern of its 'unconcealment'. This is a quality of the outcome of a future yet-to-be-known-in-the-moment and will be found rooted in a recalling and retelling of the past (Smith, 1986). Retelling, like captured snapshots, contains a quality of pastness which is static and does not in itself move to or anticipate future (Dainton, 2010). If it reveals a time or tense it is because humans have attributed it through language (Ludlow, 1999). This pastness has implications for processes of unconcealment that concern revealing the new because the things that language names find their original expression in the collective sedimented histories of others (Pennycook, 2004).

Knowledge's past influence on the content of present knowing contributes to a centuries old conundrum regarding the theory of knowledge (Russell, 1993), perplexing understanding of the inner dimensions of individuals' processes that herald the new and yet-to-be-known in the present-moment-of-knowing. If by naming things we are knowing-in-the-moment as a result of the prior understandings of others, it presents a problem for knowing more and differently.

Implications of this prior conditioning can be found through Heidegger's (2010) concept of 'thrownness'. He devoted considerable thinking to language's influence on knowing what we know. Confirmed are the paradigms language creates, effecting the epistemological frameworks humans work with and that cannot be turned back though they do evolve (Rouse, 2003). The idea that the ability to name things is a necessary and intrinsic part of radical learning nevertheless sits in stark contrast to Jean Piaget's theory of cognitive development (Beard, 1960). Despite the apparent necessity of language in the learning process, taken with its epistemological enigmas as presented above, the infant that cannot speak in its early stages of development is a phenomenal radical learner (Downey, 2017). Here Piaget claimed the sensori-motor stage of learning ends when language first appears and even for some time after this stage "differences in the use of language are of little importance" (Beard, 2013, p. 18). If language is not a prerequisite for learning in the knowing processes of a child, it suggests clues lie in the 'sensori-motor' aspect of the body. This requires an examination of what is known about the affective knowing of the body.

2.3 Knowing Affectively

Being alive in the world is to learn about it through the senses of the body. Knowing affectively through *felt-sense* (Gendlin, 1977), the sentient body responds to experiences in a range of physical and emotional feelings. *Feelings* are defined here as those physical bodily sensations that result from interactions with its environment in a sense of the present moment (Gendlin, 1977; Waterworth et al., 2010). *Emotions* are perceived or imagined stimuli that generate a wide range of physiological responses (Izard, 1992). *Emotions* play a leading role in social cognition and decision making, contributing to the formation of the autobiographical self (Damasio, 1999). Damasio (1999) would argue the autobiographical self links feeling to the primordial means of knowing. Both affective forms of knowing are experienced as responses to one's personal 'life world'. The *felt sense* of experience permits humans to know more and differently (Barry & Meisiek, 2010).

Affective forms of knowing do not accurately define concrete coherent relations between things, as language does. Rather, a felt-sense permits generalisable, contextual apprehension though physical bodily senses of sight, touch, hearing, smell, taste (Friedman, 2016). This relational knowing of the senses can also be cultivated and developed through creative processes, particularly as situated learning (Eisner, 2002; Gardner & Gardner, 2008). As a result of creative practices where art serves as a mirror sharing the triumphs and struggles of the human condition, what becomes evident in its inquiry and expression are that differences of opinion offer a space of *tension* (Craft, 2005). This *tension* can be envisaged as a space within the body's inner dimension, inviting questions of how learning takes place when paradox is embraced (DeFillippi et al., 2007).

2.3.1 Spaces of Tension

Through embracing a disposition for paradox (Götz, 2002) the sentient and knowing body straddles the experiences of its subjective everyday life along with objectively knowing the same through thinking. Put another way, bodily felt sense is posited as the felt tensions of learning, situated within one's personal real or imagined world, and a felt understanding of these as paradoxical spaces of knowing (Gaim & Wåhlin, 2016; Groen, 2008). The work of the sensual body as occupying and exploring these spaces is

experienced as activities driven by a constant cyclical movement of repeated attempts to reconcile personal experience with collective understanding (Tosey et al., 2012).

2.3.2 Affective Presentation as Synthesis

Reconciling experience with understanding brings the discussion back to literature that can elaborate on affective forms of knowing as a constant source synthesis. The act of knowing knowledge is creating a split that shows something as un-concealed. Put differently, by using language to name, 'calls out'; therefore, separates the something from the contextual ground in which it was embedded. 'Calling out' involves a historical legacy of conditioning (Farber, 1958) that reinforces the 'rational adult's' desire to know the same and coherently, while emboldening an effect that is counter to developing novel insights (Amabile et al., 2002).

However, by intentionally putting naming aside and looking at purely sensually knowing, nuances of difference with affective knowing are exposed. Felt sense is a constant source of information regardless of any need to name (Schroeder, 2008). Affective knowing, while it often is named as one emotion or another, remains wherever its connection resonates with the thing that stimulates the connection (Tye, 2008). In this way, affective knowing offers a constant synthesis for knower and known.

Without spoken language, holding only emphasis for knowing affectively brings this review of the senses into the area of pre-linguistic expression. Many scholars seriously consider the origins of learning processes as beginning in the non-verbal realms of expression, such as with symbols and gesture (Dewey, 2005; Eisner, 2002; Lakoff & Johnson, 1980; Ozdem-Yilmaz & Bilican, 2020; Winnicott, 1991). Symbols and gesture are seen as closely tied to the senses (Johnson, 1987), permitting an expression of experience that is highly adaptable to both situatedness and the particulars of its expression; for example, repeated use of emblematic circles to express life cycles in art or the universal energetic thrust of a person's victory air punch. The felt sense of these expressions is additionally part of their interpretation (Eisner, 2002; Lakoff & Johnson, 1980). One overarching form of this knowing is suitably termed *presentational.* J. Heron and P. Reason (1997) defined *presentational knowing* as

> symbolized in graphic, plastic, musical, vocal, and verbal art forms. It clothes our experiential knowing of the world in the metaphors of aesthetic creation, in expressive spatiotemporal forms of imagery. These forms symbolize both our felt attunement with the world and the primary meaning embedded in our enactment of its appearing. (p. 281)

Art forms expressing experiential knowing of the world have universal meanings in music, paintings, sculpture etcetera (Gombrich, 1995; Savage et al., 2015). However, a distinction must be made regarding language as 'verbal' in art forms. This is because 'words' as living language also have a quality to synthesise; that is, can be both presentational and propositional (Langer, 1991). As such, language has a 'linguistic turn' (Wittgenstein, 2009) meaning its qualities have the means to define positivism on one hand, while serving as a vehicle for reaching to the metaphysical on the other hand.

When words are used conceptually as propositions the intention is selective – they are intended to define. Paradoxically, in art forms like poetry, words used with generative intentions, their purpose is to present. Words in poetry take on a presentational effect, when their desire is to express a mood, emotion, or words used as heuristic depictions (i.e., to colour or paint with words). In this way, the semantics of language uniquely lean into synthesis (Kent, 1993). Presentational forms in art are the very essence of its creative output and accordingly reach across many divides (Eisner, 2002).

Arts offer possibility to find understandings by means of knowing affectively in a sense of their essence in comparison to experiencing the physicality of their immanence (Arieti, 1976; Gombrich, 1995). A work of art presents feeling (in the broad sense previously mentioned, as everything that can be felt) for contemplation, making it visible or audible, or in some way perceivable through a symbol, not inferable from a symptom. Artistic form is congruent with the dynamic forms of a direct, sensuous mental and emotional life. Works of art are projections of 'felt life' as Henry James called it, into spatial, temporal, and poetic structures. They are the images of feeling, that formulate it for our cognition.

Art and creative processes naturally offer an intimate relational basis for affective knowing. However, these experiences are private and to have value to others they need to be made public which requires their representation (Arnheim, 1980; Eisner, 2002). In making creative objects of artistic merit, they offer more than information and are known to be self-reflexive in nature (Dewey, 2005). Together, by knowing affectively along with knowing knowledge, radical learning can be recognised when the private is made public in-moments-of-action that result from knowing reflexively .

2.4 Knowing Reflexively and in Praxis

Standing back in a detached and neutral way to examine how individuals are knowing is a profound reflexive attribute of the human condition (Evens et al., 2016). *Knowing reflexively* is a teleological act (DeVries, 1991); yet, one of faithing into the unknown where learning is radical (Fowler, 1981; Götz, 2002). Reflexivity is considered a knowing synthesis of explicit body and implicit mind (Farrell & Frentz, 1979) and is an executive exploration of inner dimensions that questions assumptions found in knowing either as knowledge or knowing affectively. This description of reflexivity, however, does not deny intentionality (DeVries, 1991) and looks to exercise knowing in the realm of free imagination (Johnson, 1987; Stokes, 2014). It is from the exploration of the inner dimension of imagination that the private knowing can be made visible and evident when it is realised in action (Kolb, 2014; Ricoeur, 2016).

Action and theory, through the reflexive knowing of the body, are seen to constitute and occupy moments-of-action and can be described as *praxis* (Lather, 1986; McKerrow, 1989) In *praxis,* theory looks to resolutions of meaning from the synthesis of language as knowledge at play with actions (Kent, 1993). Both are implemented through the constant interactions and improvisations of body and world (Farrell & Frentz, 1979). Learning as praxis seeks to resolve meanings through the interplay of language and actions as forms of knowledge (Freire, 2020). When inner knowing can be made explicit and shared, praxis comes to fruition by realising the perceived tacit forms and expressions of those dimensions (Barry, 1994). Therefore, the interpretations of inner knowing, analogically and metaphorically, permit the collective to come closer to sharing inner understandings of processes (Csordas, 2008; Mingers, 1995).

2.4.1 Analogically Mediated Inquiry

Artifacts, when considered as analogues, grant intersubjective understandings because they comprise something that is similar or comparable to something else. As a physical artifact, analogues offer a presentational knowing, similar to metaphors, both being primarily understood through affective knowing (Gendlin & Olsen, 1970; Lakoff & Johnson, 1980; Meier & Robinson, 2005). Artifacts treated as analogues exhibit parallels to the artistic processes of expression associated with creative practices (Lavazza, 2009; Reason & Seeley, 2008; Seeley, 2011). In other words, they make the inner human dimension visible. Presenting tangible artifacts offers a possibility to reflect on pre-verbal understandings and share and compare with others analogically (Arnheim, 1980; Barry, 1996). Disciplines of many kinds share a range of conventions for observing art to understand the human condition. Education and developmental psychology (Eisner, 2002; Gardner & Gardner, 2008; Heaton, 2020), therapy (Malchiodi, 2011; Searls, 2017), anthropological studies (Gell, 2020; Schneider, 2012), and philosophy (Heidegger, 2010) all turn to arts for presentational expression of the non-linguistic qualities of the human condition. Art as an analogical, non-linguistic form serves as tangible visceral, emotive, and meaning saturated portal for inquiry (Leavy, 2015). It needs to be noted that for this study the purpose of the artifacts presented fulfil the expressions of participants. Therefore, they are not in question. Instead, the processual and felt-sense in their making as an analogue is of interest.

2.4.2 Making Decisions

Making meaning from analogical material necessitates a consideration of decisions when regarding their interpretation (Gendlin, 1997; Lakoff & Johnson, 1980). Learning decisions can be framed as related to the three ways of knowing that have been outlined so far, knowing knowledge (Flavell, 1979), knowing affectively (Gendlin, 1977), and knowing reflexively (Kuhn, 2000). Decisions regarding matters of knowledge, approached logically with facts, include the syntax of language (Simon, 1965) where outcomes are essentially treated as definitive. Decisions of affect are regarded less determinate as outcomes, although the valence of emotions is touted to contribute predictable influences on decisions (Angie et al., 2011; Guo et al., 2020). To be noted are more recent conclusions demonstrating affect is further considered to be the fundamental driver of all decisions (Brătianu & Orzea, 2014; Lerner et al., 2015;

Tversky & Kahneman, 1988). Nevertheless, the two aspects of knowing knowledge and knowing affectively, in varying parts, are synthesised in knowing reflexively (Rosenberg, 1990).

Depending on circumstances, reflexive decisions can generally be determined in one of the three overarching conditions: certainty, probability, and uncertainty (Kahneman & Tversky, 1982; Taleb, 2007; Woodward & Woodward, 1975). The most contentious of these being decisions made in uncertainty and are related to conditions that produce radical shifts in learning (King & Kay, 2020). These latter decisions are considered reflexively based on bodily felt sense of the present (Gendlin, 1977; Gigerenzer, 2008).

2.4.3 Felt-sense

The contentious choices in radical learning that require significant involvement as affective knowing need further examination as they are processes beyond logical reasoning. These are processes and decisions where trusting visceral intuitions or following a gut sense are relevant to making decisions affectively (Gigerenzer, 2008; Kahneman, 2003). This concern calls for a critical interest in Eugene Gendlin's (1977) notions of bodily *felt-sense* which is viewed as providing an evaluative indicator when intentionality encounters experiential uncertainties. '*Felt-sense*', a term coined by Gendlin, is an entirely bodily felt response to the inner dimensions of knowing where intentionality is surrendered to a radical acceptance of everything. Gendlin (1981) defined felt sense as ''a special kind of internal bodily awareness… a body-sense of meaning" (p. 10), one which the conscious mind is initially unable to articulate for it is the holistic, implicit, bodily sense of a complex situation.

A quality of felt-sense is that it 'implies forward' with a future orientation of the yet-to-be-known by bringing the past to the present moment in the body's somatic sense of ongoing living (Gendlin, 1977; Walkerden, 2004). It is understood as a nuanced and distinctive part of affective knowing (Gendlin, 1977). Both affective forms of knowing as emotions and feelings are similar in that they are felt bodily, are not entirely in one's control, and relate meaningfully to lives and events (Baumeister & Vohs, 2002). Where they differ is emotion narrows awareness, is nameable, and arises from culturally expected places or events. Conversely, felt-sense widens awareness, is difficult to define, and unique to the person sensing it (Cornell, 2013). In other words,

felt senses are wholistic subjective responses that come of themselves unlike emotions which can be predicted (Schmitz et al., 2011). Felt-sense is reviewed here as a pivotal affective means of confirming or challenging existing assumptions; therefore, viewed as a primary affective guide to revealing tacit knowing (Gendlin, 1997).

To give an idea of the narrowed breadth of literature on felt-sense, a Scopus search of papers and abstracts using the term felt sense* generated 327 hits. Some of these papers refer to Gendlin; however, many authors use this term loosely across a wide range of social sciences. The addition of the Boolean operator AND with Gendlin, reduced the number to 28. As Gendlin initially worked with Carl Rogers [1902-1987] and later published a therapeutic process called 'focusing' (Gendlin, 1981) many of these papers apply his concepts within psychological contexts. Of interest two of these papers centre around definitional understandings of felt-sense (Ikemi, 2005; Puc, 2020) with three others referring to contemporary research on thinking at the edge.

Thinking at the edge was a concept resultant from Gendlin's later philosophical work on the implicit (Nonaka & Takeuchi, 1996; Saller & Schoeller, 2018; Schoeller, 2023; Schoeller & Dunaetz, 2018). It was developed as a process with psychotherapist and educator, Mary Hendricks [1944-2018], who worked with Gendlin at the University of Chicago in the field of focusing-oriented psychotherapy.

Donata Schoeller worked with Gendlin. She translated 'A Process Model' (Gendlin, 1977) into German and co-edited a book on Gendlin's late works after his death (Schoeller et al., 2017). Schoeller's own work is informed by Gendlin's embodied theory of meaning, functioning through the means of bodily felt senses. Contrary to this study, thinking at the edge specifically explores the relationship of felt senses to language following Gendlin's prescribed thinking at the edge process. Although his philosophical work remains relatively unexplored his focusing process, Gendlin (1981) raised considerable awareness of felt-sense in therapy and psychology fields, and it has been well researched especially as a method for therapeutic practice (Cornell, 2013; Peace & Smith-Adcock, 2018; Puc, 2020).

Importantly, publications searched in common with Schoeller's work related to Gendlin, are all connected conceptually by referencing the ideas of Merleau-Ponty'

(2012) with the body as the primary site of perception; Gadamer's (1992) idea of 'Bildung'; and Heidegger's (2010) concept of Dasein. These theorists all contribute to foundational ontologies informing and related to Gendlin's work where his ideas of 'felt-sense' reach to uncover the deeper dimensions of tacit and implicit knowing.

2.4.4 Tacit and Implicit Knowing

Felt senses as a prerequisite to revealing and informing tacit knowing moves to the thinking of Michael Polanyi, the Hungarian-British polymath. Caught up in the Jewish pogrom, he left Europe in 1933 and settled in Britain at the University of Manchester. Here, he developed his theoretical inspiration for implicit and tacit knowing, current interests often quoted from his work 'The Tacit Dimension' (Polanyi, 1966). It remains a seminal work on tacit processes. However, as Gourlay (2002) pointed out, Polanyi himself used the terms knowledge and knowing interchangeably. Consequently, the previously mentioned bias toward knowledge management studies has, without doubt, contributed to the conflicting interpretations of his work and done little to clarify or help bridge the knowledge/knowing dilemma.

One example is the Socialisation, Externalisation, Combination and Internalisation (SECI) model (Nonaka & Takeuchi, 1996), a highly successful model for organisational knowledge creation. While it ably develops practical knowledge outcomes and acknowledges Polanyi's work as its conceptual source, it does not push the boundaries of process understandings. This is true of a host of work related to research in the fields of practical intelligence, artificial intelligence, and the social sciences (Gourlay, 2002).

The extensive vocabulary of shared terms and concepts use to address responses to unexpected learning needs indicate a truly meaningful review of existing knowledge, particularly as tacit knowledge, is beyond the scope of my study's conclusions. This is a point also reached in Gourlay's research (2002). "It thus appears that away from knowledge management and organization studies, the phrase 'tacit knowledge' is also used to mean different things, and key differences match those found in the knowledge management writings - whether it is an individual or collective trait, and whether it is explicable or not." (p.8)

What can be said about Polanyi is there is strong evidence in his writing to suggest he was primarily concerned with process of tacit knowing and not interested in a reified putative 'thing', represented as tacit knowledge. His work pursues a whole-part relationship derived from gestalt psychology (Polanyi, 1969) as having what he termed 'focal' and 'subsidiary' elements declaring they formed "the bridge between the higher creative powers of man and the bodily processes which are prominent in the operations of perception" (Polanyi, 1966, p. 7).

The importance of his work is the attention he brought to process of knowing rather than its content. The implication was to further endorse knowing as a behavioural knowing that is learning through integration of the body's transactions with its environment (Dewey & Bentley, 1946). The idea of integration is also found in Gendlin's (1977) Process Model where the existence of a physical body is viewed as an environment in itself, acting as a continued resulting with the surrounding living environment and where the bodies 'occurring' always involves both.

