Jane of All Trades

How to take a transdisciplinary approach to the facilitation of interdisciplinary collaboration
A word about me…

• Interdisciplinary BA/MA and PhD
• Serial Center Director
• Developed hybrid model of research development at NIU in 2006 based on the concept of Positioning
• ACE Fellow 2014-15
• President of NORDP 2014-15
• Chief Research Officer, Professor of Interdisciplinary Health Science, and Professor of Philosophy, Oakland University
• 25 years speaking and publishing on inter and transdisciplinarity
• Founder and President, The Institute for Transformational Education and Responsive Action in a Technoscientific Age (ITERATA)
A word about Jane

Jack of all trades...

• Late 14th century (Shakespeare, Da Vinci). Exemplary generalist.

Master of none.

• Late 18th century. Only the specialist is of value.

Jane of all trades invites us to rethink the generalist-specialist relationship
Outline

1. YOU...AS RESEARCH DEVELOPMENT PROFESSIONAL
2. BREAK
3. DISCIPLINES
4. EXPERTISE
5. BREAK
6. COLLABORATION
7. LUNCH ?
8. BEING JANE
Describe Yourself

I-O-O-O-I

O-I-I-I-O
Research Development

Experience of being a research development professional

- Always strategic
- Always team focused
- The outside insider
- The inside outsider

Differentiating from research administration

- Professional projection
- Making sense of what you do
Fostering Collaborations

• What kinds?
• What do you do? What have you tried?
• What works?
• Where do things break down?
History and Definitions

• Disciplinarity
• Cross-disciplinarity
• Multi-disciplinarity
• Inter-disciplinarity
• Trans-disciplinarity

Don’t write these down….
Conventional Approaches

• Science of Team Science
• Group Dynamics
• Integration and Implementation Sciences
• The Philosophical Toolbox Project
BREAK
Disciplinarity

“Reports abound from professional societies, the Academies, government agencies, and researchers calling attention to the fact that science is increasingly an inter-disciplinary, trans-disciplinary, inter-institutional, and international endeavor. In short, science has become a "team sport."”

https://www.aibs.org/events/team_science_event.html
Disciplinarity, cont’d

If interdisciplinarity were a team sport, it would be the only team sport where:

• The players each have a different goal in mind
• Each plays by a different set of rules
• They don’t speak the same language
• Players on the same team compete with each other
DRAW A HUMAN BODY...
Disciplinary Self-Understanding

Hub = Reality, World, (Objects)
Rim = Universe of Knowers, (Subjects)
Spokes = Disciplinary Perspectives, TMAC
The disciplinary construal of interdisciplinarity

The goal of interdisciplinarity is the integration of existing disciplines to address a problem space that exists between them.

Integration takes place at the level of TMACs.

The ultimate goal universal synthesis, unity of knowledge.
Black Boxes


- Studied the history of a number of disciplines and scientific revolutions that took place within them
- Paradigms: Sciences are more like cultures than logics
- Disciplines have extra-rational elements (habits of thought, tacit knowledge)
A second disciplinary approach to interdisciplinarity

Interactional Expertise: the ability to converse in discipline without formal training in that discipline.

The key is picking up tacit knowledge about how the TMACs in that discipline are used.

But tacit knowledge is extra-rational, there is no way to teach it or accelerate its progress.
A transdisciplinary ontology

COINS

US

World
Level 1: Primordial Relation

**Forestructure of Understanding.**

Everything that has meaning for us comes pre (that is, pre-cognitive, pre-assertion) understood in the following ways:

• It comes to us from out of a wider context of involvements and significances that helps give it meaning for us;
• It comes to us in the context of what we’re doing, that is we already have ‘a take’ on it;
• It comes (pre conceptual)
Level 2: Language

- Refocuses our attention from the handy to the present
- Attributes, properties, characteristics
- Lexical, logical, conceptual relations
- We lose the “feel” provided by our primary connectedness
Level 3: Thematizing

- Mathematizing (measurability): quantifying, making it available for measurement in unit terms, comparison, mathematical manipulation, and representation (extension into space in units, location in space on a uniform grid).
- Functionalizing: Cause-effect, initial state-end state relation; making each object either a cause, an effect, or both (Movement: how it got here, where it is at rest)
- Formalizing: abstracting in terms of measurable aspects, this permits: modeling, theorizing, generating laws

These moves turn things encountered in the world into Objects, which in turn give rise to: Theories, Methods, Assumptions and Concepts as they are conceived in the Ontology of the Wheel
One more little detail…

Where science and disciplines are concerned:

• There is not one reality (hub) around which each discipline only supplies its perspective (spoke-based view)

• There are as many realities as there are disciplines in a collaboration (coins)

• Annmarie Mol, *The Body Multiple*. 
So what? Black Boxes

Tacit Knowledge, habits of thought, paradigms, socialization, habitus, etc....are not invisible and can be worked with as:

1) Fore-structures of primordial understanding
2) Language use
3) Thematization practices

But how? We will come back to that.
Expertise

• Objectified, positivist, disciplinary understanding: expertise is the high-level skill of effectively applying theory to practice.

