This chapter describes how seven disciplinary bottlenecks from four diverse disciplines were analyzed using a phenomenological perspective and includes a discussion of embodied knowing and implications for educators.

**Conscious Connections: Phenomenology and Decoding the Disciplines**

Genevieve Currie

If I were to tell you where my greatest feeling… of my earthly existence has been, I would have to confess: It has always, here and there, been in this kind of in-seeing, in the indescribably swift, deep, timeless moments of …seeing into the heart of things. (Rilke 1987)

**Introduction**

Decoding the Disciplines is a process to increase student learning by helping educators to unpack complex disciplinary knowledge (Pace and Middendorf 2004). As described in Boman, Currie, MacDonald, Miller-Young, Yeo, and Zettel (this issue), a team of researchers began as a Faculty Learning Community (FLC) and studied the Decoding process over two years. The FLC interviewed each other in a series of ‘Decoding the Disciplines’ interviews and eventually opened up this opportunity for other faculty at our university. Participants were invited to identify a bottleneck, which Pace and Middendorf (2004) describe as a phenomenon or concept that students struggle with and are unable to successfully understand to move forward in thinking and discovery. The interviewees and their bottlenecks are described in detail in Chapter 2 (Miller-Young and Boman, this issue), where an inductive analysis of the interviews elicited many common themes, which were classified into ways of thinking, ways of practicing, and ways of being. Other chapters in this issue explore the interviews from hermeneutic and identity theory perspectives (Yeo; MacDonald this issue). After reading and reviewing the interviews I
chose the method of phenomenology as a “meaning-giving method of inquiry” (Van Manen 2014, 16) to understand the interviewees’ texts on disciplinary knowledge surrounding ways of practicing.

Phenomenology influences a thoughtful attentive practice by revealing the meanings of human experience and is concerned with the study of life as we experience it (Van der Zalm and Bergum 2000). This type of inquiry makes life experience more conscious (Polkinghorne 1983). Through reflection on the transcribed interviews, I became aware that the elements of a phenomenological perspective shed light on ways of practicing, particularly in terms of the lived experience of acquiring disciplinary knowledge, embodied knowing, and prereflexive practice. The Decoding interviews helped participants to reveal the lived experience of acquiring disciplinary knowledge. The method of phenomenology as a system of inquiry (Van Manen 2014) will be explored in how it can be applied to the Decoding process. I will then use this perspective to consider lived experience, prereflective practice, and embodiment which were uncovered during the Decoding interviews, and conclude with implications for educators.

**Phenomenology as a Method of Inquiry**

Phenomenology is a philosophical method of inquiry that studies the structure of experience and consciousness experienced by individuals in everyday life (Smith 2013). Phenomenology can reveal practical forms of behavior and actions as they appear through consciousness, and describes and interprets these experiences to "unfold meanings" as they are lived in everyday existence (Laverty 2003, 4). Phenomenologists believe that to be human is to be embedded and immersed in the world, and an understanding of life experience is based on a process which is contextual, subjective, intersubjective and evolving (Merleau-Ponty 1945). Phenomenology is interested in getting to the descriptive heart of a particular experience, to its essence. In Van
Manen's (1990) terms, “a good phenomenological description that constitutes the essence of something is construed so that the structure of a lived experience is revealed to us in such a fashion that we are now able to grasp the nature and significance of this experience in a hitherto unseen way” (39).

The phenomenological lenses of the philosophers Merleau-Ponty and Van Manen will be used in this chapter to describe and interpret the conscious and unconscious experience within ways of practicing surrounding learning and teaching disciplinary knowledge, and the bottlenecks that may ensue.

**The Decoding Interviews: Modeling the Process of Phenomenology**

The use of the phenomenology as a lens for inquiry provides a starting point for interpretation of disciplinary knowledge. The interviews use open ended questions to unpack and reveal a faculty member’s own thoughts around a disciplinary bottleneck they are encountering with their students. In our study, some bottlenecks were cognitive, but others were epistemological and ontological (Miller-Young and Boman, this issue). The initial interview questions were taken from the Decoding the Disciplines work by Pace and Middendorf (2004). Questions emerged during the interview process but usually started with: “Tell me about your bottleneck?” Typically Decoding uses cognitive probes to uncover tacit knowledge such as: "How did you know? How did you acquire this knowledge yourself in order to teach it? How would you do that kind of thinking? How do you know when you have got it?” We also used interview questions surrounding pictures, models and metaphors such as: "What does this knowledge look like to you? Can you describe it for me in a picture or metaphor?" (Pace and Middendorf 2004).