The body's knowing relationship and transactions with its environment can be recognised as the phenomenological propensity for humans to seek and detect patterns (Blake & Shiffrar, 2007) and are communicated through a wide range of presentational forms. It is posited that this is the basis of sedimented non-verbal forms of pre-reflexive knowing that inform tacit knowing, leading to the formation of mental models (Stadler & Frensch, 1998).

2.4.5 Mental Models as Conscious Knowing

Mental models are representations that support understanding with learning and adaption. Mental models fall into two categories; those of the explicit and implicit (Jones et al., 2011). Explicit models abound and cover relational diagrams, that permit comprehension of processes as instruction (Tuan, 1975), to mind mapping as used to visually organize information into hierarchies (De Bono, 2015). Potential for learning or expression as mental models found in literature tend to be related to memory and fall into two camps, episodic and semantic (Renoult et al., 2012); otherwise little appears as related to capturing present experience. Where written language labours to express, the relevance of visual models to learning is their presentational ability to represent and share implicit relational understandings (Decuypere & Simons, 2016).

It is assumed that the development of capability lies in understanding what the successful person can explain as a description of their processes (Bass et al., 2017). In other words what they know reflexively about their own processes that might be relationally expressed analogically as metaphoric mental models (Gardner & Gardner, 2008; Johnson, 1987; Lakoff & Johnson, 1980). Meeting this challenge involves an ability to communicate processes from encounter to outcome, and implies they might have an awareness of the implicit and tacit processes that inform their actions (Bruno et al., 2011)

A Scopus search of implicit as part of mental models resulted in 1,302 hits. However, the addition of the word presentational reduced the results to four. Two of these papers (Martinis, 2024; Poli & Poli, 2017) deal philosophically with the challenges of generating visual information from tacit understandings of process. Importantly, a desired outcome of learning is facilitating means for sharing understandings of tacit or implicit knowing of experiences.

One explicit process that has successfully transitioned learning from experience to practice in the health field is co-operative inquiry (Reason & Heron, 1999). Its underlying epistemological principles, centred in the human condition, have produced significant practical outcomes with learning by doing (Hummelvoll & Severinsson, 2005; Waterman et al., 2015). Outside of health its potential for making conscious tacit forms of knowing have had limited application, to date.

Literature clearly indicates there is ample knowledge and growing interest in understanding the process of radical learning. Though deemed tacit, what seems missing is the action research needed to see what appears when examining the process with greater intentionality as following papers indicate: “While such theoretical assumptions already existed, they have not yet been empirically tested and revealed”(Kucharska & Erickson, 2023, p. 17) or “Still today, systematic epistemological studies on the topic are scarce” (Malik, 2023, p. 1).

2.5 Summary

This literature review has shown how broad is the discourse on learning. In reviewing the knowledge, concerns have been raised with uncertainties of terminology and the

need to understand researchers' interests and ontologies with reviewing if the validity of knowledge assumptions is to be trusted. Nevertheless the review showed there are a number of key concepts from seminal thinkers that concur.

In this review, a focus on 'process' highlighted the literature's offerings for concepts and methods that develop knowledge. The actions of the knowing body were central in guiding the review examining how the body's knowing of the world, in which it is embedded, happens. This processual knowing was considered through the literature in three ways—knowing of knowledge, knowing affectively, and knowing reflexively. While knowing knowledge might seem straight forward, once the distinction between knowledge as a noun and the action of knowing as a verb was outlined, the dual nature of language for communication required clarification. Language, as with knowing affectively, was also shown to be a constant dynamic of the human condition in sensing the world.

However, knowing affectively was shown to often be in tension with knowing of knowledge. Nevertheless, recognised are individuals' perceptions as knowing consist of both affect and knowledge where conclusions are drawn. These conclusions are expressed and shared through one's capacity for reflexivity in imaginative synthesis where all things can be reconciled. Reflexivity, coupling knowledge as theory and enabling affective knowing, is the essence of praxis and a source for developing new and novel understandings.

In praxis, affective knowing can be communicated through various analogical presentations, as in arts-based expressions that lead to radical learning. Consequently, the crux of bringing knowing affectively to practical learning is shown to require a refined use of the felt senses for affective decision making. This has a direct relationship with examining the implicit and tacit forms of knowing that enable responses and interpretations of analogues. The next chapter outlines the methodology used to show how these forms of knowing were approached during this study of the learning process.

Chapter 3 Methodology

> The purpose of art is to lay bare the questions which have been hidden by the answers. James Baldwin. (Shlain, 1991, p. 15)

3.1 Introduction

In this chapter I first outline my philosophical stance, followed by the conceptual frameworks informing the study design. This is a qualitative study (Guba & Lincoln, 1994) with a design framework that employs action research (Kemmis, 2008). References that illustrate connections between methodology and method are made early to establish the grounds for the design of the study.

To examine learning, this chapter first introduces the realms of private and public knowing. Within these realms it explains the four distinctly different modes of embodied knowing and learning as an extended epistemology (J. Heron & P. Reason, 1997). These modes, or ways of knowing, are central to the method and support co-operative inquiry (Reason & Heron, 1999). However, to account for the influences of language affecting its early non-verbal stages, a modified co-operative enquiry is described. The idea of felt-sense is introduced as a critical form of response for affective knowing.

3.1.1 Philosophical Stance

Having established the interdependence of the conceptual frameworks related to the methodologies, the following section outlines the study methods. Clarifying my relationship to participants during these action phases I position myself in my role as the interpretivist of the data (Grant & Giddings, 2002). I explain how the study design is applied to each of the different ways of knowing that will be captured and expressed as data. This is presented as three meetings that will reflect participants' experiences of knowing-in-the-moment during their learning journey, transitioning from initial encounter to the development of their practical conclusions (Heron, 1996). The chapter finishes with an explanation of how the data were collected and analysed.

The philosophies that have been influential in guiding my approach come from my understanding of a world as created through the paradigm of a body mind split.

Nevertheless, I view both my physical body and the products of mind as synthesised as a whole, in *action* aligning with the views of Arendt (2018). My explanations are that through 'thrownness' (Heidegger, 2010) I have been born into a conceptual world, along with my lived experiences determining the views of my 'life world' (Husserl, 1970). Without action, I would experience these ideas as a 'disembodied preconditioning' detracting from my sovereign potential for agency over my own thoughts and behaviour. Whereas, in fact, I experience myself reflexively as constantly embodied in a connected universe whose essence I find can only be sensed as a potential.

For this reason, I have also been influenced by the ideas of Merleau-Ponty's 'flesh' as a universe in which my body is my primary site of perception. Additionally, the ideas of Eugene Gendlin (1977) and Antonio Damasio (1999) that hold that the felt senses of the body are the *primary* forms of knowing and perception conflate for me with Heidegger's notion of the 'unconcealment' of concepts (Wrathall, 2010). These ideas have me considering how ways-of-knowing-in-the-moment might enact radical learning through my constant felt sense that affirms the world's consistent 'essences' and coherence. These are confirmed through immanent conceptual glimpses and comprehension into its concrete knowable existence that appear knowable, intelligible, and interpretable to me.

Exploring transition as a continuum from the potential of transcendent forms of knowing to the immanence of conceptual knowledge leads me to apply Heron and Reason's (1997) extended epistemology of knowing to my research methods. This epistemology shares the premise of holding to the interconnectedness of body/mind in a participatory world that is known primarily through the experiences of the body. The reasons for the influence of these ideas on this study are shown in this chapter through my exposition of the framework below (see **Table *1***). Table 1 brings together Heron's four modes of knowing with the steps that were taken by participants through the research method. The table aims to bring clarity to the intentionality of each step with regard to the knowing body's being-in-the-moment. Throughout this chapter an emphasis remains on maintaining a clear distinction between knowledge, as fixed

understandings of process, and the study's interest in understanding learning as a knowing-in-the-moment-of-doing (Gourlay, 2002).

3.2 Conceptual Framework

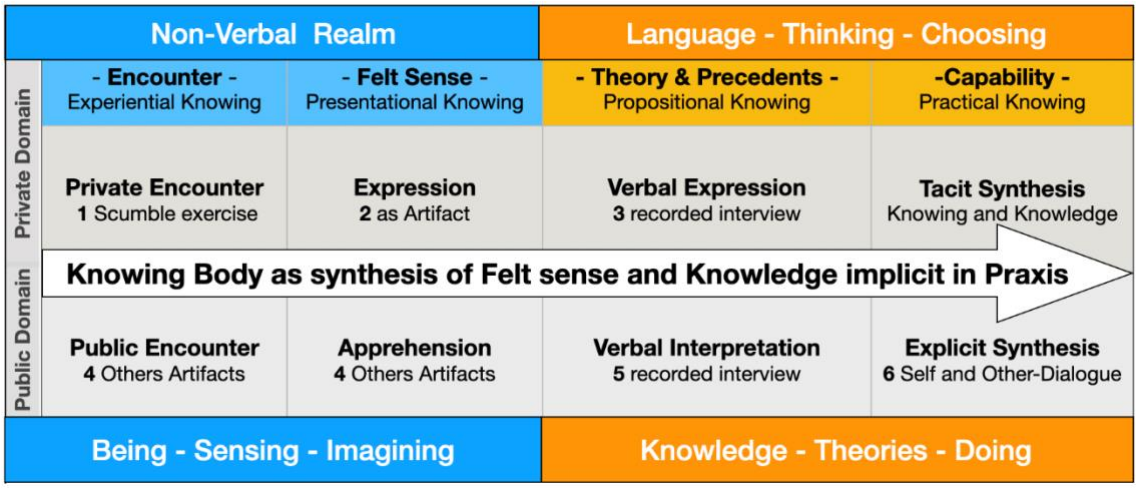
Underpinning this study is a radical critical paradigm that seeks to challenge traditional theories of learning as captured in the overarching research question, "What tacit processes do mature learners use to enable them to improvise and adapt in unexpected circumstances?"

As a way of developing an understanding of knowledge, this study examined the experience of a common task for retrospective reflection. By design, its process produced aspects of uncertainty that participants were instructed to reflect on (Evens et al., 2016). Accordingly, this enquiry began with wonder and attempted to grasp learning's processes by separating and clarifying critical components of the knowing process. To undertake this task, action research (Cohen et al., 2017; Kemmis, 2008) was utilised, inquiring into participants' individual responses of a common designed encounter. Using co-operative inquiry (Reason & Heron, 1999), participants inquired with each other into the same learning experience.

Since knowing is part of experience, this was a qualitative study (Braun & Clarke, 2006) seeking an understanding of processes that mostly obscure measurement and quantitative outcomes. To achieve the study aim, the encounters with participants examined their learning processes in steps ranging between the *private* and *public*. The phases are captured in Table 1 and will be referred to throughout this chapter.

Table 1.

The learning process as a conceptual framework



The knowing transition, as the white arrow from encounter to capability, is represented as duration in time from left to right. Task descriptions, as grey boxes, denote the studies phases. The whole research process is related to the numerals.

On the left, starting in the blue non-verbal realm and extending into the orange public domain, Heron and Reason's (1997) extended epistemology explained as four modes of knowing are sequenced in the second row of the table. As the body is the constant in all these phases, it sits represented centrally as the white arrow in the diagram. Surrounding the arrow are learnings as modes of knowing changing through the studies phases, as steps from one to six, that contribute to radical learning. The body is deemed to sense, act, and synthesise these ways of knowing (Arieti, 1976; Farrell & Frentz, 1979), appropriately consummating them in praxis (McKerrow, 1989) as capability informing ongoing action. The concepts contained in this Table 1 are elaborated on below and linked to the specific methods adopted at each stage.

In the first phase of the study, I endeavoured to separate and inquire into the realm of the private domain looking at individual ways of knowing. In the second phase I focused on the ways collective knowing took place in the public domain. Treating learning as two distinct yet interconnected domains of private/public, this study viewed a complete transition of learning as processed through four modes of knowing

in ways that accommodate both the affective and rational understandings of the bodies lived experience (J. Heron & P. Reason, 1997; Jones et al., 2011).

3.2.1 Public and Private

The first steps of this study privilege the *private domain* (seen in the blue side of **Table *1***) as being those processes of the individual that are described as implicit and tacit (Gendlin, 1977; Polanyi, 1966). These involve the highly subjective responses individuals make to non-verbal forms of sensing and processing (Eisner, 2002; Friedman, 2016). They are the everyday personal insights and meanings made of things such as the small quizzical painting that hung in one's grandmother's house, or way one feels when encountering the scent of warm coffee or a baby (Richards, 2007).

Similarly, the *public* domain (the orange side of **Table *1***) was examined separately in steps as a second phase of inquiry. Using the principles of cooperative inquiry (Reason & Heron, 1999), the participants shared a common interest in deciding the questions they would pursue to inquire into their own and each other's experiences. Although co-operative inquiry benefits from several rounds, this study only completed a single round by inquiring into learning posited as the explicit development of private learning that continued in the public domain. Both domains steps captured the objective development of thinking and reasoning that resulted in shared conceptualisations as knowledge, particularly through dialogue and the meanings language infers (Rouse, 2003).

Knowledge as shared conceptualisations was the everyday act of bringing the diversity of private meanings and assumptions into the study where they became part of the processes contributing to common understanding and purpose. In pairs, groups, or as a community, participants debated, dialogued, followed rules or newly created them, seeking to define consensus in actions that benefited. As Danielle Allen says, in her foreword to Hannah Arendt's (2018) 'The Human condition', action "gives us the opportunity to build worlds together that turn our plurality, or difference, into productive engagements and enable us to make ourselves visible and knowable to one another" (p. xv).

To enhance mutual understanding of the learning in this study, the action research encounters (Kemmis, 2009) were purposely designed to sharpen the distinction between the private and public knowing-in-the-moment. It intentionally sharpened later implications for data whether knowing was privately or publicly informed. Thus, when interpreting participants' statements, the source of assumptions were clear. It also addressed the validity of the data interpretation, where commonalities or differences in qualities between the knowing of individual participants or as a consensus of the group could be conclusively identified.

Descriptive framing of data derived from private and public forms of knowing was also able to be acknowledged as belonging in the different phases of the process. In the private domain there were three; non-verbal (Dewey, 1986; Ozdem-Yilmaz & Bilican, 2020; Winnicott, 1991); a result of vague affective forms of knowing where conclusions were drawn based on felt senses (Eisner, 2002; Gendlin, 1977; Polanyi, 1966); and private knowing as means of expression rooted in the 'language' of previous experiences (Heidegger, 2010). Further, where these private qualities entered the public domain as part of an individual's contribution to group learning, additional qualities came into play; that of finding consensus (Reason & Heron, 1999) and the influences of precedents set by the outcomes of past learning as actions (Heidegger, 2002; Wrathall, 2010).

These distinctions made important contributions to the study design. In the first steps of the action research (Kemmis, 2008; McIntyre, 2008; Reason & Heron, 1999), efforts were made to uphold the agency of the participants with their private responses to the standardised encounter. Similarly, the study methods looked to preserve the independence of each participant's interpretation when they individually interpreted others' responses to the same encounter. Only then did the second phase of the public domain support participants' collective agency. Through means of co-operative inquiry, they all reflected on the same experience and developed shared understandings.

3.2.2 Four Modes of Knowing

Having outlined the private/public aspects of knowing and learning, I introduce the *extended epistemology* of Heron and Reason (1997) in four modes as ways of knowing

that were applied to the action research steps (1-6; Table 1) of this study. Heron and Reason described four distinct modes of knowing, transitioning the knower between experiential encounter and their consummation as practical knowing. These are abridged below from 'A Participatory Inquiry Paradigm' (J. Heron & P. Reason, 1997) and are found in full in Appendix B. Listed here they constituted the backbone of the method used to explore the learning process.

> Experiential knowing means direct encounter, face-to-face meeting: feeling and imaging the presence of some energy, entity, person, place, process or thing. It is knowing through participative, empathic resonance with a being, so that as knower I feel both attuned with it and distinct from it.
>
> Presentational knowing emerges from and is grounded on experiential knowing. It is evident in an intuitive grasp of the significance of our resonance with and imaging of our world, as this grasp is symbolized in graphic, plastic, musical, vocal and verbal art-forms. It clothes our experiential knowing of the world in the metaphors of aesthetic creation, in expressive spatiotemporal forms of imagery.
>
> Propositional knowing is knowing in conceptual terms that something is the case; knowledge by description of some energy, entity, person, place, process or thing. It is expressed in statements and theories that come with the mastery of concepts and classes that language bestows.
>
> Practical knowing is knowing how to do something, demonstrated in a skill or competence. It fulfils the three prior forms of knowing, brings them to fruition in purposive deeds, and consummates them with its autonomous celebration of excellent accomplishment. (p. 280)

When considering these four modes, participants' private learning processes will be found in the first two, as experiential and presentational, and can be understood as largely stimulated and informed through the senses within the realm of their personal and *private domain.* Humans imagine, daydream, make personal connections between things in this way. These are the implicit and tacit forms of knowing; a part of this

study I acknowledge as often unconscious to the learner until they are acted out. For instance, arriving near a certain place surfaces a tacit fear of it; however by showing or expressing what we sense offers explicit evidence of implicit knowing and learning to others.

The last two modes of knowing, propositional and practical, express the learning that takes place in the *public domain* as adopted in this study's use of co-operative inquiry (Heron, 1996). This is the public sharing of explicit knowledge or practises. These may take place in the classroom or in team activities where propositions as statements are made and practical instructions are shared. In this domain, individual learning is evident in behaviours where understandings are established to be adopted or rejected through cognitive rational means (i.e., through language and dialogue). Even though learning processes necessarily involve language, a caution is made regarding how it was seen to influence the private domain in the extended epistemology of knowing as it was applied in this study.

3.2.3 Language Use with Co-operative Inquiry

As part of a participatory paradigm, the extended epistemology of Heron and Reason (1997) has been extensively applied to the development of co-operative inquiry (Reason & Heron, 1999). This has been influential in the health sciences shifting the locus of understanding to the "research *with* people rather than *on* people" (Reason & Heron, 1999, p. 1). However, the application of the four modes of knowing for this purpose has relied on language introduced early in the experiential and presentational modes of co-operative inquiry to achieve these results. Instruction to would-be researchers advises co-researchers meet and "in this first phase talk about their interests and concerns, agree on the focus of their inquiry and develop together a set of questions or propositions they wish to explore" (Reason & Heron, 1999, p. 2).

Since my study is interested in what-we-are-yet-to-know, such advice seemed to place language, with its rational censorship of things (Pennycook, 2004; Simon, 1965), into conflict with the seemingly irrational and non-verbal ways of knowing in the individual's private domain (Barry & Meisiek, 2010; Husserl, 1970). This appeared as an influence that ran contrary to the bodily forms of affective knowing dominant in the first two modes of the extended epistemology. They are those that are pre-linguistic

and non-verbal; yet, considered fundamental to experiential knowing (Dewey, 2005; Eisner, 2002; Lakoff & Johnson, 1980; Winnicott, 1991). In this way, I saw language as a possible foil to maintaining a purely affective attention to experiential and presentational ways of knowing.

