Tuning in to Tacit Knowledge: Decoding Across the Disciplines

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Decoding the Disciplines  
(Middendorf & Pace, 2004)

- A framework used to help experts unpack the crucial operations in their disciplines in order to make them more visible and accessible to students
The "Decoding the Disciplines" Cycle

- 1 - What is a bottleneck to learning in this class, a place where many students consistently fail to master crucial material?

- 2 - What do specialists do so they get past this bottleneck?

- 3 - How can I explicitly model these operations for students?

- 4 - How can I give my students an opportunity to practice and get feedback on each of these operations?

- 5 - How can I motivate students and address the affective side of learning?

- 6 - How can I tell whether students have mastered these operations by the end of the process?

- 7 - How can I share what I have learned with others?

The Decoding Interviews

- Steps 1 & 2
  - What is a bottleneck to learning in your class?
  - As an expert, how do you do it?

- Research Study
  - Interviews with 7 faculty members from a variety of disciplines
  - Transcripts analyzed through different lenses
Inductive Analysis: Common themes

- 7 common themes identified
- e.g. provisionality:
  - participants valued the importance of taking time when engaging in disciplinary thinking
  - e.g. withholding judgment before coming to a conclusion, exploring possibilities, trusting a process
Theme: Valuing Provisionality

“Remember to draw the free body diagram and not just make that initial assumption... the more and more complex these systems get, the more valuable drawing this out becomes... I don’t assume. If you are not told something, or something isn’t given in the question, don’t assume. Don’t assume the tension is equal to the weight. Don’t assume anything!”

-Patricia, engineering
Theme: Valuing Provisionality

“I try not to make assumptions and I try not to have already decided what is wrong with the person before I have talked to them... You start and say “How can I help you today? What would you like? What is the most important thing you want me to focus on today?”

- Wendy, nursing
Theme: Valuing Provisionality

- “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.”

  - Bonnie, journalism
Phenomenology, Embodiment and Disciplinary Knowledge

- Ways of knowing became embodied into how faculty practiced within their disciplines
- Faculty personally experienced disciplinary concepts
- Disciplinary knowledge was lodged in embodied bottlenecks
Phenomenology

In the practice of phenomenology, we classify, describe, interpret, and analyze structures of experiences in ways that answer to our own experience.

http://plato.stanford.edu/entries/phenomenology/
“... 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 before.”

Louisa, nursing faculty describing her knowledge of disease
“...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.”

Juan Carlos, journalism faculty
“Being in the World”

“We interpret our activities and the meaning things have for us by looking to our contextual relations to things in the world. Indeed, for Heidegger (Being & Time, 1927), phenomenology resolves into what he called “fundamental ontology.”

http://plato.stanford.edu/entries/phenomenology/
“There is lots of theory to back that up as well, and research to back that up – lots of research on the determinants of health and what affects health – and so we talk about that in class, but again, it is not real, I guess. I think if you yourself have not – and this is what I am assuming – but if you haven’t been exposed to those issues within your own childhood, or your own adolescence, or your own school then sometimes you don’t really know that even is there.”

Wendy, on teaching and living nursing
Conscious Experience

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, *The Phenomenology of Perception*, 1945)
“...conscious recklessness is generative and powerful because it is doing it because you know that it is of use.”

Colin, drama faculty explaining about character development
Embodiment

“Insofar as, 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.” (Merleau Ponty, Phenomenology of Perception, 1945, p. 408)
Embodiment

“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”

http://plato.stanford.edu/entries/phenomenology/
“I don’t actually know if I could ever actually decode this because it is so innate I don’t know what I do, but I just have this innate understanding that the forces are not necessarily balanced anymore because the object is moving and there has to be some unbalanced force working on them to cause that movement.”

Patricia, engineering, explaining the concept of Newton’s Second Law
“Well I guess I identify tension ... by being able to recognize discord, disharmony; I identify tension ... I guess I actually identify tension by what it is that I feel in response to the idea, like I can feel ... and I have had people too say, ‘Oh that doesn’t work as a story idea,’ but they can’t tell you why, and it is probably because it does lack that tension, but I just don’t emotionally engage with it. Like when there is a good idea and there is tension I emotionally engage with that idea, as a producer, as a faculty member, as a journalist I can just emotionally engage with that idea quickly.”

Bonnie, journalism faculty
“I just don’t see that they (students) really get it. Like I see when somebody puts something up there they kind of go, ‘Yeah, that is not okay,’ like everyone goes, ‘No, that is no okay,’ but when it comes to them speaking it I sense they are still not quite… it is still not quite in them that they understand how difficult it is. It is easy to say, ‘No, that is not okay,’ but when I have to do it, it is actually … it is not okay…”

Monique, nursing faculty describing using the Code of Ethics
Theme: Intertwined Identities

“It’s in my DNA.”
"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."

- Louisa, nursing
Informing Practice

1. Informing the decoding interview process

2. Curriculum and pedagogical applications at Mount Royal University
References


References continued