However, our interview questions evolved over time as the FLC noticed that faculty often drew on experiences to describe their bottlenecks, particularly when they were having trouble
articulating their thinking process. This led intuitively to asking more phenomenological questions of inquiry which involved the sensory perception of experiencing the phenomena: “How did you get the sense that you know this? How have you personally experienced this knowledge? What is it about this lived experience that speaks to you? What does it feel like when you have got it?” It is interesting to note that with non-cognitive bottlenecks identified by faculty, interviewers began to use a line of questioning involving more experiences of the body, but even in very cognitive bottlenecks (such as the engineering example I will describe later) an embodied sense of the concept was revealed.

Initially the Decoding questions could be baffling and overwhelming to answer. Faculty described a sense of frustration of having to explain themselves in explicit terms. As Bonnie stated when asked how she knew which story idea to pursue for a journalism story: “Yeah, ...like how is it that I just know?? I just KNOW…” She goes on to describe that the disciplinary knowledge is part of the journalism profession and has been passed down to others, but remains as tacit knowledge as it is not verbalized or written down explicitly but comes through exposure to experiencing the disciplinary phenomena first hand.

During the interviews, faculty also described when they personally became more conscious of disciplinary phenomena, which is aligned with phenomenology. Colin a professor of drama, became more conscious of his discipline when he described helping his students learn the art of conveying human emotions on the stage, and realized: "That is one of the biggest things I do [with my students], I expand the attention.” This is inherently phenomenological. As Smith (2013) writes,

…much of our intentional mental activity is not conscious at all, but may become conscious in the process of therapy or interrogation, as we come to realize how we feel or
think about something. We should allow, then, that the domain of phenomenology — our own experience — spreads out from conscious experience into semi-conscious and even unconscious mental activity, along with relevant background conditions implicitly invoked in our experience (3).

The phenomenological perspective enabled me to see how the Decoding questions evolved over time as interviewers and faculty became more conscious of phenomena and the sensory experiences that were revealed during the interviews.

Ways of Practicing and Disciplinary Knowledge

As the FLC conducted the Decoding interviews we heard faculty addressing the question of how they came to know their discipline and what it meant to them. We categorized these responses as 'ways of practicing' (Entwistle 2005) which is how we acquire knowledge about our disciplines as we work within them, and describes a dynamic relationship between the self and the discipline through practice. Van Manen (2014) describes a phenomenology of practice as the "....practice of living, as opening up possibilities for creative formative relations between being and acting, between who we are and how we act, between thoughtfulness and tact" (69-70). Within the Decoding interviews and in thinking about disciplinary knowledge, faculty members described living the experience of the discipline as practitioners or people within the practice and not thinking about what they were learning while in the moment experiencing the phenomena. Through the interviews faculty began to describe how their experience helped them understand disciplinary knowledge. This understanding is reflected in Louisa’s comments as she described how she has come to know nursing, “... I have seen it and I learned from experience, I learned from practice and, I guess, you know, you learn from examples, either from your own practice or from watching others and how they have dealt with things.” This idea aligns with
phenomenology as knowledge is achieved through the nature of consciousness and increased awareness, or an ontological or subjective perspective (Smith 2013). The inquiry into this conscious experience entails description and interpretation of the living sense of the experience. It is through interpretation (visible in the Decoding interviews) that we give expression to this experience. As the lived experience is deconstructed and unpacked, phenomenology tries to make explicit the structures of meaning in the lived experience (Van Manen 2014, 11). Lived experience becomes the starting point for understanding the phenomenon of interest. As Merleau-Ponty writes: “The world is not what I think, but what I live through….” (1945, xvi-xvii).

The faculty members were able to recount what they had learned from their ways of practicing over time in their disciplines. Their experiences are congruent with phenomenological inquiry where new meanings may emerge about phenomena that draws "something forgotten into visibility" (Harman 2007, 92). Juan Carlos a journalism professor stated how he has come to know journalism and his place within it: “I am conscious of voice in journalism...I am conscious of the machinery and the process by which the journalism is produced, and I have seen it all from the inside and so I know what it is, and that is where a true critique of any piece of writing, I think, has to start, with an understanding of the conditions of production of it – of that piece.” Wendy a nursing professor discussed how nursing was a science and an art, and she expressed how she now had the perspective that the art of nursing was learned while doing nursing. It became part of her lived experience of being a nurse and was now part of her way of practicing:

I developed that myself; I had some of it but I had to develop it, and I continue to develop it. So maybe that is part of the art of conversation, or the art of asking those bigger
questions, and the art of seeing that as the role of the nurse...So not just conceptually we talk about it, but also how are you going to do this with, your patients or the family so they get more comfortable with that?