Aligned with the concepts identifying the knowing in the first two modes of the extended epistemology, this study considered that shifts to reasoning through language might conceal affective knowing opportunities in the private domain. Attention to language was seen as a distraction from paying attention to the felt nuances of how, why, and maybe, where meaning was initially being attributed to private assumptions. Accordingly, in this study, I had limited verbal interaction with participants and greeted and received participants using the same interview room, with standard written instructions offered to instruct all encounters of the steps of the first private phase.

Though it is not practical or suggested that language could be done away with completely (Heidegger, 2010; Wrathall, 2010), I considered that if introduced too early into the learning transition, the non-rational affective forms of knowing of the first two modes would be compromised. Knowledge, as language, was viewed here as static propositions with a potential to arrest the dynamic nature of what individuals might achieve affectively (Gendlin, 1977; Waterworth et al., 2010) through imaginatively knowing more and differently (Barry & Meisiek, 2010) during the experiential and presentational modes of knowing.

To summarise, the first two modes of Heron's cycle, experiential and presentational, were applied as principles to the design of activities for the study's first steps. The work of these two modes is essentially attributed to the *private individual* who, in making sense of their experiences, does so centred in a domain of personal agency and independence. This agency is posited as being diminished when the propositional and, to a lesser extent, practical knowing of the collective was allowed to override the sensibilities of personal forms of affective knowing during this private phase. My response for this step of the study was to minimise the involvement of language; thus, minimising and avoiding the use of propositional forms during the early steps that involved participants' knowing and learning.

3.2.4 Maintaining Affective Knowing

This study adopted the position that the body is the primary site of perception and being towards the world (Merleau-Ponty, 2012), where the experiential encounter with the world is *primaril*y affective. Thus, the body's senses are involved and influence all stages of the study, and were treated along with the body as a *continuum* in the process of knowing.

The importance of felt-sense (Gendlin, 1977), especially as part of the study's first non-verbal phase, was its function with indicating how the participant might respond personally to non-rational choices. Felt-sense as a response capability for learning and adaption lay in its use as a part of an awareness for evaluating situated sensual perceptions of the world (Eisner, 2002). What was being understood through felt-sense is that deciding factors for affective knowing are not entirely rational and gave sway to free imagination (Johnson, 1987; Stokes, 2014).

On commencing the study, felt-sense was highlighted to participants as an important part of their responses to the study tasks, rather than submitting to solely reasoning when responding. This intention was requested in writing with an example illustrating the idea (Appendix C). Participants were encouraged to stay with the senses as they performed the allocated tasks and to consider felt-sense as a prime reference for knowing how to respond to the tasks.

Felt bodily impressions can be considered a part of *tacit knowing* as defined in the thinking of Micheal Polanyi whose work was primarily concerned with the process of knowing (Gourlay, 2002). Polanyi (1966) identified this knowing process as a tacit dimension and as a structure within the process of perception, relating it to a wide variety of implicit learning activities such as vision, psychomotor skills, pattern detection, that are all prominent in the operations of perception. These concepts overlap with Gendlin's ideas and introduce qualities that uphold principles of private agency considered essential to the integrity of knowing and deciding in the non-verbal realm of this study. Merleau-Ponty made similar inferences, referring to sense-experience by rejecting objective perceptions as not being a fact in the world and humans being the heart of their sensory fields. His claims lay in the idea the body is a temporal synthesis whereby the sensual body points beyond itself to past and future

experiences of things. In truth, embodied subjectivity is precisely the inherent temporality of sense-perception (Baldwin, 2004).

3.3 Method

The following section details how methodology was applied as the research method. I position myself as researcher, who the participants were, and what their tasks involved. The procedures of three meetings that produced the research data are outlined.

3.3.1 Position of the Researcher

Understanding that I, as researcher, could bring my own preconceived ideas of phenomena to the study, I adopted the reflective practice of 'bridling' (Stutey et al., 2020). The bridling statement in Chapter 1, accounts for the belief that I am unable to completely cut myself off from my own understandings during all phases of the study. This is further evident when the research question, as well as outcomes of the research, are conceived in my own pre-understandings including those language has bestowed on me (Stutey et al., 2020; Terry et al., 2017).

Being cognisant of these concerns, my role in the design that produced the data looked to afford participants sovereignty with personal expression of any tasks given them. By carefully choosing to maintain consistent conditions for the instructions, materials, and interview environment, I ensured participants were free to interpret and produced from them at will. As the researcher, I considered my sole duty was quietly championing the task sequences so participants could fulfil the tasks as autonomously as possible.

I produced the same written prompts for each interview that took place in the same distraction free meeting room. There participants were encouraged to follow instructions lead by the felt-sense of their experiences. I avoided personal participation that could influence the content of their expression and only occasionally responded to questions in a perfunctory way, usually in intervals between tasks. My intention being to afford 'distance' (Merleau-Ponty, 2012; van Manen, 2016) between myself, as researcher, and the participant to minimise the interpersonal influences of a mutual presence.

In summary, my approach was intended to offer a freedom for unique expression of individual's perceptions through the tasks of the private encounter. For the public phase, taking a facilitator role for their meeting meant I could support the co-operative structure required for participants' dialogue. This required me providing an agenda, keeping time, and capturing statements as required on a whiteboard. This role was done without any direct participation in the tasks the group developed together. As I filmed this meeting, I was also essentially quietly occupied as part of the background.

3.3.2 Ethics and Recruitment

Recruitment of participants was initiated by my supervisors, after receiving ethical approval (AUTEC 23/247) from AUT University (Appendix F). An open advertisement was placed on the university intranet as this was an appropriate means to randomly reach lecturers without coercion. A hard-copy poster (Appendix D) was also placed around the university which had a QR code to an information sheet (Appendix E) outlining the nature of the study, commitment required, with responses requested be directed to me, as the researcher. Initial responses amounted to four. As direct contact by the researcher was not permitted, several attempts were made to complete the desired number of six people.

Responses were all accepted on a first come first served basis, the only consideration was ensuring participants were chosen from different disciplines. The expectations were they would be available for three meetings, be familiar with and aware of being faced with the need to respond in circumstances of 'not knowing', and prepared to explore this in the study. Suitable participants were chosen from the AUT academic staff who had volunteered as recruits. Attendance was always punctual and high levels of engagement increasingly developed as the study got underway. Later, engagement became very pronounced with interactions between the participants for the co-operative meetings of the inquiry.

On contact, prospective participants were invited to agree to the terms to which formal written consent was signed at the first face-to-face interview (Appendix G). Six participants chose to take part in the study comprising four females and two males whose disciplines included nursing, computer sciences, adult learning, health management, curriculum development, and outdoor education. All were identified as

experienced, knowledgeable, and continuously engaged as advanced learners in their field.

3.3.3 Data Collection Meetings

Each participant took part in three meetings, starting with a one-on-one interview with me which lasted up to an hour. During this process, all participants completed a visual exercise in silence called the 'scumble' (Figure 1), produced an artifact representing their experience, and eventually spoke about their representation (steps 1-3; Table 1). Once all participants had completed this process, the produced artifacts were presented separately to all the other participants in a private second meeting.

In the second meeting, participants verbally expressed their interpretations of the other's artifacts (steps 4 & 5; Table 1). No time limit was given for this second meeting which resulted in interviews lasting between 20 and 45 minutes. This concluded the collection of all data related to the private domain. It should be noted that while verbal expression is part of the explicit and, therefore, public domain of knowing, the totality of the first two meetings as encounters with participants were held in private. This determined individual verbal expressions of the others' artifacts, that all had been produced as responses to the same private experience, could be shared asynchronously. This was achieved by participants encountering them in the public domain for first viewing as non-verbal experiential encounters (step 4; Table 1).

In a third collective meeting of all participants, commentaries and artifacts were publicly shared, compared, and discussed for 2-hours as part of a group co-inquiry. For this occasion, a round was made first with each participant introducing themselves and their artifact to the group, who they were meeting for the first time. This introduction which included responses and questions of each other took approximately 40 minutes. This third meeting produced the collective data of the public domain for later analysis (steps 5 & 6; Table 1).

3.3.4 The First Meeting

Coming to their first interview as an unexpected encounter, participants were asked to perform an open-ended task and express their experience of this task in both analogue (Barry, 1994; Eisner, 2002; Leavy, 2015) and then verbal forms. This part of the face-to-

face meeting lasted for a period of approximately 1-hour. All participants were met in the same meeting room and delivery of materials and instructions were purposely consistent. The only meeting variable being verbal responses to participants' questions regarding clarity over the written instructions. The point regarding an avoidance of verbal exchanges was considered paramount; while some verbal exchange was unavoidable, the study's focus at this juncture was on the individual expression of the participant's lived experience, particularly non-verbal aspects (Arnheim, 1980).

Before the first exercise, participants read the task brief (Appendix C). This started with a brief positionality survey; however, as the eventual data collected were considered sufficient for the study, the survey data, other than occupations and gender, were not included in the final analysis. Included in the brief was an example of experience awareness using road crossing. This was intended to prompt participants to stay conscious of felt experience and distinguished cognitive rational knowing from effective relational knowing during reflection. Participants were not informed about the tasks beforehand and materials were provided in a black box with instructions given step by step during the interview. There was no time limit for tasks. As an observer I took field notes on time sequences and any unexpected responses. The notes taken throughout the whole study confirmed many of my expectations with participants' common reactions to unexpected tasks and the diversity to be found in responses.

After the task brief (Appendix C), they were initially presented with an A3 sized image the 'scumble' (Figure 1) and instructed to find recognisable images making a list of their observations on a blank A4 page, then 'realising' one of the images by indicating it as they pleased with a black marker pen (step 1; Table 1), see Figure 1 for an example of the completed exercise. I designed the tasks used for this study over 20-years ago and am familiar with their use having delivered them on many occasions.

Figure 1.

Scumble and scumble example realised by researcher

With the scumble task completed, the second task was the making of an artifact that expressed the experience. It commenced with the written presentation of the of three questions (Appendix C) and a black box of materials containing:

- Moulding clay (wrapped in foil)
- 4 wooden balls, two with holes through
- 4 wooden discs
- 4 wooden blocks square
- 8 wooden rods as 2 sets of 4 proportionately ranging in size and length
- Baseboard with 6 wooden moulding tools

Participants were invited to make something and were guided by additional prompts such as “if you don’t know where to start, do anything and respond to what you produce by ‘staying with your senses’ to decide if it is right” (See Appendix C).

Participants then worked with the clay and wooden components constructing a communication artifact as a response on the baseboard provided. The finished work

was photographed, and the artifact kept for presentation to the other participants in a separate viewing (step 4; Table 1). This concluded the first element that produced knowing from the *private domain* that deliberately restricted the use of language as discussed regarding the conceptual framework in section 3.2.1.

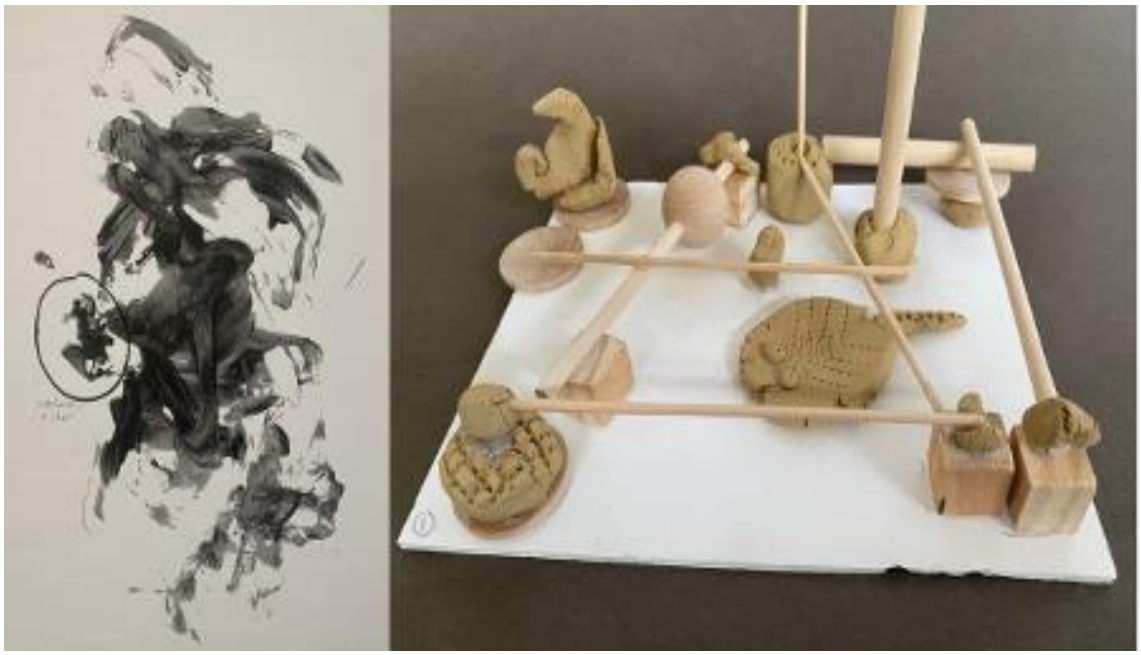
The third request involved an explanation of what participants had created, bringing them into the *public domain*. The explanation was required as two parts; a focus on the artifact and then a focus on the process to date. These were recorded to form the transcriptions as data for later analysis (step 3; Table 1).

With the artifact in front of them, participants described what the artifact expressed. They were guided by prompts (Appendix C) such as “express how its overall appearance represents your experience”, followed by their commentary on any specifics felt during the process to date (i.e., briefing, task, analogue).

During much of this time most participants seemed at a lost as to what or how they could go about doing these tasks. Doubt was in full display with many reactions. A result example from the first meeting of participant 1 can be seen in Figure 2. It shows the scumble workings on the left and the artifact created expressing that experience.

Figure 2.

Seascape with stingray and seahorse – Participant one



3.3.5 The Second Meeting

On completion of the same tasks with all six participants, a second round of individual interviews took place. Each session involved presenting the artifacts created by the other five participants and asking the participant to interpret the artifacts they were shown. Presented one at a time, the same written prompts from the first round were used. Participants' interpretations of what the artifacts communicated to them were recorded in the same manner (steps 4 & 5; Table 1).

This second round of interviews with each participant completed the collection of data from the private domain. This process intentionally separated the modes of subjective knowing as experiential and presentational from those of the public domain. Participants expressed surprise and wonder, demonstrating high levels of curiosity during these meetings. Participant exclamations included "Oh my goodness" and "Wow" regularly preceded wide eyed investigation with comments "so that's interesting" and "look forward to meeting whoever made this one".

3.3.6 The Third Meeting as Collective

The final encounter aimed to have all participants conduct their own inquiry, in the manner of a co-operative inquiry (Reason & Heron, 1999). This was a shared exploration of the execution of the initial tasks to see what came out of their group inquiry and discussion as conclusions. The session was video recorded to collate and contrast propositional data created in the public domain of the collective (step 6; Table 1), with that of the previously recorded data of the individuals' private domain (step 1-5; Table 1). In essence, it became a comparison of the general knowing of the group's conclusions with that of the individual's particular knowing guided by a felt-sense of the process. This collective meeting included the presentational forms of the artifacts for viewing to serve as bridges to the dialogue (Arnheim, 1980; Barry, 1996).

For this session all participants assembled in a circle with the artifacts presented for referral in the middle of the group on a table. I presented a meeting agenda that comprised:

1. Introductions with artifacts sharing experiences
2. Reflections on the introduction round

3. Group decision on the inquiry questions
4. Group discussion of the questions raised
5. Summary for conclusions

These were written and placed where they could be seen and referred to. As discussed earlier, as the researcher I did not contribute to content and acted solely as a facilitator of the process to meet the intentionality of the research agenda.

The 2.5-hour meeting started with participants doing a round of introductions and explaining their artifact to the others who responded with questions, comments, and affirmations. This took approximately 40 minutes. Agenda items 2 and 3 were to list any individual questions that arose, to be presented to the group for consideration based on the initial task questions, namely:

1. What were your experiences?
2. Did they feel related to any previous experiences you've had?
3. Can you imagine the whole experience as something?

As facilitator, I captured responses on a whiteboard which took a further 40 minutes. This discussion resulted in 10 questions being suggested which were then reduced to three questions, via a vote, retaining the questions that the group felt were worthwhile inquiring into with the available time left.

Agenda items 4 and 5 were to freely explore elements raised by the three final questions through group discussion. This comprised the main exchanges of the group inquiry and proceeded for over 1-hour, including the group's closure of the meeting by considering any collective insights that could be articulated as group conclusions. This was a thoughtful and animated meeting with moments of laughter, careful listening, and passionate conversation.

3.3.7 The Data

All verbal expressions of work by individual participants, along with the group's expressions, were automatically transcribed from recorded sound files by Microsoft Word into word documents. The group session was videoed and transcribed in Panopto™ with captions which enabled me to annotate the transcription and identify

individual speakers in the group meeting. The transcriptions from both recorded forms were at times inaccurate and subsequently needing correction. As the transcriptions contained semantic discrepancies, such as ‘fish’ transcribed as ‘fresh’, careful attention to correcting words for accuracy was required. Where necessary incorrect words were corrected by re-listening to the sound recordings and adjusting the scripts. The scripts were then printed. The transcriptions and the consent forms will be held securely in the office of my primary supervisor at AUT in written and digital form for 6-years, after which term they will be destroyed.

3.3.8 Available Data

As a qualitative study of individual and group lived experiences, comparative findings were reliant on the thematic analysis of narrative data to capture the private individual expressions as well as the group’s public accounts of the same experience (Nonaka & Takeuchi, 1996; Rosenberg, 1990). While the same experience being discussed was not experienced synchronously, isolating linguistic accounts, as far as was possible, was intended to separate first person subjectivity from group objectivity. This was considered necessary through the overlaps that can be contributed through language use (Farrell & Frentz, 1979). Visual references, as data, include the artifacts created by participants and made available as data for expression during discussions. As they are referred to by the narrative data, images of these artifacts will be referenced here as figures and found in the findings chapter. From this point, unless specified, the visual data as artifacts are so called whereas the narrative data will be assumed as such by my just referring to it as data.

3.3.9 Data Analysis

For the thematic analysis of the data, I constantly made notes as referred to in the assumptions of the bridling statement found in Chapter 1. This statement positioned my intentions as to why and what I hoped to find. During thematic analysis of the data (Crotty, 1988), I constantly reviewed my process findings with the initial pre-understandings of the bridling statement as an important means to maintain an open stance with the participant responses, especially to mark what surprised me as unexpected or new. This approach brought an awareness to the qualitative research

through actively waiting and dwelling with personal experiences before responding to the data before me (Stutey et al., 2020).

The data as sets were analysed and contrasted using thematic analysis following a rationale as described by Braun and Clark (2006) for qualitative research. In this analytic phase I abductively sought themes that demonstrated qualities of process throughout the participants' transition from the unexpected encounter to practical knowing shared in the final meeting. These qualities included the appearance of objects and phenomena that acknowledged forms of tacit knowing, overt expression of learning strategies, as well as differences and/or similarities with participants' responses that enabled or prevented participants improvisation and adaption. The multiple methods used to produce visual and narrative data from each mode of knowing presented a range of meaning saturated visual and written data (Marion, 2002).

The initial action I took was listening to and comparing all the taped interviews with the transcriptions. Correcting the transcript established my first reading with notes taken where my attention was attracted to what stood out, either as expected or surprising to me. This provided a start in producing a list that identified first themes for coding in a second reading.

Two considerations for the initial grouping of themes were noting comments from the transcripts that expressed reflexive statements of process from those that were critical statements of explicit fact identified across the data. Further readings defined themes and developed new ones that offered refinement and strength to the findings (Terry et al., 2017). Data analysis was constantly considered alongside the relevant artifacts, accompanying observations I made as field notes during the encounters and the bridling statement (Stutey et al., 2020).

At all stages of this study I endeavoured to be transparent regarding my philosophical and methodological stance. Efforts have been made to ensure the methods expressed for obtaining the research material were explicit and repeatable. As the researcher, I continuously applied self-scrutiny to ensuring my position did not distort or impinge on

the sovereignty of participants' responses (Dahlberg, 2006). The findings directly relate to the languages of the participants and their artifacts.

3.4 Summary

In this chapter I have outlined the philosophical underpinnings on which this research is based and how it links with the research question, "What tacit processes do mature learners use to enable them to improvise and adapt in unexpected circumstances?" I paid particular attention to explaining the methodological research framework as probing embodied ways of knowing that lead to critical learning. This explanation emphasised the primacy of felt-sense, in presenting the use of four distinct ways of knowing. Brought to attention was the undesired influence of language in the early stages of the extended epistemology of knowing. The exposé of this rationale for my method was followed by a description of the process used for the collection of artifacts as visual data and narrative data to study the learning from experience to practical knowledge.

In the next chapter, the findings of the data analysis are described and developed into themes that highlight the differences and similarities found with participants between the private and public domains of knowing. The implication of these themes from the different phases of the study informs the findings.

Chapter 4 Findings

4.1 Introduction

In this chapter I explain in two parts how the data establish contexts that elucidate the findings as further discussed in Chapter 5. With a focus on the research question "What tacit processes do mature learners use to enable them to improvise and adapt in unexpected circumstances?", my primary interest lay with the *what* that e*nables*.

This chapter begins by explaining the processes used that revealed my understanding of the themes as they emerged from the data. Next, I discuss how these themes, when considered throughout the data corpus as reoccurring sub-themes, created a ground that led to finding meta-level themes proving consistent when the study's changing contexts. The meta-level themes relevant to participants' expression of knowing-in-the-moment are found as related to contexts of private and public expression. These two contexts are identified as separate phases within the data corpus comprised of four separate data sets; two associated with the private and two with the public domains of knowing.

Data from the private domain comprise the individual transcripts of the six participants and are treated as two data sets totalling 12 transcripts. The initial set includes the one-on-one interviews with the six participants regarding their own work, and the second set relates other participants' work. Third and fourth data sets contain the meeting of all participants co-operatively discussing their work and experiences in the public domain. The third set covers introductions and the fourth set the discussion and development of participants' questions and responses.

As all transcriptions referred to the artifacts participants had created in response to the scumble task, I have illustrated each participant's realisation of the scumble and paired it with their artifacts titling them together as per Participant 1 (Figure 2) shown in the previous chapter. These figures regularly form the reference point for participants' quotes, bringing context to participant comments. The paired illustrations of Participants 2-6 are found in this chapter, positioned as close as possible to their quotes.

The steps I took, and how my stance shifted with the data to produce the findings, will be explained in the first part of this chapter. The second part will confirm three findings that emerged from the process.

4.1.1 Initial Coding

The intentionally open design of the exercises and interview processes produced saturated data rich in meaning and diversity. At first reading this richness presented an overwhelming myriad of detailed participant realities. This rich content confirmed the many shared qualities I expected as participants responded to open and unexpected tasks. Responses included moments of raised curiosity, tensions, surprise, and regular hesitancy as words were chosen during reflection.

Although there were concurrences among participants' experiences, individual realities were different and occasionally in contradiction with each other. At first these apparent contradictions made it hard to determine what might be consistent in the findings. However, through several stages of reading and analysis (that I outline below in my analytic method) this dilemma resolved. As the data became more familiar, I found my stance as a whole shifted several times. The initial individual ideas, coded as stand-alone themes, like surprise, tensions, curiosity, expressions of the various experienced qualities, eventually formed sub-themes when coded across the different data sets. Although I had attended all the meetings to collect the data, the initial correction process was my first immersion in and reflection on the data. While doing this process I contemplated the possibilities for codes from participants' comments as well as considering my own responses to their observations. This stage presented me with an opportunity to pause time, capture impressions as reflective notes and consider them as possible implications for themes (Terry et al., 2017).

This initial process of correction was where I focused on the semantics to deductively identify explicit meanings. It included an awareness of my own intentionality as mentioned in my bridling statement (see Chapter 1). By pursuing a deductive approach, the ideas in **Table *2*** became the first cut for coding themes which I subsequently applied across the data corpus in a second reading. These became the first identification of what I would later consider as sub-themes.

Table 2.

Initial coded themes

Themes	
Empowered, sense of agency	Demonstrates curiosity
Feels forced to conclude	Acknowledges error, misinterpretation
Expresses qualities of process	Refers to prior learning
Describes concrete processes	Objects to prior learning
Tensions, struggles for meaning	References to time
Explicit expressions of self- understanding	References to movement
Refers to diversity	Offers analogies
Identifies boundaries, limitations	Struggles to relate at all
Explicit expression of tacit thought	Open to multiple connections
Expresses surprise	Refers to meaning

I initially relied on semantics as a direct conduit to identify explicit realities that could contribute to processual themes or meanings (Evens et al., 2016). However, as I continued reading, coding, and reflecting, the process took on a life of its own with the coded themes tacitly clustering in my mind. After this round of coding, I was drawn inductively to recognise implicit processes that appeared to me as underlying the way in which participants were responding. Through applying the initial themes in this second round of reading I came to realise that while participants' responses could be considered in multiple individualistic ways as sub-themes, they also could be seen to appeal under two distinct headings discussed below.

4.1.2 Meta-themes

Since this was a qualitative analysis with all data being attributed to the subjective opinions of the participants, I started to consider the moments of immediate language as linguistic *utterances* (Kent, 1993). I saw utterances as brief, spontaneously delivered statements influenced by the person's 'thrownness'. Even though coded themes revealed explicit micro-moments to support their continuity throughout the whole learning experience, in hindsight, they also appeared to contain some quality of habitual content.

When viewing participants' reactions in the present moment, it was apparent different orientations expressed changes in their immediate experience. These varying

orientations can also be seen as trending in an overarching theme. While all expressions must be accepted as subjective, realities were clearly offered primarily as responses that were delivered as spontaneous utterances emphasising an objective or subjective orientation at different times during the learning process.

To explore the data abductively (Lipscomb, 2012), I concluded I needed to create a clear definition of what I was looking for before commencing a third round of analysis. The definition for coding utterances became as follows:

> **Knowing as objective orientation** saw viewpoints immediately expressed as positive observations based on facts, rather than directly expressing personal feelings or opinions. These expressions tended toward pragmatic claims and could be substantiated by concrete comparisons or examples. This may be followed by minor expressions of opinion or feeling.
>
> **Knowing as subjective orientation** were immediate considerations primarily expressed as personal feelings, opinions, or interpretations, rather than objective realities. These statements of expression were often qualified with personal pronouns, evocative adjectives, or value judgments. These accounts could be followed by or related to statements of an objective or positivist nature.

The initial themes of Table 2 remained, as I now added these two new higher-level themes across the whole data corpus. Recoding qualified the participants' immediate utterances of shared realities as subjective or objective orientations for knowing across all the data. Once applied, these additional themes brought me to my next shift in stance with the data corpus.

Although my coding to this point focused on the participants' expressions across all data, treating them as realities in-the-moment-of-their-process and indicating a primary orientation of their personal expressions of that reality, I understood that the orientations themselves produced a trend during this whole process. The orientations appeared to shift markedly between the private and public domain of expression which resulted in me taking a different approach to the data corpus. I started paying further attention to these themes as they appeared related to the four data sets that made up the data corpus. When considered as four data contexts set within a greater

context it became possible to integrate both differences and consistencies of themes. Coalescence of themes created the ground leading to the creation of higher meta-themes.

4.1.3 Private to Public

The four data sets representing participants' changing expressions of knowing as they related to the extended epistemology of knowing (J. Heron & P. Reason, 1997) comprised Private encounter/First person; Private encounter/Other's artifacts; Public encounter/Other's artifacts; Public encounter/Co-operative inquiry process (**Table *1***, p. 31). Each data set was the result of the following details.

Set 1: Private encounter/First person (**Table *1***, steps 1-3). Data were generated from the initial face to face interviews and participants' responses to the common experience of the scumble and artifact making. Data from the private domain formed as the verbal responses to their experiences in the non-verbal realm where they first expressed it as presentational knowing (the artifact). Importantly, this common non-verbal private encounter also formed the foundational experience that would be the private referent for all participants' subsequent data.

Set 2: Private encounter/Second person (**Table *1***, steps 4 & 5) was generated from the private encounter with another's artifact. The artifact was placed before them with no verbal explanation and this data set captured their private response to the presentational forms representing another's experience of the common encounter.

Set 3: Public encounter (**Table *1***, steps 1-6) was a result of exposure to each other's work in the presence participant owner's artifact and explanations.

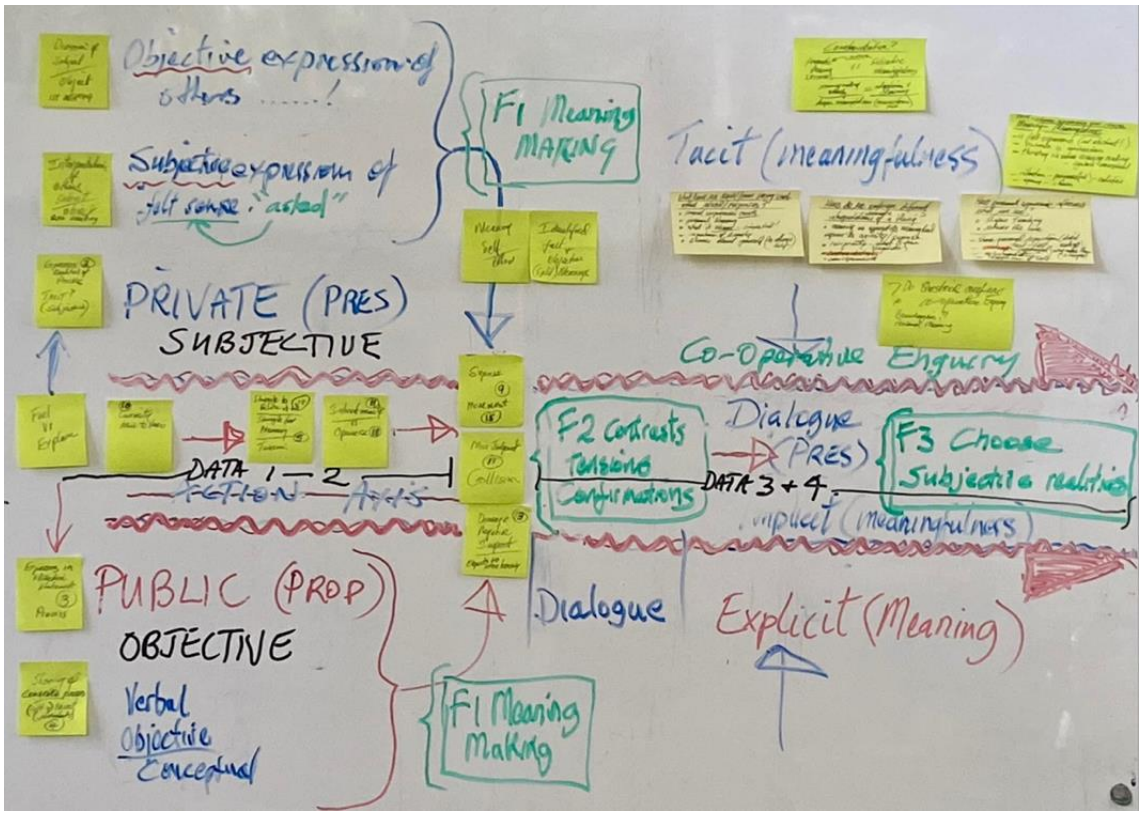
Set 4: Public encounter (**Table *1***, steps 1-6) followed co-operative inquiry to collectively explore the group's shared understandings.

Observing the overall relationship between the four data sets of the private and public domains, I coded a meta-theme for participants' subjective and objective orientations alongside the initial themes. I then continued with their abductive development (Lipscomb, 2012) making a whiteboard flowchart using the studies steps as sequences for its axis (see Figure 3). This allowed me to acknowledge both initial themes as sub-

themes with the new meta-themes, and to reorganise them in relation to process contexts. I did this by experimenting with various perspectives through an overall flowchart.

Figure 3.

The abductive workings of the whiteboard flow chart



Being able to arrange, rearrange, and consider sub-themes (the post it notes), and consider my propositions within this context as overarching meta-themes, resulted in me being able to accommodate all themes in a context related to the whole learning process in both domains and stages of the learning cycle. The flowchart enabled me to identify underlying shifts in the assumptions participants expressed which emerged as the higher-order meta-theme when all the evolving contexts were viewed as a process continuum. This led to three findings.

4.2 Meetings

I now move to the details of the three findings I established deductively from the juxtaposition of considering the whole process of 'self' as synthesised through one

participant's experience of their own, and then with other's expressed, realities. The findings were as follows:

First: Individual expressions tended to be statements mainly expressed as either objective or subjective orientations-in-the-moment.

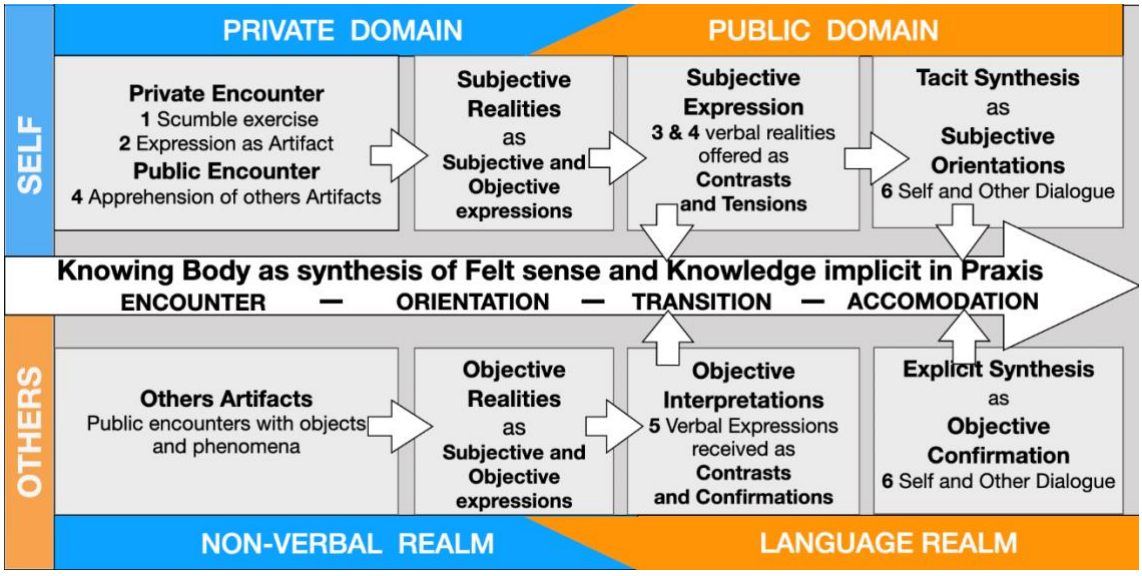
Second: Although explicit realities differed, a desire for accommodation surfaced when shared responses were based on common private experience.

Third: Shared realities were primarily accommodated through the felt sense of subjective experiential perspectives.

The whiteboard processes led to the creation of Table 3 which offers reference for the contexts of each of the four meeting data sets and their culmination as the findings.

Table 3.

Relating data to the synthesis of the learner



Referring to the changing contexts created by the four modes of knowing, **Table *3*** links the passage of the informing qualities of knowing as revealed through participants' expressions of their immediate-realities-of-personal-experience. The passage progresses in the study from initial personal private encounters to the public group encounter and would be the same for each of the six participants.

The stages of the participants' processes led to the next with each finding accommodation as a synthesis through knowing. This process consummated the different epistemological means until reaching the realm of shared public domain. Over the next four sections, from encounter (*experiential knowing*) to orientation (*presentational knowing*) to transition (*propositional knowing*) and accommodation (*practical knowing*) (J. Heron & P. Reason, 1997), I demonstrate how participants' diverse realities, largely expressed through their two orientations as subjective or objective utterances, developed and changed.

When private realities meet in the public domain as relating or clashing with other participants, they moved towards empathic dialogues that sought accommodation. Applying co-operative inquiry as a method (Reason & Heron, 1999) for group understandings, accommodations were achieved through exchanges that related to knowing centred in participants' private realities. Further, these realities were exclusively expressed from the felt-sense (Gendlin, 1977) of each participant's knowing, by referring to the experiential and presentational realities of their private experiences established in the first two steps of the study. This will be seen in Tables 4 and 5.

4.2.1 Private Domain, Expression of Self Artifact

Table *4* lists all six participants' responses to the initial encounter and their expressed orientation to its knowing. Despite being prompted from the outset to consider their immediate felt sense of the experience, except for participant two (P2), the expression of their experiences are couched as objective statements (Simon, 1965) of their knowing of the process. The dominant tendencies involved expression of their realities as matters of objective description including reference to explicit causes and effects.

Table 4.