Louisa highlighted how she cannot turn off the disciplinary knowledge of performing a nursing assessment and continues her ways of practicing in everyday activities of daily living: "I walk down the street and I see people with large abdomens and I am thinking, 'You have heart failure or liver failure,' right? ... I see people with grey skin and I am thinking, 'You need to stop drinking. You need to stop smoking.' Like these are things... you are always assessing." As we explored the ‘ways of practicing’, faculty members intuitively described the process of what phenomenologists call the “prereflective.” This idea will be described next.

**Prereflective Practice**

Phenomenologists discuss that to be aware of what is around us, we must bring things into our consciousness (Van Manen 1990). This act of becoming conscious is part of what Heidegger framed as ‘Being- in- the- world’ or human everyday existence (Annells 1996, 706). When we become more conscious of phenomena, we become more embodied in the world and according to Van Manen (1990), our bodies become more infused with consciousness. We relate more to the world as we wonder and interpret things, processes, and activities.

We must distinguish the prephenomenal being of experience, their being before we have turned toward them in reflection, and their being as phenomena. As Husserl (1991) said,

When we turn toward the experience attentively and grasp it, it takes on a new mode of being: it becomes "differentiated," "singled out." And this differentiating is precisely nothing other than the grasping; and the differentiatedness is being-grasped, being the object of our turning-towards (132).
Phenomenological inquiry helps us to gain insights to how we experience the world prereflectively in how we view and interact with our everydayness. Prereflection is about seeing phenomena in a new light, not relying on our previous ways of categorizing experience. ". ...in order to see the world and grasp it as paradoxical, we must break with our familiar acceptance of it...."(Merleau-Ponty 1945, xiv).

This idea of being preflective and not categorizing phenomena when they are experienced emerged in one of the journalism interviews. Bonnie spoke about the idea of allowing herself to fully experience her story ideas with a fresh perspective. She stated: “I am really friendly with all my story ideas, like I just really respect them and think ‘yeah, this could be, this could be...so I am very friendly with them... things don’t pop into my head that I immediately reject as stupid or not worth pursuing.”

A phenomenological inquiry explores what is given in moments of prereflective, prepredicative experience- experiences as we live through them (Van Manen 2014, 27). The Decoding interviews provided insights into the experience of “knowing the discipline” in this kind of prereflective way, in a way that intertwines reflection and experience in an immediate sense. Colin, the drama professor, highlighted that he reads a play upward of 60 times in order to make the nuances and complexities of the work more conscious and as a way to rediscover first experience. He asked himself 6 questions which I align with prereflective practice and the art of turning towards an experience to single it out:

… there are ... five questions, yeah – that you have to use to sort of explore and give them circumstance around, like ‘Who am I? Where am I? When am I?’ and ‘Why am I?’ meaning what is the context of events and histories that have lead me to this exact moment. ‘For what purpose am I?’ so for what am I trying to achieve and what is my
purpose within this? And then there is a sixth question that you start doing around the end, 'What am I doing?'

In this sense he draws himself back to the present moment of practice.

The Decoding interviews revealed how faculty described and interpreted how they came to know their disciplines in deeply experiential ways. This experiential knowing was often an 'embodied knowing' which will be discussed next.

**Embodied Knowing**

The interviews demonstrated how each faculty member’s disciplinary knowledge was experienced first-hand. Merleau-Ponty (1945), in The Phenomenology of Perception, explores experiencing phenomena with the body. The spatiality of the body is understood as the role of environment and space in which one lives and works, and the connectedness of the body to the world is recognized within the concept of temporality, as opposed to linear time. The lived body is seen as a physical being within the concept of corporality, and the body as it exists in relation to others is relationality (Annells 1996; Smith 2013; Van Manen 1990). Merleau-Ponty captures his embodied, existential form of phenomenology, with the following:

> When I reflect on the essence of subjectivity, I find it bound up with that of the body and that of the world, this is because my existence as subjectivity [= consciousness] is merely one with my existence as a body and with the existence of the world, and because the subject that I am, when taken concretely, is inseparable from this body and this world. (1945, 475).