Self-expression of initial encounter

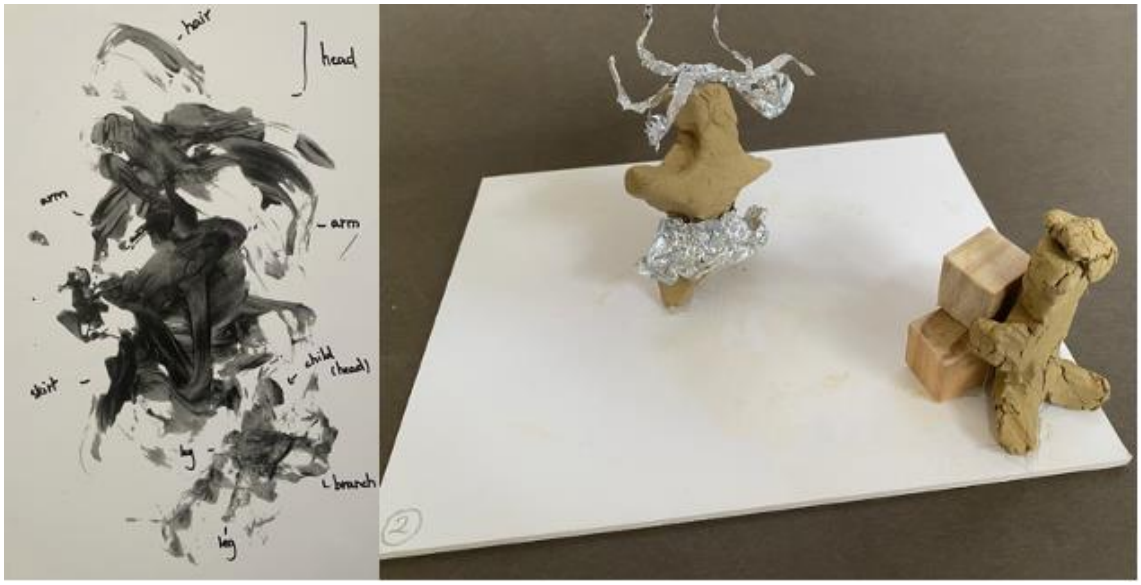
Objective / Subjective	Private Domain : Expression - self
Orientation	Participant quotes illustrating their realities
P1	"The overall representation is the busyness of many different shapes and lines and spaces and things up and down that I could see in the, I call it the finger painting *(Scumble)*...so what you initially see, it can be changed, which is like the experience of that when I turned it around to see it *(Scumble)* from a different perspective." *(Referencing their artifact)*
P2	"...two clay figures...who's just feeling joy...I wanted to bring in movement...she's dancing but not dancing like you would on like, if it was a party or a wedding and there's people watching and judging, she's dancing to express joy. She's just feeling joyful and free. I don't know if it's beautiful, but I want it to represent what I felt and couldn't stop until I did that." *(Referencing their artifact)*
P3	"So I thought the first activity exercises was a creative one....you essentially had a a splotch of paint on a page, so you had to just think creatively as to what you could see in there. And so I tried to be creative with what I saw in the box, you know, and straight away I saw those marbles and thought it was an opportunity to make something kinetic" *(Referencing their artifact)*
P4	"It's kind of a way that I...a system I use in quite a lot of things in my work to solve problems is stepping back. And looking at what we've got to work with or what we've got to deal with or whatever and then coming back in with a, with a view to seeing whether I can mould this thing into what we want or I can change it or I can take a piece off." *(Referencing their artifact)*
P5	" Initially I didn't see anything from your picture you show me. I thought, you know, it's kind of basically somebody put some colours over the black colour... I use my imagination to find out something... So for that reason I mean, ahh I was interested to make something like this. So I'm I am using this one particularly to show how she wants to help somebody." *(Referencing their artifact)*
P6	"When I saw the paper for the first time, I thought it's like a psychological examination...As a designer, I usually I try to look (at) things from different perspectives. That's why I was moving the paper around....how we identify faces first as human beings, as human being species. So that's what I was looking first" *(Referencing their artifact)*

In Table 4, and the following three Tables, the lefthand orange column indicates the objective expressions of reality, and blue the subjective orientations. The same column with the P's numbered, indicates the participant and may be read in reference to the illustrations of their paired works found as figures in this and the previous chapter. (The second of these figures, Figure 4, illustrating participants' work will be found below with the other four placed further into this chapter).

What will be seen in this first of four tables as meta-theme is that participants' dominant orientations expressing their knowing-in-the-moment from the first tasks are essentially objective orientations.

Figure 4.

Dancer and observing child – Participant two



After offering their initial descriptive statements in the first meeting, participants were given further prompts to comment on any other qualities they related to the process as per Appendix C. Significantly, all participants commented in some way on their freedom of expression as open choices to the tasks or the permission to be creative, some relating the process to fun (Csikszentmihalyi, 2014; Johnson, 1987; Stokes, 2014).

> I came in late, so I felt a bit anxious and then briefed, and then this is going to be fun, that we're looking forward to this, and this is a very creative experience. So, I was completely lost or unaware of time or anything. (P2)

These remarks and the following constitute confirmation of the process's sub-themes. Participant two expressed a feeling of excitement after revealing their initial nervousness towards it. Similarly, participant one's utterances of excitement were tangible:

> I've enjoyed this because it was something I wasn't expecting and part of my mind that likes to make things out of unexpected things is going goodie, goodie, goodie. (P1)

Three participants connected the encounter to childhood experiences with participant six stating outright, "*When I was a kid, I was always looking for faces everywhere in the world, the toilet floor, things like bushes, etc.*" Further, participant three commented,

"*The idea is something that comes from my childhood*". Participant one linked their encounter to previous educational trauma, "*I felt actually within myself that, that early sense of trauma from my early education years*".

4.2.2 Private Domain, Expression of Others' Artifacts

Working in the private domain of a second step, **Table *5*** lists the participants' statements as to how they perceived the work of others.

Table 5.

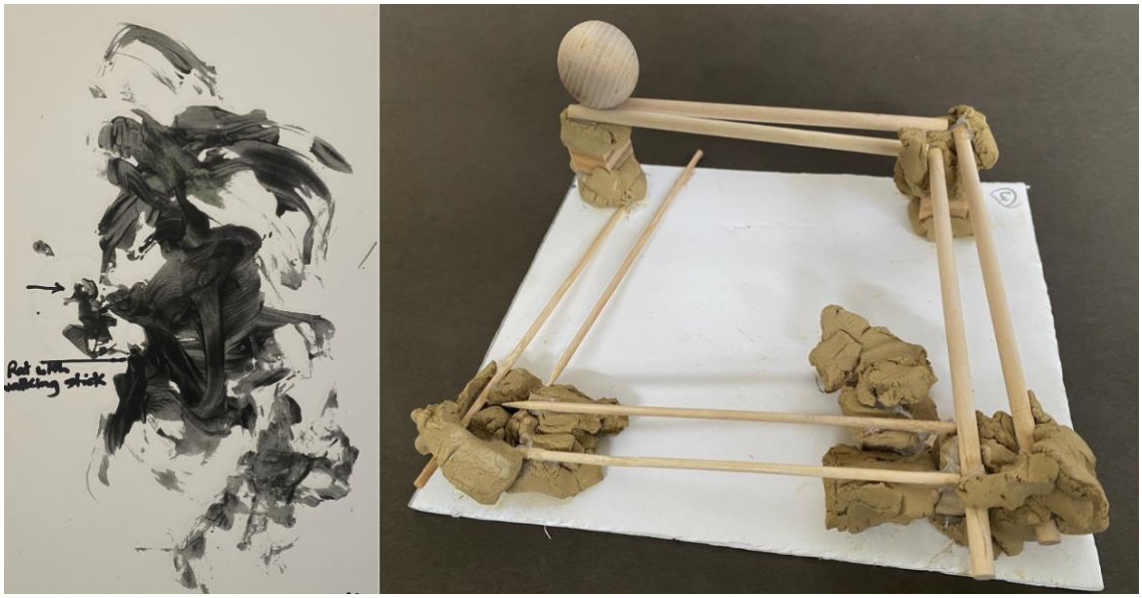
Expression of others' artifacts

Objective / Subjective	Private Domain : Subjective interpretation - other
Orientation	Participant quotes illustrating their realities
P1	"So it's it's almost like this person's quite alone. But they're standing in a big starfish kind of shape, which can be kind of threatening in itself....Maybe this tinfoil skirt thing is also kind of a power. A power thing or a vulnerability thing because they're hiding behind it. Ahh but so maybe this person was very conscious about that they were being observed. Doing something" *(referring to P2 Artifact)*
P2	"I'm interpreting, but if this one *(indicating)* the one in the tricky situation, feeling stuck and feel like you need to make yourself smaller and bend and go through all, jump through all the hoops, not hoops but corners and squeeze under to to deal with all of this complexity...I'm to the side and that's quite comfortable position to be in...looking away." *(referring to P1 Artifact)*
P3	"Yeah, so this seems to me like a more of a direct representation of that experience...you could interpret and find, find different structures and patterns...It's up to you to sort of, find the answer, the question of what do you see, and the numbers intrigue me. I would like to know. What they are there for? What they represent in terms of the person who did this?" *(referring to P4 Artifact)*
P4	"This momentum, not standing still...I think this is a little bit like I'm feeling at the moment. The kind of hamster on the wheel who doesn't know when to get off and then its splat!...this models quite tiring ...you know quite I can be a bit of an over thinker, but I can also think quite deeply about things in my quest to understand them and I'm conscious that others don't." *(Referring to P3 Artifact)*
P5	"To me, looks like that person he was thinking about teaching something. But it's starting from some point to finishing at some point. So, and trying to build on the specific, you know, four different, you know, areas and go back to the original point." *(referring to P3 Artifact)*
P6	"Wow, yeah, I could see, I could see the movement in this model as well...maybe the shape of the hurricane thing. It gives this kind of spinning movement and probably this participant expressed that with, it's like a belly dancer...it's like a Pacific custom...I could see the cultural influence in this model as well." *(Referring to P2 Artifact)*

Importantly, the material they were observing resulted from the same experience they had in their own initial encounters. Responding to the same prompts and instructions as the first encounter (Appendix C), a shift will be seen in three of the participants orientations. Unlike the first interview, where participants confidently concluded their expressions, here my field notes showed they were more hesitant. Table 5 shows this step of the activities producing a change of responses in half of the participants.

Figure 5.

Kinetic work for a ball - Participant three



The sub-themes showed responses involved participants' knowing as a growing mixture of felt senses about what they were perceiving, while some still held to objective statements to projecting their realities. Additionally, all participants in this step expressed feelings of surprise, doubt, and varying levels of ambivalence about what they were perceiving; for example:

> God what's this? (P1 relating to figure 4 p.58)
>
> How does that relate to experience? (P3 relating to figure 2 p.43)
>
> Gosh, this uhh model really doesn't represent my experience. (P4 relating to figure 7 p.64)

From this point, some participants voiced commentaries of what they were observing and thinking in the moment without concluding, as shown by participant one:

> The expression on the teacher figure seems pretty benign, like it's just a, it's not an angry face, it's just kind of um… kind of a neutral face, maybe? …the little, the little clay hat thing to me, suggests little status, almost like one of those graduation mortar boards, probably got this so wrong. And OK, they made this while it was flat on the ground. They didn't build the central figure up there. They stood it up afterwards. Maybe that was a sense of vulnerability... not sure what that would mean. (P1 interpreting P2's artifact figure 4 p.58)

These verbalisations were not considered ‘utterances’ as expressed conclusions, as participants rambled not seeming to address anything in particular, often contradicted themselves, and ended with no clear conclusion. Overall, during step two, participants remained objective in expression with occasional references made to being unable to relate, connect, or make sense of others’ work, as captured below:

> The sense I have is… Ah… I don’t know… a little bit of frustration that it’s not easy to interpret or relate to that thing really.” (P3 relating to figure 7 p.64)

> Honestly, it is very difficult to say... I can’t find an easy relationship to my experience” (P5 relating to figure 8 p.66)

Where conclusions were drawn, what can be observed in the left-hand column is an increasing content of subjective realities found in participants’ expressions.

4.2.3 Public Domain, Shared Expressions of Artifacts

This step in the process marks the first encounter of the co-operative inquiry (Reason & Heron, 1999), with all participants seeing each other’s artifacts, thereby bringing participants reactions into the public domain. This step represented a concrete transition from the private domain of experience directly into public domain that includes collective dialogue.

Table 6 contains the participants’ immediate expressions of their experiences and work as they introduced it into the group environment. This step produces a further shift in the expressed orientation of participants’ realities. Subjective realities communicated by P1 and P2, are now dominant, and P3 has moved to a subjective/objective mix along with P4 and P6. Overall, a trend continues towards statements of reality that involve more subjective orientations as participants take the opportunity to communicate views based on referencing artifacts and their experiences of them.

Table 6.

Shared introductions as expressions and responses

Objective / Subjective	Public Domain : Shared expressions
Orientation	Participant quotes illustrating their realities
P1	"I felt that the seahorse was powerful, so it was in its little power seat and somehow separate from the rest of the experience....doing its own thing....its back on the whole learning process....in my past, the learning process was a very emotional and traumatic thing and the current embodiment of it is a very joyful, fun thing of making connections and patterns and things." (*Referring to own work*)
P2	"It's meant to portray movements...happy and dancing, but also doing, like no one is watching well aware that someone is, it's a child... The meaning was that child is sort of, like, secretly hidden thinking. no one can see me but I'm looking at Mom and she looks really happy...it was sort of in terms of that, that whole what your body knows and where where things come from." *(Referring to own work)*
P3	"I just found it quite playful and very creative process *(referring to scumble)* just trying to visualise and invent something from nothing...I saw the ball and just thought, this is something I could move and decided to challenge myself in the same way, a challenge to see things and then to envisage this getting the ball to do a circuit around board" (*Referring to own work*)
P4	"I guess that for me around the sense making, I couldn't kind of go with it... my overview is it's kind of this is a great discovery that I've made now lets you make sense of it. So I kind of took a systematic approach, which when I'm describing it to you now probably (is) a very messy approach to problem solving." *(Referring to own work)*
P5	"So for me is kind of coming from inside the classroom and it was being with the student and it was a kind of, you know, tools for her... so any tools can be computer devices can be activities like this for, you know, to encourage a student to engage in the class." (*Referring to own work*)
P6	"I think for me, there was so little to see...I don't know...maybe it would be like we always try to look too faces *(referring to scumble)*... try to present them some way here and here and the hurricane...you were like, looking on to the whole picture of the woman that I can't see, I could only see the faces and the heads." *(Referring to own work)*

As the artifacts are introduced and queried, participants also referred to the scumbles which had been hung on the meeting room wall, along with their artifacts placed on the meeting table. During this stage, references were more frequently made to intentionality and interpretation:

> So it's interesting getting this perspective. I didn't see those things when I was looking at it. (P3 relating to figure 4 p.58)

> My interpretation is kind of similar to what they did when they get to the ink (P5 refers to scumble).

Comments were further made to various instances of realisation and concurrence.

> I can see from your explanation of this is a representation of your experience. (P2 relating to figure 6 p.63)

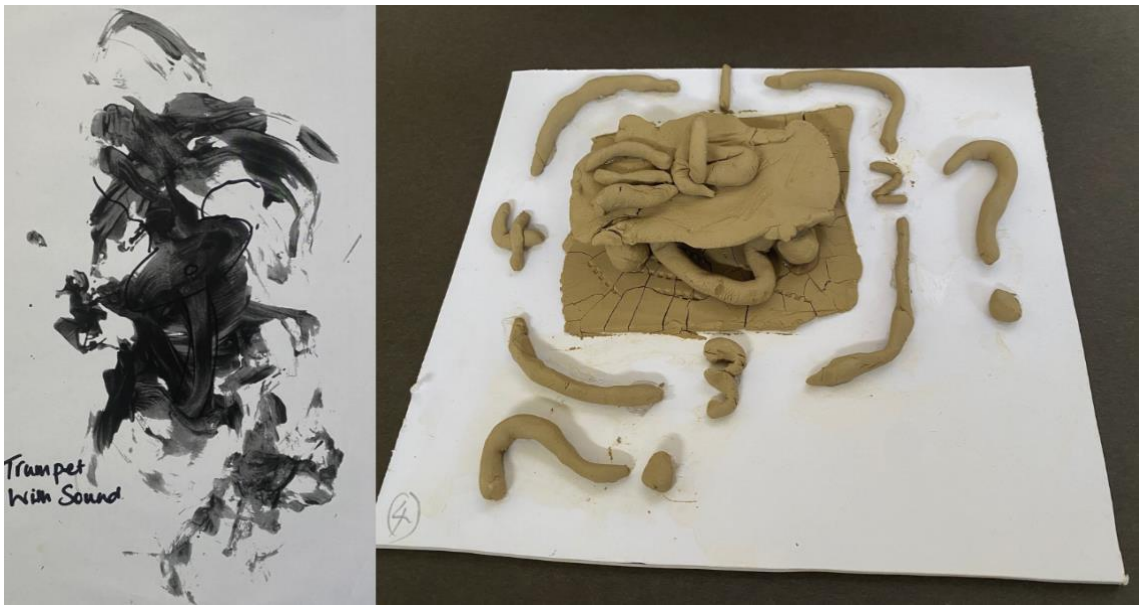
> I read a complete different thing in the same space. (P1 relating to figure 6 p.63)

> But yeah, I saw the motion. (P6 relating to own artifact, figure 8 p.66)

The exchanges between participants in this step of the learning process highlighted an empathetic curiosity demonstrating a raised desire to understand and accommodate the realities of others (Baumeister & Vohs, 2002; Ferrari et al., 2009).

Figure 6.

Trumpet and Heart in rotating layers – Participant four



4.2.4 Public Domain, Sharing Understanding of the Learning Process

The final step of the process had participants co-operatively develop questions based on their collective experience (as described above). The study design enabled this process through the participants' improvisation and adaption of the initial steps (1, 2, 3) that involved experiential and presentational knowing (**Table *1***, p. 31), followed by explanations as propositional knowing (steps 3, 4, 5; **Table *1***). Having shared the common process publicly and referred to the artifacts, participants were able to engage in an unstructured discussion to identify what might be practical knowing (step 6; **Table *1***). The intention was to draw conclusions regarding what could be considered shared learning in response to unexpected circumstances.

This discussion ranged through many items touching on the sub-themes that included references to diversity (Root-Bernstein & Root-Bernstein, 2004); meaning (Freire, 2020; Gendlin, 1997; Mingers, 1995); and self-understanding (Barzilai & Zohar, 2014; Dewey, 2005). Overall, the preliminary discussion resulted in the formation of 10 questions (see **Table *7***).

Figure 7.

Girl with tool – Participant five

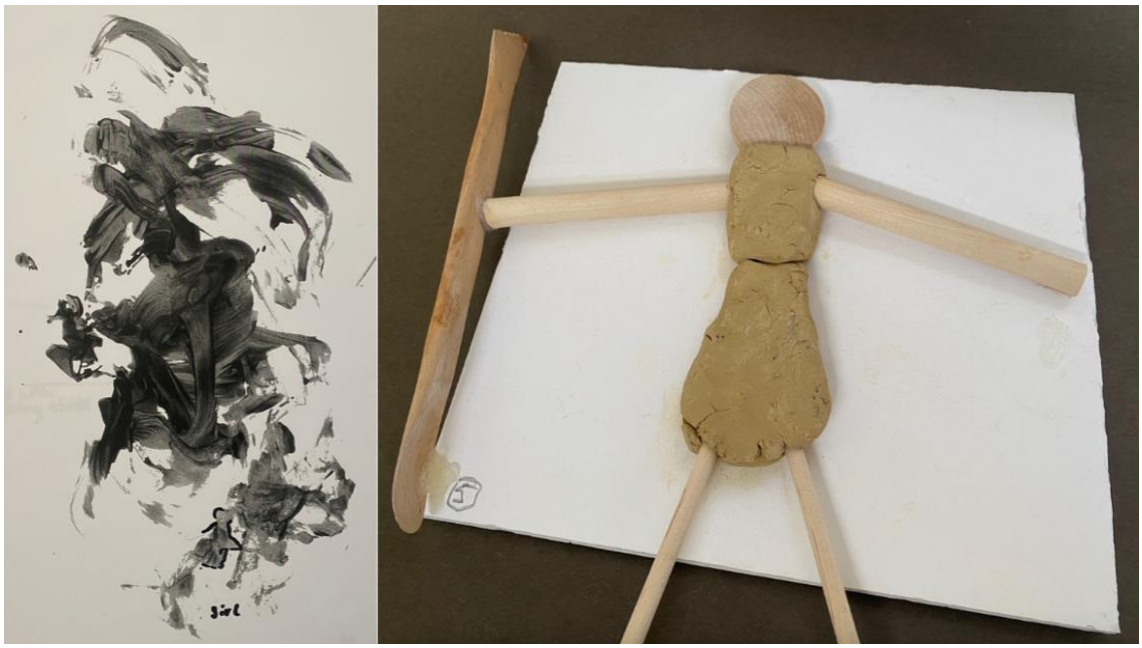


Table 7.

Ten preliminary questions of the co-operative inquiry

1. Which is more important to represent, what is seen in the picture or your inner experience?
2. How do we tolerate different interpretations of a thing?
3. How does personal experience influence what we see (a.) How that shapes how we teach? (b.) Where is the interpersonal line?
4. Does everyone feel they need to make meaning first?
5. Is sense-making and meaning making different?
6. Were the materials and time and at hand helpful or hindering? Personal ability?
7. (a.) How does the context influence how/what we see and is that okay? (b.) If there is decay of past memory-in-the-moment to now what is it's the effect on knowing and learning?
8. What have you learned about yourself through misinterpretation?
9. What have we additionally learned from seeing other's work/responses?
10. What would happen now if we had another round with same image/same materials?

Notably, none of these questions can be answered objectively and as time did not permit individual exploration of all the questions, the participants decided to reduce the number of questions by voting for the top three. This action also resulted in minor revisions to wording. With all the participants being lecturers, the final discussions raised an emphasis on teaching as well as learning. The three final questions chosen to discuss were:

1. What have we learned from seeing others' work/responses?
2. (a) How personal experience influences what we see.
   (b) How that shapes how we teach?
   (c) Where is the line?
3. How do we ~~tolerate*~~ embrace different interpretations of a 'thing' (group's revision*)

Figure 8.

Faces and Hurricane – Participant six

Following the principles of co-operative inquiry, group consensus to explore the final choice of questions proved insightful – participants' chosen questions all involved meaning making. This was apparent when related to the exploration of their own and others' expressions of lived experience. Nevertheless, definitive answers to each of the were expressed in individual ways. For example, P4 and P1 responded to question one:

> I think, yes, there are different perspectives in the sense-making (that) make some senses more concrete. Kind of it is what it is, and this is what I saw, and that's what it means. (P4)

> I've learned that just from looking at the things that some people hone in on as particularly salient important thing for them and others incorporate a whole lot more layers into their things… I guess that represents the different ways that we all kind of view things. (P1)

Participant three responded to question two (a) and (b):

> I think your interpretation [referring to P4 artifact p.63], especially sort of highlighted to me, yeah, your personal experiences with the medical industry in your life and to what you saw, for me clearly. But yeah… certainly my previous personal experiences had influence on what I did.

Participant four used metaphor to respond to (c):

> I think where is the line? A kind of, you know, oversharing… actually, I'm the lecturer here. I have a different coat and still be me, but I have this kind of this jacket, if you see what I mean, and I actually find that really hard. Where I come from professionally you couldn't walk in, jacket on, to your patient every day.

Finally, question three gathered responses regarding embracing others' interpretations:

> I found myself sometimes compelled to say what I saw in someone else's work. (P2)

> So, I thought you'd seen a stingray in some way [referring to P1's artifact p. 43] but when we see what it represents as potential for her, I get that. I'm like this, okay, I get it. (P3)

> When you said this is my next step [referring to P3], this is my path out of the box and WOW because that's it. But yet, Participant 4 and I both went, or is it a place where someone can come and sit with you? (P2)

The final inquiry session highlighted the pivotal shift in orientations as the majority of the dialogue found voluntary expression in subjective terms as confirmed by the comments found in **Table *8***.

Table 8.

Conclusions of the co-operative inquiry

Objective / Subjective	Public Domain : Shared interpretation
Orientation	**Participant quotes illustrating their realities**
P1	"Does everybody feel that intense need to make meaning when they first see the figure?... do you feel like the materials we were given to express our experience enhanced or limited your words, impression or not?" (*Referring to feelings as group*)
P2	" I remember saying, I want to give the person who made this a hug because there's something that seems sad about it, like, and I think you're helping and giving and giving towards the return and carrying all of that with strong hands and the tools. But your feet are like, off the board" *(Referring to P5 artifact)*
P3	"So feelings when we did this are different from now. Yeah, so I can remember what they were...that was in the moment and that's certainly more accurate recollections now of how I felt...yeah, I was so immersed in the now you know. (*Referring to feelings as group*)
P4	" One of the questions that pops into my mind is how our experience influences what we see and take that a step further starting to consider how that influences, how we share, and our expectations of others...maybe that should go back to the same point sharing what it tells about yourself and focusing on the caring to build connection" *(Referring to group process)*
P5	"So you are talking about rethinking things, about working it out again, creating and repeating...inclusion." (*Referring to feelings as group*)
P6	" I could see that point of view like what we're doing *(is)* interpretation of this, or it's like how we tolerate with different opinions.... For me, personal experiences always influences your own judgment of the things, even if they aren't the same" *(Referring to group process)*

4.3 Conclusion

The three findings of this research showed that participant statements, taken as dialectic utterances-in-the-moment, contained *subject/object orientations.* These orientations led to a desire for *accommodation* of personal realities regarding experience when it came to a dialogue. Further, the participants' accommodations were based on the *felt-sense of personal subjective perspectives* as realities.

In the early stages of the study when participants spoke about the artifacts, expressions of realities consisted mainly in objective statements. These statements, although referring to their own artifacts, resulted from participants' tacit understanding of a common experience for which there was no fixed response. As objective statements contributed minimal value to them understanding these experiences, they gradually choose to refer to each other's realities. Consequently, meaning was sought in subjective understandings.

Similarly, the co-operative inquiry as a group process undertaken completely in the public domain produced the same result. Dialogue was the main intersubjective medium for participants to share descriptions and views. Through dialogue they devised the questions they found suitable to examine the process of learning and adapting in unexpected circumstances. The result was to arrive at questions (Table 7, p. 64) that were, exclusively, a response to felt-sense and finding the meanings behind each other's experiences. The implications of these findings for radical forms of learning and adaption are discussed in the next chapter.

Chapter 5 Discussion and Conclusions

5.1 Introduction

This thesis started with an exploration of the extensive literature informing learning processes and made distinctions between knowledge and knowing. Learning was then examined through an action research project informed by elements of a co-operative inquiry. The place of embodied learning in a participatory world was explored through an extended epistemology of knowing, paying particular attention to the part felt sense plays.

This chapter builds on the three findings in Chapter 4 to offer interpretations of Heron and Reason's (1997) cycle of knowing as a framework for praxis. The three findings bring implications for the role of language and the status of meaning in dialogue. The chapter concludes with a fourth finding, bringing implications for future methodology and methods in education and research.

5.1.1 Finding Synthesis

However committed people may be to one paradigm or another, the binary nature of the human condition requires choices be made. Reasoning based exclusively on knowledge (i.e., considered scientific) often leads to polarised positions, particularly with matters concerning the status of human condition (Arendt, 2018). Verification gained through a cognitive fixation that is reductive offers certainties, although these can seductively promote an over investment in rationality that can be misleading when reality is taken into account (Kahneman, 2003; Popper, 1963). Accordingly, high levels of reliance on rational selective thinking may be viewed as a disembodied reasoning (Varela et al., 2017). Whereas reasoning, as affective ways of embodied knowing and sense making, especially in-the-knowing-moment, brings with it a powerful relational quality that is divergent, relational, and contextual (Gendlin, 1977). Although it can be argued the latter may not be considered objective, its subjectivity permits knowing more and differently (Barry & Meisiek, 2010). Affective forms of knowing are seen to hold sufficient power to challenge behavioural realities based on fixations. These include such ideas as the trust in logic to be the ultimate truthful arbiter of realities (Heidegger, 2010; Kahnemann & Tversky, 1992; Kent, 1993; Popper, 1963).

My thesis question, “What tacit processes do mature learners use to enable them to improvise and adapt in unexpected circumstances?”, suggests a need to be cognisant of two things. Firstly, perception is a function of the sentient body reminding people that the wholeness of the learner, including individual behaviour, is involved in a participatory process mediated through constant-moments-of-knowing (Gendlin, 1977; Heidegger, 2010; J. Heron & P. Reason, 1997; Merleau-Ponty, 2012). Secondly, knowledge is acquired as rational reflections on past experiences, as well as the relational knowing of the affective and sentient body where both are at play informing and synthesising in the present-moment-of-knowing (Gendlin, 1977; Polanyi, 1966). My thesis has demonstrated this to be the case as a learning process embedded in immediate experience confirmed it to be a continuous iterative or cyclic process.

5.1.2 Body in an Extended Epistemology

Employing Heron and Reason’s (1997) extended epistemology as a knowing cycle, this study has intentionally focused on its four modes for knowing the world in the immediacy of experience through action research (J. Heron & P. Reason, 1997). For Merleau-Ponty (2012), the body is an ontological condition, a framework of intentionality whereby consciousness and the world are opened up for each other, “our body is not *in* space but *of* space” (p. 171). Similarly, for Gendlin (1977), the physical body’s space is a kind of environment where *occurring* and *implying* take place as a radical *inter-affecting* with living. It continues as a result of the life processes in an environment that the body partly creates and an environment that is itself recreating.

In this thesis, particular attention was paid to the participants’ private non-verbal domain of knowing (Arnheim, 1980; Eisner, 2002; Langer, 1991; Winnicott, 1991), where the part of felt-sense was recognised as an arbiter of presentational knowing. As an arbiter, felt-sense implies towards or away from, in a valance of bodily reactions that lead participants to what might be next through their enactment with the world (Cornell, 2013; Gendlin, 1977). My thesis concurs with others (Dewey, 2005; Eisner, 2002; Gardner, 2008; Leavy, 2015) revealing that non-verbal data have a significant place to play in the expressions of everyday experience through their potential and ability to communicate meaning.

5.1.3 Place of Synthesis

A place for action as an idea of time and space are the moments of synthesis with knowing affectively and knowing knowledge; the idea of praxis (Lather, 1986; McKerrow, 1989) bringing with it intentionality to the present reality of participants. Continuous synthesis taking place as a living integration of their body's pastness as knowing knowledge, along with sensual affective knowing, happened within the dynamic-of-knowing-now as knowing reflexively. Experiencing the four modes of knowing in this reflexive state of being, participants' felt-senses were found as the self-awareness of knowing the whole-in-the-moment-of-perception (Cornell, 2013; Gendlin, 2009; Polanyi, 1968). By being open to moments of experience, it is argued that this introspection involved both attention to stimulus and response. This metacognitive awareness constituted how both the subjective and objective forms of intentionality might inform and guide participants' learning at different stages in the process (Barzilai & Zohar, 2014; Frankl, 1985; Kuhn, 2000). Maintaining self-awareness in the learning space of the public domain through attention to felt-sense can be challenging. Participants, though constantly present to their senses, initially struggled to subjugate propositional conclusions of logical reasoning over felt-sense. Broadly speaking, as thinking and feeling can be difficult to maintain simultaneously, it appeared easier for them to default to objective descriptions. This dominance of an objective comportment can be partially attributed to the condition of thrownness and the necessity of linguistics for naming that carry a desire for rational ends (Powell & Snellman, 2004). A rational dominance was equally seen as having the same subjugating effect on the participants' felt-senses in the presentational non-verbal domain, as my analysis revealed.

5.1.4 Findings

The findings of this study have been a result of bringing three ideas together; the modes of knowing, the role of language, and the role of bodily felt sense. The first idea involved four modes of knowing, adopted as method to sequence the learning cycle from experiential encounter to practical knowing. This approach included identifying the knowing modes as learners moved through the private domains and into the public domains (**Table *1***, p. 31).

The second idea was concerned with the role of language; in the broader sense, all forms of communication. In the private domain, communication as a non-verbal form emerged from an understanding of semiotics as signs and symbols, signalling human experiences and expressed as analogues through the development of an artifact. In the public domain communication was viewed as the essential use of linguistics to make meaningful statements about learning experiences.

Through the study methodology, verbal utterances (Kent, 1993) were revealed to create challenges that obstructed the perception of presentational forms of knowing. This was evident in the findings if they were first offered through the means of propositional rhetorical structures (Simon, 1965). When viewed in the moment as utterances, they could be seen as able to contain both presentational and propositional meanings. In the 'game of language' (Wittgenstein, 2009), the intrinsic meaning of words communicates a subjective reality mediated by the context in which the utterance is made. This presented a collision within the first two ideas; that is, presentational knowing as non-verbal and private, and the influence of linguistics over perceived realities as derived from previous knowing and learnt publicly. These can be seen in relation to the complete cycle of knowing found in **Table *1*** (p. 31).

The third idea was continuous role of bodily felt-sense to imply (Gendlin, 1977) acting as arbiter of what is offered as meaningfulness-in-the-moment-of-apprehension. This is seen as responding to what is perceived in the present-moment-of-action (Dewey, 1986) and reasoned as logic throughout the learning process. From the constellation of these three ideas emerged the three interrelated findings.

1. Individual expression of participant *realities* tended to be expressed in utterances as either objective or subjective *orientations-in-the-moment*.
2. Although explicitly diverse, when the expressed realities were shared in the public domain a *desire for accommodation* surfaced.
3. Shared realities were *primarily* accommodated in dialogue through the *felt-sense of subjective experiential perspectives*.

The first of the three findings was found spread across the entire cycle of learning. The second, as 'accommodation', was dominant when shared realities became a response

to personal experience. The third was evident when the locus of power was moved from knowledge to knowing and meaningfulness of participants' felt-sense of personal expression provided the group with a dialogue basis for faithing in the other (Fowler, 1981). Had a dialogue started without being grounded in the personal non-verbal perceptions of each other's experiences, it would be easy to imagine that an objective logic would have prevailed as the preferred basis for group dialogue and conclusions. However, a collective implication of the study's three findings confirm the shifting role of *meaning* with participants utterances. During the transition from experience to practical knowing, participant's dialectics radically shifted to subsume a subjective authority as the sole basis of negotiating collective understanding. That understanding, grounded in subjective meaning, is considered a *fourth and overarching* finding confirmed by the first three findings.

5.2 Interpretations

A key component in understanding the tacit process for this study was to understand an in-the-moment appreciation of what the learning process involved. Apparent only in hindsight, the four findings emerged from the early deductive stages of analysing the participants' transcriptions as overarching themes. These themes, able to be individually verified by contemporary literature and through the extended epistemology of Heron and Reason (1997), collectively confirmed the context for looking at what was happening-in-the-moment of-knowing in this study. Patterns in the findings were revealed through abductive reasoning (Lipscomb, 2012), where, like the participants, I did not know what this research would confirm. I started with knowledge to form propositions by following a hunch (i.e., through my own felt-senses). The ground for this statement, found in my own 'thrownness', may be partially evidenced in my bridling statement (see Chapter 1) and the literature review contents.

5.2.1 Presentation Before Proposition

Following Heron and Reason's (1997) extended epistemology of knowing both as a methodology and method gave privilege to knowing in the moments-of-learning of the private domain before dealing with the public domain. Privileging knowing, affectively guided by felt-sense, offered radical epistemological interpretations for knowledge

creation and sharing. As much as is possible, this action study as a modified co-operative inquiry, sought to give freedom of individual expression to the senses through the realm of free imagination in action (Johnson, 1987; Stokes, 2014).

Endeavouring to restrict the privilege of power that knowledge exercises through language (Gaventa & Cornwall, 2015), the initial steps of the research requested participants' recourse to knowing on a personal basis. Transactional discourses that privilege knowledge in the public domain were relegated to second place by referring to the non-verbal realm first. This order gave preference to the transformational effects of the imaginative process in a call to action to explore inner dimensions of knowing (Ricoeur, 2016). It resulted in resorting to shaping and expressing experiences as artifacts (Barry, 1994; Seeley, 2011). What can be concluded is that participants' meanings were tacitly established as implicit understandings in the non-verbal artifacts that contained a transitional potential (Winnicott, 1991) and were made explicit in hindsight. This was done both personally, as analogical and linguistic expressions, and in dialogue as the groupwork of the co-operative inquiry.

Putting presentational knowing before propositional knowledge can be seen in the cycle, as learning moves through various stages (Leslie, 1993). For example, **Table *1*** and **Table *3*** depict the individual processes undertaken by study participants; whereas **Table *9*** relates the processes to the theories and practices this thesis brings together.

Table 9.

Synthesis of Knowing and Knowledge referencing Heron and Heidegger

Enters the world via the individual

Heron's (1996) "Ways of Knowing"	Locus of Understanding/Focus of Intentionality	Process Mode	Domain
Practical	Knowing demonstrated in actions 'I do ...' (explicit world of existence)	Doing	PUBLIC
Propositional	Knowing demonstrated in words and concepts 'I think ...' (explicit world of information)	Saying	
Implicit Synthesis	Locus of Bodily Knowing through Praxis	Accomodation	Tension
Presentational	Knowing expressed as images and movements 'I feel...' (implicit/tacit world of appearance)	Shaping	PRIVATE
Experiential	Knowing experienced in objects and phenomena 'I sense..I am...' (tacit world of presence)	Sensing	

Realised from the world via our 'Thrownness'

Beyond the perimeter of **Table *9***, listing normative stages and modes of knowing, lies the open potential of the participatory world as cosmos.

Cognisant of the unique role spoken language plays in communication (i.e., that it can move from the presentation to the propositional without clear demarcations), this study has attempted to isolate this effect in the early stages of the knowing cycle. This intentional design likely added to participants' felt tension of 'not knowing' that is implicit in improvising and adapting in unexpected circumstances. The tension was treated as space and referred to as inner dimensions of the human condition, requiring reflexive knowing for its exploration (Barzilai & Zohar, 2014; Csikszentmihalyi, 2014; Flavell, 1979). Here, the in-between spaces of the method encompassed the idea of praxis (McKerrow, 1989) where the three forms of knowing—knowing knowledge, knowing affectively, knowing reflexively—were active in the present moment of experience along with implications of past and future.