For Merleau-Ponty, the body is considered the primary site of knowing the world and the body and what it perceives cannot be separated from each other (Havi 2008). This perceptual experience of becoming aware of something through the senses can take the tangible form of an
idea, quality or feeling. As Merleau-Ponty said, "In perception we do not think the object and we do not think ourselves thinking it, we are given over to the object and we merge into this body which is better informed than we are about the world” (1945, 277).

The Decoding interviews uncovered how faculty came to know and understand disciplinary knowledge. In many cases, the experience of coming to know these phenomena was similar to Merleau-Ponty's (1945) expression of embodiment. Faculty described experiencing these disciplinary concepts as not being separate from themselves, but a part of their bodily experience. This idea is particularly evident in how Patricia responded to the question about whether she gets cues from the physical relationship to the world in which she is moving:

Yeah, I guess, I know it without thinking about it, probably ... as a car is accelerating forward we talk about the forces between the wheels and the ground, and usually we compare it to walking. If you are trying to accelerate forwards then you have to push backwards on the ground to move, and it is the ground that is pushing back and pushing you forwards, so it is the same thing for a car’s wheels.

Patricia described the bodily experience of the ground pushing back on her within the process of walking in order to describe for students the forces at work in physics. This experience is an inherently phenomenological sense of the world. As well when asked to explain her awareness of her body feeling heavier or lighter in an elevator when it is accelerating or decelerating, Patricia explained

...when you first start moving up in an elevator you feel heavier because there is that total force underneath you which has to be higher than your weight to start moving you and accelerating you upwards. When you start going down in the elevator you feel light for a
second when it is accelerating down because that force underneath you is actually lighter than your weight while the elevator is accelerating.

Faculty members essentially described experiencing non-cognitive and corporeal experiences of everyday practices when asked how they had come to know disciplinary knowledge. Colin, the drama professor, described directing his students to feel their bodies to get in touch with specific physical senses (corporality)." So the next time you do this I want you to make sure you are...I want you to focus on your knees being like rubber as you move through it,...and then seeing that happens as a result of that and letting them [students] reflect back on what happens as a result of that...." This example illustrates experiencing knowledge through the senses.

Van Manen (1997) goes further when discussing embodied knowing and states that professional knowledge is often tied to pathic knowledge which is the "sense and sensuality of the body, personal presence, relational perceptiveness, tact for knowing what to say and do in contingent situations, thoughtful routines and practices, and other aspects of knowledge that are in part prereflective, pre-theoretic, pre-linguistic" (20). He goes on to say that pathic knowledge is a “felt sense of being in the world” (21). "Pathic knowledge expresses itself in the confidence with which we do things, the way that we ‘feel’, the atmosphere of a place, the manner in which we can "read" someone's face, and so forth" (21). Colin described perceiving just this kind of pathic knowledge, when he feels a sense of tangible resistance in the room when students were not in touch with the character they were portraying.“…there is resistance there, and so then I have to discover who brought resistance and why is it there in the room with us? So it is those sorts of cues that I look for, and part of it is that I base it on years of...so, like, I spent twenty plus years directing professionally in Canada so there is a feeling when things are cooking and I
can point to lots of clues…” Bonnie a professor of journalism discusses the elements of a great story and she describes her bodily response to a great idea by physically feeling a sense of tension: “Well I guess I identify tension... by being able to recognize discourse, disharmony; ... I guess I actually identify tension by what it is I feel in response to the idea.”

Merleau-Ponty (1945) describes the sensory experience of being in the world with the following: ”We do not say that the notion of the world is inseparable from that of the subject. Or that the subject thinks himself inseparable from the idea of his body and the idea of the world” (474-475). Faculty members did not realize that they had internalized the concepts within their disciplines over time and as part of their practice, and they became increasingly aware of how they had done so through the Decoding interview process. These disciplinary concepts had essentially become part of their being. They embodied them as they lived through the experience of gaining this knowledge and found it difficult to understand how students struggle with coming to know and understand this same knowledge. Van Manen (1997) describes that lived space as ‘felt’ space and that we become the space we are in (102). In other words, disciplinary experts are not able to separate themselves from the experience; they become part of it. This then could lead to the development of more bottlenecks which students find difficult to navigate because they have not personally experienced the concepts in a lived way.

Analysis of the Decoding interviews using phenomenology has extended Pace and Middendorf's work (2004) and reveals that, even for cognitive bottlenecks, expert thinking is not just a cognitive process but involves living the experience of the discipline, bringing disciplinary knowledge into consciousness, and bringing forth the embodied experience of knowing to help faculty members to understand why their students may be experiencing bottlenecks.