5.2.2 Body as Praxis

The place of praxis, as the locus of bodily knowing (see **Table *9***), is placed clearly in the moment of action where a synthesis of knowing and knowledge can take place. In the 'Human Condition', Arendt (2018) remarked "that the division between knowing and doing, so alien to the realm of action, whose validity and meaningfulness are destroyed the moment thought and action part company" (p. 225).

What became evident in this study was that knowing took precedence over knowledge when it came to understanding, expressing, and sharing the realities of each participant's experience in this space. Although the results of artifacts and their descriptions were diverse, they were sourced in the same common experience. The unassailable veracity of statements centred in the subjectivity of participants' knowing took priority in the verbal exchanges of the final public discussion.

Rather than accepting everything at face value, participants were curious to know the other thus preferred to understand their personal truths. The part of the artifacts within the space of praxis opened the discourse to negotiable realities (Barry, 1996), further adding substance to intersubjective understandings (**Table *3***). Artifacts were transitional objects acting as bridges between participants' internal world and external realities (Winnicott, 1991) to facilitate new meanings in constant reference to participants' statements. In this way the artifacts represented transitional objects during the presentational stage. They were available to be viewed as part of a synthesis-in-doing: tacitly making and shaping, with that of knowledge, through the participants' doing, saying, and sensing. My thesis illuminates the practical potential for the use of artifacts to mediate inter-personal understandings. Acting as analogues, they offer a non-judgemental basis for interpretation and dialogue.

5.2.3 Felt-sense of Experiential Perspectives

Conscious or not to participants, their realities expressed subjective orientations and were interpreted in this study as them inescapably being with their senses-in-moments-of-knowing. The study design intentionally attempted to excite the senses in the private domain where bodily felt-sense could usurp priority over logical reasoning. This was shown to be a foundational experience for the later co-operative inquiry in

the public domain. Taking felt-sense as implying forward (Gendlin, 1977) was seen to generate a comportment for knowing affectively that maintained an improvisational fluidity with the meanings participants offered linguistically. Through referencing experience as felt processes, participants were permitted to know more and differently together as they stayed with the senses (Barry & Meisiek, 2010). As the senses are tied to relational forms of knowing, participants were exposed to the free forms of imagination that can cultivate the creative capabilities of situated learning (Eisner, 2002; Gardner & Gardner, 2008; Leavy, 2015).

Contrary to statements referencing orientations with objective meanings, new ideas could be felt as movement (Searls, 2017; Tosey et al., 2012) rather than statements, arresting the fluidity of participants' understandings. Felt-sense helped manage tensions by connecting past and future, leading participants to value the meaningfulness of the present moments. Participants' responses indicated shared realities were primarily able to be *accommodated* through their felt-sense of *subjective experiential perspectives* being qualitative representations and expressions of their realities. Thus, a participatory meaningfulness formed a non-negotiable base line for linguistic exchanges where participants synthesised both subjective and objective orientations as subjective experiential perspectives (Eisner, 2002; Farrell & Frentz, 1979; Freire, 2020; Langer, 1991; Wittgenstein, 2009).

With the scumble task and its responding artifact, experiences were tacitly understood as common, although not originally shared synchronously. This tacit knowing became explicit when later acknowledged in the public domain. While participants had diverse understandings of their results, they were also aware these outcomes were based on a common private experience (see Table 3). Consequently, the subjective meanings of experiences shared from their private domains, produced less inclinations to objectively challenge others (Baumeister & Vohs, 2002). Instead, personal experiences were accepted as immutable facts, along with evidence using the artifact. The concrete forms of the artifacts supporting participants' statements and assisting accommodation was inherent in the transitional nature of their descriptions. Their adoption and negotiation was essentially free of contested objective facts (Winnicott, 1991) .

5.3 Implications

Reflexivity, defined as part of what constitutes knowing-in-the-moment, can be viewed as a means of revealing self-knowing that is based on knowledge and affect informing perception together (Polanyi, 1966). With the participants' bodily knowing as detached from the specifics of logical thinking, it was, therefore, less reliant on knowledge giving sway to felt-senses informing participants as knower. Importantly, materials stimulate visceral responses that engage non-verbal perceptions enlivening the imagination in acts of knowing experientially (Eisner, 2002; Gombrich, 2023; Ozdem-Yilmaz & Bilican, 2020). As personal these conclusions of the private domain were shared openly, the communal comportment for felt-sense created a basis and possibility for synthesis, as perceptions were accepted without questioning their origins.

When objects and language were used that could share insights, the space of tension between different positions was neutralised, creating a place for mutual understanding. The ways of knowing are also different ways of learning that changed the contexts during the process from practical knowing to knowledge as seen in **Table *9***. Considering these differences, their contextual qualities across the process presented changing epistemological implications. When interpretations of language, used in the widest sense, are understood, its context can be seen to determine knowing what may be true or available as new knowledge at each different contextual stage.

The tension experienced between public and private exposed this knowing when the linguistic expression of subjective realities offered in the public domain came into conflict. Generalisable statements as public realities may be appropriate for verification in transactional learning where objectivity effects veracity. However, where perspectives on human behaviour involving beliefs and feelings are the ground of learning and adaption, alignment of objective arguments through propositional statements easily drew stalemates with participants.

5.3.1 Implications for Language

By treating spoken language as a subjective symbolism (Kent, 1993; Kramsch, 2020), rather than as locutionary act (Allwood, 1977), a different significance to meaning is

created. It makes a distinction between the expression of ‘knowledge’ as having literal meanings for action to ‘knowing’ as statements of linguistic subjectivity. Put another way, words spoken symbolically are in-the-moment improvisations that describe the personal nuances of feelings, associations, imaginings, entirely dependent on shifting personal perspectives and interpretations. Whereas statements with literal intentions for action may involve making requests, promises, or referencing claims to external authorities (Petrey, 2016).

Participants made propositional statements recalling both past knowledge and sensation; yet, without necessarily consciously sensing doing so in the present moment of apprehension. Importantly, personal perception does not need to be propositional to justify what the body conceives in-a-present-moment-of-being. Its content will be seen as neither sufficient nor necessary to justify subjective perceptions. Additionally, as declarations of ‘factual’ knowledge are considered to incorporate a power dynamic in claiming generalisability over what is the same and coherent (J. Heron & P. Reason, 1997), they are inappropriate here because they undermine the sovereignty of the recipient to whom the statement is addressed.

Participants’ language revealed personal realities that are usually concealed and rarely examined, bringing them into the conversation. This highlighted the deeper underlying tacit realities behind their comments that were able to reveal further ontological meanings. In this regard Varela (2017) concurred with other scholars including Zahavi (2008) who claimed,

> Ultimately, what we call “reality” is so deeply suffused with mind-and-language-dependent structures that it is altogether impossible to make a neat distinction between those parts of our beliefs that reflect the world “in itself” and those parts of our beliefs that simply express “our conceptual contribution”. The very idea that our cognition should be nothing but a re-presentation of something mind-independent consequently has to be abandoned. (p. 368)

As embodied knowers and learners, one finding was realising the individual expressions of participants’ realties tended to be statements primarily shared as either

objective or subjective orientations-in-the-moment. As utterances, these orientations fluctuate as humans are always subjective (ontological) and objective (ontic) at the same time (Dreyfus & Kelly, 2011). In the moment of expression, through spoken language, one or the other is manifesting itself symbolically in words**.** This illustrates how participants' orientations contained linguistic potential for their statements to un-conceal the ontological connotations of their perceptions. This finding questions when and how we might view and act with objects and phenomena of presentational forms when developing new knowledge or engaging with others to do the same. When is it appropriate to consider agency as a property of objects and phenomena, or for that matter speaker and listener? (Kent, 1993; Leslie, 1993).

The accepted norms for explicit appreciation of presentational knowing, found as a product of semiotics and arts, is found in their affinity for the wholistic expression of the human condition (Arendt, 2018; Eisner, 2002; Leavy, 2015). By looking at language beyond *how* it is said to determine *when* it is said, the scope of *what* can be claimed as valid epistemological distinctions in the public domain can be considered. This distinction opens radical understandings to considerations of meanings, trust, respect, and curiosity, that are the grounds of dialogue attempting to reach common understanding.

5.3.2 Status of Meaning

As meaning has ontological implications related to the nature of reality, questions arise as "What reality do we refer to when we make statements that include claims about reality?" and "What impact does this have on social interactions and shared understandings between people?". These two questions interrogate the binary nature of the private and public domains.

Participants' meaning was taken here as an utterance (Kent, 1993), responding to what was being expressed or indicated-in-the-moment-of-expression rather than being held as a defended assumption or conclusion. It is treated as holding transitional value for meaning when it was shared with others in conversation or dialogue (Lather, 1986). Statements in conversation, as expendable symbolic utterances, were accepted as subjective, with their meanings seen as leaning into a shifting thread of understanding. An importance of meaning to understanding lies in its impact to deliver common

purpose as a felt interaction in experience (Gendlin, 1997). The basis of shared meaningfulness in this study had no substance other than what speaker and listener made of the utterances. Baumeister and Vohs (2002) made the following statement on the nature of meaning:

> The essence of meaning is connection. Meaning can link two things even if they are physically separate entities, such as if they belong to the same category, are owned by the same person, or are both used for a common goal. The connection between the two is not part of their physical makeup and thus can only be appreciated by the human mind (or some other mind capable of processing meaning). Ultimately therefore, meaning is a nonphysical reality. It is real in that it can have genuine causal consequences, and yet it cannot be reduced to physical principles. (p.608)

The importance of personal meaning is found in individuals' responses and interpretations of life events (Frankl, 1985). Gendlin (1997) contended, "symbols do *not* adequately symbolize the meaning we experience" (p. 45). Meaning is an individual's having of meaning, their phenomenological apprehension of a meaningfulness. Whether of the symbol, the thing, or the experience, it is "the feel of a meaning" (Gendlin, 1997, p. 45). As learners, we may look for meaning outside of ourselves, but all humans experience the felt-sense of assumptions as affecting their moments-of-being if they stop to consider them.

An analysis of participants' declarations of meaning, made accessible through their shifting dialogue, revealed two discernible orientations. Objective realities, positively implied the world 'out there' to be understood as concrete and real for everyone. Subjective realities, implied experiences were implicit with interpretations as highly variable; therefore, reality was relative and unable to be permanently fixed.

The participants' artifacts, as understandings of objects and phenomena, were sensed and expressed in moments of perception revealing their personal experiences. When shared, these experiences created a neutral area of exchange, focusing on the meaningfulness-of-the-moment without the need for challenging assumptions or conclusions. In a tacit understanding of the moment of duration or movement

(Bergson, 2002) or in a continuity of occurring (Gendlin, 1977), the point of agreement kept attention moving with others' views. The objects or phenomena constituted transitional bridges between ways of knowing conveying the meaningfulness that connected the participants. Winnicott (1991), in his work on the importance of transitional objects and phenomena said, "Did you conceive of this or was it presented to you from without?' The important point is that no decision on this point is expected. The question is not to be formulated" (p. 17).

On this account, participants' utterances as *personal expressions*, though declared in the public domain as propositional exclamations, are not meant as generalisable factual statements requiring provability. Unless it actually was declared a statement of generalisable objective fact making claims to collective meaning. In which case the claim defers the potential of the momentary experience by relegating it to that which is known already and, therefore, accepted as knowledge to be negotiated accordingly by its pastness (Dainton, 2010; Wrathall, 2010).

In this study, where the subject of attention was unknown or unexpected, as with the scumble figure or the artifact, participants were more open to choosing guided by the felt-sense of their meaning-in-the-moment. This process applies to finding meaning when accommodating the uncertainty of tensions found in the space between stimulus and response (Frankl, 1985; Gendlin, 1977; Waterworth et al., 2010).

Gendlin (1997), in reference to symbolisation, says "meaning depends on a *relationship* between experience and symbols" (p. 125, italics in original), noting that people should not speak of experienced meaning before it is symbolised. The realities regarding experience, expressed explicitly in artifacts, differed greatly. Similarly, participants' verbal expressions of these experiences, including their interpretations of other's artifacts, also showed differences. Yet, once the artifacts and participants' interpretations were offered in the public domain, a desire for accommodation surfaced. Even prior, in the private viewings of other's artifacts, some participants began to orient their realities towards subjective comments (see **Table *5***, p. 59).

Participants' expressions shifted from objective to subjective orientations. As well, the basis of their genesis in time moved from the pastness of knowledge to more

immediate knowing-in-the-moment. This can be interpreted to mean conclusions related to personal *meaningfulness of perceptions* were favoured as offering the optimal basis for intersubjective meaning. This reality permitted the epistemological limits of their dialogue to widen in an accommodation of self and other that responded to a collective sense of their common humanity.

5.3.3 Thesis of my Thesis

My work has shown how facilitating an environment that foremost acknowledges individual sovereignty raises a natural comportment for mutual understanding to follow. That our uniqueness is found in a knowing presence of the other; a mutual context found in not deny who they are; rather, appreciating the immediate uncertainties each encounters in actualising their full potential.

This thesis confirms an over investment made in the power of logic. Maintaining a blind obsession with rationality relegates the essence of what it is to be human to the oblivion of homogenised formulae. It perpetuates the constant grasp on the certain to elevate it and the known into the conscious spotlight, while the potential of the uncertain and unknown remains consigned to depths of a shadowy unconsciousness.

When the affective relational forms of knowing are acknowledged, the power of knowledge is put aside for that moment. In this thesis the basis of dialogue became one of inquiry rather than litigation, one of empathy and care rather than the actualisation of instrumental goals. The significance of these insights are cognisant of the power and primacy that affective forms of knowing have for the creation of knowledge.

5.4 Learning, Contributions, and Limitations

5.4.1 Personal Learning

I acknowledge endeavouring to probe such a situational and relational subject as situational learning is extremely ambitious; adding that my attempt to do this in unexpected circumstances may even seem foolhardy. Nevertheless, personal learning during the writing of this thesis has been significant. While I understood that the subject I was attempting to elucidate touched on serious practical and philosophical

challenges, I nevertheless begin the task in a similar mindset to the participants. I engaged without knowing what the outcome would be.

Experience, alongside the participants' offerings, is what has shown me that tacit processes can be enabled for improvisation and adaption if participants' private knowing can speak first for their learning where circumstances are unexpected or variable. The study's greatest impacts on me have been to sharpen my awareness of what is happening in the moment and to value engagement by the measure of meaningfulness I experience in what I am doing. None of the participants withdrew from the study, with most expressing how much they had learnt personally. It would be interesting to confirm with participants if the points I found here align with their reasons for the shifts in their perspectives and the conclusions they drew through participation in the research.

Putting into words the complex dynamics that took place in praxis offered challenges and rewards greater than any words here can represent. The study further confirms my belief that while the experience is the greatest of teachers, ultimately it is the feelings themselves, those unable to be shared.

5.4.2 Limitations and Strengths

There are limitations to this study, some offering immediate possibilities to reconfigure the same methodology and method to consider further findings. First, this was a small study in one institution; a wider sample size with participants from varying backgrounds would immediately extend the scope of potential findings. Second, only one iteration of the extended epistemology was completed as part of ongoing cycles of learning. As a basis of co-operative inquiry several cycles are recommended to produce results; however, it must be noted that language normally precedes the first stages which this study has endeavoured to contain (Reason & Heron, 1999). Hence, the study reported in this thesis can only claim to be a modified co-operative inquiry.

This study has a number of strengths. It was effective in confirming many qualities that can be found in the literature that are independently attributed to fields covering knowledge, affective forms of knowing, reflexivity, praxis, and related to methods of learning and adaption. It brings the practical coherence of several methodologies for

the implementation of learning methods where concurrence with the wider literature strengthens the plausibility of findings. Additionally, the value of using an extended epistemology enabled examination of tacit processes, and revealed possibilities to explore perception through different lenses. These strengths offer opportunities for application beyond this study.

5.4.3 Unique Contribution of this Thesis

To date I have not come across research that brings the epistemology of knowing, felt sense, and language together as continuums, consequently I am unable to reference work comparable to this study. However, it is envisaged that the dissemination of these results through practical workshops, conference presentations, and publications could inspire others to extend an understanding of the ideas and practices this thesis outlines. In doing so, it is my hope that it may further development of practices and knowledge supporting novel learning and adaption in circumstances of uncertainty. Further empirical investigations of tacit knowing is clearly called for to be able to consider outcomes that are only tendered as philosophical speculations (Kucharska & Erickson, 2023; Malik, 2023).

One area that this work has touched on is to expose the notions of rhetoric. The study shows rhetorical paradigms to be an important part of the learning transition which requires further examination from experience to practical knowing (Lather, 1986). Implications for pedagogical practices and educational methods can be greatly extended when the linguistic ramifications of illocutionary intentions are better considered. Conventional use of speech has moved a long way from the “sophistic conception of rhetoric as social art grounded in everyday uses of language” (Kent, 1993, p. 19).

It is contended that developing methods of communication, following the extended epistemology of Heron and Reason (1997), through maintaining a stricter adherence to the non-verbal expression of the private domain, enhances the sovereignty of the knower to others. Such a principle is already accepted in the art world (Arnheim, 1980; Eisner, 2002; Gardner & Gardner, 2008). However, for sharing experiential understandings within training, it has implications for aligning practical understanding in matters where the plurality of human beings is normally bifurcated with language.

Non-verbal exercises (e.g., the scumble) that are presented and processed by groups prior to any dialogue, privilege the agency of individuals. The effect activates a comportment for acting in the face of the unknown in a space of trusting and faithing (Fowler, 1981). As an effect, this principle has implications for educational planning where group behaviours require improved understanding or alignment. It further implies that educational approaches taken to behavioural training can first be considered in light of experiential and participatory approaches. This also offers possibilities for formal approaches to education which often place the knowledge of experience first; instead, learners need experience first in order to know it.

Additionally, starting with non-verbal forms of communication holds potential to mitigate concerns for learning where dyslexia or other neurodivergent forms of learning exist. Including alternative communication means avoid the affective blocks of knowledge's power dynamic (Gaventa & Cornwall, 2015), skirt cognitive fatigue (Palmer, 2013) and accommodate people's plurality (Arendt, 2018).

5.4.4 Future Research

This study inquired broadly into the communicative role of language in its widest sense using Heron and Reason's (1997) extended epistemology of knowing as a methodology. The inquiry led to emphasis based on meaning within its different modes of knowing. Findings suggest further study possibilities that could enhance learning within radical critical paradigms, especially through employing an exploration of meaning through the non-verbal realms.

Alternative mediums used for developing artifacts have significant potential for experimentation, as different material and phenomena are known to be capable of producing specific or wider varieties of result and, therefore, interpretations (Taylor & Statler, 2014). Evident in the known specificity of the arts' affinity for synaesthetic communication (Day, 1996), this factor might call for studies as dependent or related to the demographic using it. The aspect of media also brings further considerations of the agency of different objects and phenomena to promote learning in unexpected situations (Leslie, 1993). These combinations are endless.