Implications for Educators
How does an understanding of the Decoding the Disciplines from a phenomenological perspective inform the teaching process? The implications for educators are significant and are discussed below.

**Living the Experience.** The interviews revealed that one needs to live the experience in order to fully embody the disciplinary concepts. This idea was a common thread throughout all the interviews and involves taking the time of living through the experience. When Wendy was asked about how she knew what is important in nursing, she responded with the following:

> Well I think just from doing it for years, and years and years and doing it ...sometimes with a community, sometimes with a family, sometimes with a bigger population when I have developed or worked with...I could see it firsthand when I was working with people in their homes, right, and in the school setting. So I could see things that were influencing their health and that they were struggling with was much bigger.

Thus, living the experience supports the importance of exposure to the everydayness of clinical practice and working through experiences in the world in clinical practicums, simulations, and laboratory experiences for practice disciplines. As Wendy said: "...so certainly exposure to community and exposure to those settings helped me to understand it ..." Interviewees said they came away with a larger understanding of how the significant years of experience influenced their understanding of concepts within their discipline. For an educator who sees students struggling with a particular bottleneck, they might consider reflecting on how they came to know what they know, what they were personally exposed to within their disciplinary experience, and sharing these insights with students. Bonnie the journalism professor had been reluctant to share her lived experience with her students. However near the end of the Decoding process she came to this realization of the value of sharing her lived experience as 'story':
…and yet as I talk to you, you asked a lot about, ‘How would I do this and, ‘what would that look like?’ and if done the right way maybe be my students could benefit from me making those steps, a little clearer, and maybe enabling them to ask not only of me, but of other more experienced journalists in the discipline the kind of questions that exposes the ‘how to’ part…

**Developing Embodied Knowing.** The interviews illustrated that faculty had often learned the complexities and nuances within their disciplines over years and sometimes with a sensory response from their bodies. As educators we need to help students to pay attention to the noncognitive reactions they experience in learning our disciplines; the acquisition of embodied knowledge and pathic knowledge. We need to call attention with our students to our bodies and the experiential experiences in the laboratory and simulation settings and the real world. Bourdieu, a sociologist studying the theory of practice, describes the physical sensations experienced with simple social commands which can be shared with students as examples of the body entangled with the world:

Nothing seems more ineffable, more incommunicable, more inimitable, and, therefore, more precious, than the values given body, made body by the transubstantiation achieved by the hidden persuasion of an implicit pedagogy, capable of instilling a whole cosmology, an ethic, a metaphysic, a political philosophy, through injunctions as insignificant as "stand up straight" or "don't hold your knife in your left hand (1977, 94).

Within practice disciplines where we experience the world with types of knowledge related to touch, perceptions, feelings, actions and sensations that cannot necessarily be translated or captured in conceptualizations and theoretical representations, we need to give them expression
and importance. It is our interactions with the world and our bodies that places us in the world (Merleau-Ponty 1945, xvi).

Implications for Decoders. The Decoding questions helped faculty members to break down the disciplinary knowledge, to make the connections, and to make the acquisition of knowledge more conscious. The questions pushed the faculty to have to articulate and put into language what was difficult to articulate: ‘How do you know?’ This study has shown that asking about sensory perceptions of phenomena should be included in the Decoding the Discipline process. If we were to conduct this study again, we might ask interviewees “What happens to you personally when you read the Code of Ethics? What do you feel like when you are thinking about the dimensions of walking? What is the essence of this news story and what does that feel like? How do you make your relationship to this story, this play dynamic for your students?” Future Decoding work could assess how ways of thinking and practicing could be further revealed with questioning along these lines.

Conclusion
Philosophers within the phenomenological approach look at who they are in relation to others, considering multiple realities to understand the full context of their own experience. They consider how they relate to this experience through the embodiment of practice and are curious to know more about their situation in the world. Similarly, the Decoding the Disciplines process reveals how we come to understand disciplinary knowledge. Our interview process, intuitively developed as we struggled with decoding complex disciplinary knowledge, unpacked the phenomena faculty have learned through “living the experience” and made it conscious. Faculty members gave voice to how they practice and put a language to the experience. Their responses
helped us recognize the embodied, experiential sense of their ways of practicing, and opens new avenues for exploring the use of Decoding using experiential and sensory questions.

References


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GENEVIEVE CURRIE has been a faculty member at Mount Royal University since 2001 and teaches within the School of Nursing and Midwifery.