The potential of art-based interventions in organisational development has been widely studied through organisational aesthetics (Aesthetics, 2025), as well as academic forms of sociological research (Leavy, 2015). These fields of existing knowledge alternatively reviewed through the lens of knowing-in-the-moment offer to advance the development of learning sourced in the private non-verbal realm.

The empirical approaches of both fields already bring numerous refinements and issues to methodological and epistemological questions regarding radical learning through praxis. New directions may be found in these findings as possibilities for the development of relational understandings where comportment is seen as an essential component of lived student-teacher relationships (Giles, 2018).

From a philosophical point of view, it was not possible in this study's parameters to include qualitative considerations for learning that further consider time or space as constitutive qualities. Time is also considered a constant synthesis in radical temporalities, such as from the works of Bergson and Gendlin (Bergson, 2002; Gendlin, 1977; Soffer, 2022).

In essence, this study indicates the principles of the co-operative enquiry framework hold possibilities to be used iteratively and in many fields, especially wherever in-the-moment exploration of the non-verbal can be seen as adding value to research that delivers practical knowing. Giving group trainees opportunities to first experience a process, followed by a modified co-operative enquiry, enacts relational affective knowing that invigorates, binds, and confirms what can be known. The same can be said regarding research where personal interviews, phenomenological analysis, ethnographic research etcetera are anchored in the subjective meanings of the human condition.

5.5 Conclusions

This research has largely dealt with the presence of the human condition in a place of action where the invisible could be made visible, and where knowledge was created though the transformation of experience. Defining the difference between knowledge and knowing shifted the locus of intentionality for understandings. Radical learning has been understood here as not only transactional but essentially transformational. It

took root during action-in-the-moment, though most prominently when learners were faced with not knowing and when the certainties of prior knowledge could no longer readily provide clear answers. The scumble encounter enabled critical reflexivity, along with the additional challenge of representing the experience as a concrete artifact.

By considering praxis as a place of radical learning, action can be seen as an agent for the synthesis of knowledge and knowing in-moments-of-meaningfulness confirmed by the participants' felt-sense. This study, conducted as action research, is synonymous with the idea that providing immediate feedback, and reflexive knowing that emerges in-the-moment as part of the present intentionality, is an ongoing teleological act.

Having this awareness of an ongoing process produced inner tensions, resulting in doubt, surprise, and curiosity, drawing learners into present moments of knowing affectively. It naturally led the shift towards knowing reflexively as learners were challenged to find personal-meaning-in-the-moment. The benefits of this experience resulted in foundational processes for meaning through the improvisation and adaption participants established for themselves working in the private domain.

This personal grounding proved to be the basis for informing constructive dialogue in the public domain of co-operative inquiry. It also appeared pivotal as a primary approach to informing a transformational design method that facilitated an understanding of behavioural perspectives within the group. As action research it confirmed and followed Heron and Reason's (1997) extended epistemology of knowing with an added premise, 'presentation before proposition'.

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Appendices

Appendix A. Glossary of Terms

Praxis refers to application of theory and skill in practice or doing (Lather, 1986; McKerrow, 1989).

Metacognition as a consciousness of knowing how we know (Barzilai & Zohar, 2014; Kuhn, 2000).

Affectively belongs to those ways of knowing that are determined by the body's senses (Cornell, 2013) where *presentational* ways of knowing are non-verbal ways of knowing form, movement, color, sound etc., and how they might symbolise meaning to us (J Heron & P Reason, 1997) and p*ropositional* being statements of fact or logic (Heron, 1996).

Explicit relates to what has been made knowable or conscious within the public domain and as such has the potential to be shared as being concrete or visible (J Heron & P Reason, 1997).

Implicit relates to existing potential of qualities latent in private or public domains (Heron, 1996) that may be perceived and made known through objects, phenomena and language.

Tacit relates to understandings of the private domain that are yet to be perceived and can only be recognised when shared in hindsight (Gendlin, 1977; Polanyi, 1966).

Knowledge is regarded as stated assumptions implying understanding is recalled (Heidegger, 2002).

Thinking I use it here to refer to the mental process for producing knowledge usually by logic or rational means.

Knowing is a present act of bodily perception-in-the-moment both through the senses and thinking (J. Heron & P. Reason, 1997). It is also self-knowing as *reflexive.*

Affective relates directly to bodily felt sensations and results in feelings and emotions (Gendlin, 1997).

Reflexive is a mental state that may include *imagination* where one is able to consider or know the self as knowing (Bruno et al., 2011; Eisner, 2002).

Reflective is a mental state where one considers or knows the other (Bass et al., 2017).

Imagination is a state of mental visualisation where thinking and feeling are synthesised according to intention. I consider *thought* as often ambiguous in meaning and so attribute it with similar qualities as imagination (Eisner, 2002; Leavy, 2015).

Appendix B. Four modes of knowing in extended epistemology

Experiential knowing means direct encounter, face-to-face meeting: feeling and imaging the presence of some energy, entity, person, place, process or thing. It is knowing through participative, empathic resonance with a being, so that as knower I feel both attuned with it and distinct from it. It is also the creative shaping of a world through the transaction of imaging it, perceptually and in other ways. Experiential knowing thus articulates reality through felt resonance with the inner being of what is there, and through perceptually enacting (Varela et al., 2017) its forms of appearing.

Presentational knowing emerges from and is grounded on experiential knowing. It is evident in an intuitive grasp of the significance of our resonance with and imaging of our world, as this grasp is symbolized in graphic, plastic, musical, vocal and verbal art-forms. It clothes our experiential knowing of the world in the metaphors of aesthetic creation, in expressive spatiotemporal forms of imagery. These forms symbolize both our felt attunement with the world and the primary meaning embedded in our enactment of its appearing.

Propositional knowing is knowing in conceptual terms that something is the case; knowledge by description of some energy, entity, person, place, process or thing. It is expressed in statements and theories that come with the mastery of concepts and classes that language bestows. Propositions themselves are carried by presentational forms - the sounds or visual shapes of the spoken or written word - and are ultimately grounded in our experiential articulation of a world.

Practical knowing is knowing how to do something, demonstrated in a skill or competence. Practical knowledge is in an important sense primary (J Heron & P Reason, 1997). It presupposes a conceptual grasp of principles and standards of practice, presentational elegance, and experiential grounding in the situation within which the action occurs. It fulfils the three prior forms of knowing, brings them to fruition in purposive deeds, and consummates them with its autonomous celebration of excellent accomplishment. (p.280)

Appendix C. Participation Task Brief

Pre-brief: (prior to commencing tasks)

Name: ……

Occupation: (specific e.g. Lecturer, economics)…….

Leisure activities: (non-work related e.g. none. Or fitness, theatre etc……

……

Under the following headings how do consider your work?

	1 Not at all	**2** Somewhat	**3** Partially	**4** Very	**5** Extremely
Organised:	O	O	O	O	O
Innovative:	O	O	O	O	O
Knowledgeable:	O	O	O	O	O
Intuitive:	O	O	O	O	O
Resourceful:	O	O	O	O	O
Logical:	O	O	O	O	O
	1 Not at all	**2** Somewhat	**3** Partially	**4** Very	**5** Extremely

Tasks Brief:

The study aims to capture the 'How' of process to better reveal the 'Why' you are able to produce the 'What' as outcomes of the tasks you are presented with.

Step 1 Individual

While you work towards the outcome of each step you are asked to make a concerted effort to hold to the fore an awareness of your **experience-as-it-happens.** This study is interested in your lived experience.

Doing this requires '**staying with the senses'** in particular a **whole-of-body 'felt sense'** rather than submitting to solely reasoned thinking as explanations for completing the exercise.

Step 2 Example of experience awareness

You are crossing a very busy road, so you know 'What' you are wanting to do.

Simultaneously the 'How' is also embodied in the experience of this task further exposing the 'Why' of your actions meanings.

Performing the task **reasoning as explanation** may prevail in this manner:

1. You may recall the rules. Look left, look right, look left again. This requires caution.
2. You know if you are hit the consequences can be serious.
3. While crossing you may note your progress "I'm half way," "I'm nearly there,'" or your mind is processing how quickly or slowly you are progressing towards your destination.
4. On reaching the other side you mentally tick the task off as complete.
5. You quickly forget this experience.

This logical understanding expresses the *rational process* of doing this task, crossing a road.

For this work you are being asked to **especially consider the whole-of-body felt sense** as the tasks proceeds**.**

Crossing the very busy road therefore can be understood like this:

1. I feel a flash of apprehension and hesitation as I prepare to step across the road. I feel I am entering a hostile space.
2. My senses intensify as I try to make sense of sounds and movement on the road. I may be aware of my footing off the gutter as I feel for the right moment to cross. This is not unlike feelings I have trying to do something in the dark.
3. As I move onto the road my body tenses to perceived threats coming from opposite directions. I respond involuntarily continuingly looking left and right as everything seems to surround me.
4. On reaching the other side my body relaxes with a feeling of relief like surfacing after holding a long breath.
5. I'm glad the crossing is over, but I realise my heart continues to pound for a bit as I come 'down to earth.'

Endeavouring to remain sensually-aware-in-the-moment while doing the tasks assigned will assist the recall of experienced qualities and their relationships to task processes. By 'staying with the senses' we are additionally able to respond to tasks in ways other than through pure logic.

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MEETING ONE: INDIVIDUAL EXERCISE

1. SCUMBLE TASK – Completed the exercise (verbal task goal given to find what they could in the image on commencement)

After Completion

1. What were your experiences?
1. Did they feel related to any previous experiences you've had?
2. Can you imagine the whole experience as something?

2. ANALOGUE – Modelling the task experience (instructions given on commencement)

3. Start making – Is there a sense of 'something', a form, pattern, structure, flow or movement.
4. If you don't know where to start do anything and respond to what you produce by 'staying with your senses' to decide if it is right.
5. Continue considering What can I ask 'it'?, What might 'it' say? that could reveal the qualities I experienced?
6. How could you express that?

3. EXPLANATION

Part 1 What the Analogue expresses. (recorded) (instructions given on commencement)

1. Approach the analogue anew.
2. Express how its overall appearance represents your experience.
3. Consider further expression of any particular parts of the analogue.

Part 2 Tasks to date. (recorded) (instructions given on commencement)

4. Comment on any specifics felt during the process to date i.e. Briefing, Task , Analogue, Explanation or their implication for you.
5. Other …

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MEETING TWO: OTHER'S ANALOGUES

4 & 5 INDIVIDUAL INTERPRETATIONS of Others Analogues regarding the task experience (recorded)

(instructions given on commencement)

1. Offer your interpretation of the overall appearance of the analogue.
2. Offer your interpretation of any contributing parts of the analogue.
3. Other …

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MEETING THREE: CO INQUIRY

4-6 Group Focus and Presentation Rounds (filmed)

(Agenda given on commencement using a co-operative principles)

1. Share each analogues in a round starting with the others.
2. Establish questions* for consideration and refine to three.
3. Explore the chosen questions as a group
4. Group summary of their key overall conclusions

Note: All participants assembled in an encounter circle can present their analogue to the middle, of the group one at a time. Staring as a round with the *other* participants first offering their uninterrupted interpretations of the analogue presented and finishing with the analogues creator.

Appendix D. Research Poster AUT

Appendix E. Participant Information Sheet

Date Information Sheet Produced: 7th August 2023

Project Title

Tacit qualities enabling transformational learning processes: **Assisting learners to consider what might be worth knowing about themselves.**

An Invitation

Kia ora, my name is David Kayrouz and I am a mature student with a lifetimes involvement in all sorts of experiential and art-based practises. I now couple my experience with my equal fascination for 'knowing how we know' and learning. Today, as a MPhil student I am excited to be exploring the learning gap between individual embodied understandings and shared knowledge. Using a novel methodology that I expect will be engaging, I am looking for six curious lecturers curious to join me in what I plan to be an enjoyable learning experience together. Working with both your hands and head, involvement requires individual participants to complete two novel tasks. Then later, to consider the experiences they had individually as a whole participant group.

While the outcomes I seek understand involve the personal qualities that contribute to adaptive and creative behaviour, encounters as are planned for this work, always lead to novel personal and social discoveries. Time commitment to three sessions is essential. Two individual meetings of approx. an hour (timing can be flexible) and one with the group of approx. two and half hours (will need joint timing). I wish to accept first-comers though looking to the greatest diversity of disciplines I can muster across the university.

Please respond with your interest in the first instance to David Kayrouz. Email: rfj8200@autuni.ac.nz ensuring your name and discipline as lecturer are obvious.

What is the purpose of this research?

This research aims to deepen understandings of what contributes to the response variances of mature learners when they are challenged to act unexpected circumstances beyond their existing knowledge or prior experience. It specifically questions the part 'felt sense' plays in the judgements and actions that enable novel responses. This comparative study enquires into individual and group processes to explore response variances during learning and adaption. The findings of this research support an MPhil qualification and may be used for academic publications or presentations.

How was I identified and why am I being invited to participate in this research?

Through your faculty newsletter and as a response to a poster you have been linked to this information sheet. As university lecturers you are taken to represent mature learners and are being invited from within the AUT community to be a participant for this research by the researcher. Your participation as a mature learner is also considered as able to represent various disciplines. As the study looks to only involve six lecturers from the most diverse fields of expertise, they will be accepted on the basis of first response and diversity.

How do I agree to participate in this research?

Your participation in this research is voluntary (it is your choice) and whether or not you choose to participate will neither advantage nor disadvantage you. You are able to withdraw from the study at any time. If you choose to withdraw from the study, then you will be offered the choice between having any data that is identifiable as belonging to you removed or allowing it to continue to be used. However, once the findings have been produced, removal of your data may not be possible.

What will happen in this research?

The six curious participants will be requested to attend three meetings that will be held on the University Campus most likely North Campus Akoranga Drive, or CBD (this is subject to participants locations) These are intended to occur within 2 months of consenting.

1. First 1:1 session with the researcher. approx. 60 mins. This involves participation in simple visual exercise. This experience is then expressed in the modelling of a communication artefact. Materials for the artefact will be supplied and involve non-toxic, plasticine and various small wood elements. Participants will then be expected to verbally express conclusions which will be recorded.
2. In a second 1:1 session with the researcher of approx. 60 mins. On completion of the other 5 participants artifacts you will be presented with them and your verbal interpretations recorded.
3. Third final session convened as a group, approx. 150 mins. All participants will meet to share their explanations of this process through a co-inquiry session. This will also be recorded.

What are the discomforts and risks?

You can expect to be surprised occasionally and might sense the challenge of 'not knowing' at times. There are no physical risks and the usual social uncertainties may arise possibly when encountering other people's views and beliefs that are different to your own

How will these discomforts and risks be alleviated?

While no counselling is offered or indeed expected to be required the researcher's intention is to maintain an equitable platform for an empathetic participant exchange. Participants maintain an option for 'no comment' or withdrawal.

How will my privacy be protected?

Confidentiality will be extended through the signing of individual and group consent forms. Identity of my fellow participants and our group discussion will rely on mutual confidentiality as part of the consent process. The participants will only be referred to as person 1, person 2 etc. within the documentation. Nothing in the methodology would have the ability to reveal someone's identity. The interviews and transcripts will only be attended and processed by the researcher. Identities of the participants will not be disclosed in the thesis material or any published material. All data will be treated in accordance with http://www.aut.ac.nz/researchethics and especially section 2.2 Respect for Rights of Privacy and Confidentiality

What are the costs of participating in this research?

Task sessions are planned to take place on a convenient AUT Campus with travel expenses covered by reimbursement. The two 1:1 individual session can be flexibly arranged with the researcher and are expected to take approx. 60. Mins each. The group session will require suitable time when all participants can be together for up to two and half hours. Possibly on a weekend! The overall timing of the three meetings is expected to be completed within two months of the first meeting.

What opportunity do I have to consider this invitation?

Commitment to the research in principle is requested within two weeks of this notice. Participants agreeing to be considered will be contacted for final consent preferably in a short face-to-face meeting offering a Q&A opportunity and determining a commitment to the session timings. This is targeted to be finalised inside a month from the first invitation date and research sessions within the following two months.

Will I receive feedback on the results of this research?

Yes. Participants will be provided and executive summary of findings and given access to the completed thesis.

What do I do if I have concerns about this research?

Any concerns regarding the nature of this project should be notified in the first instance to the Project Supervisor, Heleen Reid. Email: *heleen.reid@aut.ac.nz* Ph. 09 921 9999 ext 7782

Concerns regarding the conduct of the research should be notified to the Executive Secretary of AUTEC, *ethics@aut.ac.nz* , (+649) 921 9999 ext 6038.

Whom do I contact for further information about this research?

Please keep this Information Sheet and a copy of the Consent Form for your future reference. You are also able to contact the research team as follows: Supervisor: Heleen Reid. Researcher: David Kayrouz

Researcher Contact Details:

Researcher: David Kayrouz: rfj8200@autuni.ac.nz

Project Supervisor Contact Details:

Supervisor: Heleen Reid. Email: heleen.reid@aut.ac.nz

Appendix F. Ethics consent letter

Auckland University of Technology Ethics Committee (AUTEC)

17 October 2023

Heleen Reid
Faculty of Health and Environmental Sciences

Dear Heleen

Re Ethics Application: **23/247 Tacit qualities enabling transformational learning processes.**

Thank you for your responses to AUTEC's conditions.

Your ethics application has been approved for three years until 17 October 2026.

Non-Standard Conditions of Approval

1. Inclusion of the AUT logo and AUTEC approval number on the advertisement.

Non-standard conditions do not need to be submitted to or reviewed by AUTEC unless requested but must be completed before commencing your study.

Standard Conditions of Approval

1. The research is to be undertaken in accordance with the Auckland University of Technology Code of Conduct for Research and as approved by AUTEC.
2. All public facing documents must have the AUTEC approval number and be of a high standard of spelling and grammar. Dates on the Information Sheet(s) and Consent Form(s) must be consistent.
3. Any amendments to the project must be approved by AUTEC prior to being implemented.
4. A progress report is due annually on the anniversary of the approval date.
5. A final report is due at the expiration of the approval period, or, upon completion of project.
6. Any serious or adverse events must be reported to AUTEC, this includes unforeseen issues that might affect continued ethical acceptability of the project.
7. AUTEC grants ethical approval only. You are responsible for obtaining management permission for access from any institution or organisation at which your research is being conducted and you need to meet all ethical, legal, public health, and locality obligations or requirements for the jurisdictions in which the research is being undertaken.

The application number and title need to be referenced on all correspondence related to this project.

All forms are available online http://www.aut.ac.nz/research/researchethics

For any enquiries, please contact ethics@aut.ac.nz
(This is a computer-generated letter for which no signature is required)

The AUTEC Secretariat
Auckland University of Technology Ethics Committee

Cc: rfj8200@autuni.ac.nz