• Phenomenological Understanding of the experience of becoming an expert...
Becoming an Expert

1. Novice
2. Advanced Beginner
3. Competent Performer
4. Proficient Performer
5. Expert
A TD look at expertise

What is expertise?

• Not the ability to apply theory to individual cases (for RD or for investigators)
  • Capacity to identify the important characteristics, elements, forces in a situation
  • Capacity to differentiate this situation from myriad similar situations
  • Capacity/skills to do what is called for by the situation

BREAK
Collaboration

Moving from a disciplinary understanding of collaboration to a TD-situated understanding of collaboration. Limits of the conventional approaches.

Maps vs Journeys: the importance of method (as an obstacle)
Kinds of collaborations

There are only 2 kinds of collaborations

• Those where the participants can all comfortably participate and bring their expertise to the collaborative effort.

• Those where the participants struggle to bring their expertise to the collaboration.
Kinds of Problems

There are only 2 kinds of problems:

• Well-formed, discipline-framed

• Non-well formed, not framed by any single discipline, can range from not-well formed to wicked
Wicked Problems

- There is no definitive formulation of a wicked problem.
- Wicked problems have no stopping rule.
- Solutions to wicked problems are not true-or-false, but good or bad [or better or worse].
- There is no immediate and no ultimate test of a solution to a wicked problem.
- Every solution to a wicked problem is a “one-shot operation”; because there is no opportunity to learn by trial-and-error, every attempt counts significantly.
- Wicked problems do not have an enumerable (or an exhaustively describable) set of potential solutions, nor is there a well-described set of permissible operations that may be incorporated into the plan.
- Every wicked problem is essentially unique.
- Every wicked problem can be considered to be a symptom of another problem.
- The existence of a discrepancy representing a wicked problem can be explained in numerous ways. The choice of explanation determines the nature of the problem’s resolution.
- The planner has no right to be wrong (planners are liable for the consequences of the actions they generate).

The experience of collaboration

• Dominant Voice
• Division of Labor
• Retreat to methodology
  • The unique nature of disciplines
  • The unique nature of expertise
Facilitating Collaborations

Motivation

What *in the atmosphere* is in the way and needs to be addressed

- Objectivist attitude (including the idea that only the method matters, not the players)
- Belief in solutions
- Trust in externally available tools
- A “natural” hierarchy

What of *theirs* is in the way and needs to be addressed (beyond technique happiness)

- Their own barriers to others
- Their resistance to the strangeness of this situation
- Self-image as an expert (hammer, leader, you can cross domains, prior success)
Helping faculty “listen” to experience

- Appreciating Experience as not a thing or a feeling
- Hearing what experience is trying to say
- Using experience to hone expertise
TD Tools

- Active Speaking and Active Listening
- Making connections to forestructures and thematization explicit
- Helping faculty see how their meaning-making practices are at play and how they can be other than they are
Good collaborators share the experience of the situation

- Appreciating that all appeals to a singular nature of the problem, the issue, or the reality in play will fail, as will an appeal to a singular solution.

- Attentively listening for the experience of others, especially for those moments when they leave their method behind and are speaking from moments that are experientially driven.

- Recognizing the limits of your own interpretive resources
Communicating across Coins

THIS

NOT THIS

May 8 - 10, 2017 • Omni Interlocken Hotel • Broomfield, Colorado
Being Jane

Inside-outsider-Outside-insider: A Specialized Generalist that can develop unique expertise that no one else has.

- Transdisciplinarian -- Outsider
- Interactional Expert -- Insider
Transdisciplinarian

• Help faculty see how forestructures affect meanings they are working with
• Help faculty see how objects are differently thematized
• Help faculty work with multiple ontologies
• Helps faculty engage with each other by helping them speak and listen for where each other is coming from
TD cont’d

• Help faculty understand the nature and types of problem situations
• Help faculty get out of their own way
• Help faculty hone their expertise by attending to their experience
• Help faculty stay with their expertise
Honing your expertise

Keep attending to your expertise:

• Develop your ability to talk the talk of other disciplines

• Develop your ability to hear where people are coming from

• Becoming the bridge between people with different forestructures (not methodologies or languages)

• Develop your ability to see how different disciplines thematize their objects and how their practices affect how they think and talk about their objects

• Sensing when multiple ontologies are in play
Expertise, cont’d

• Learning to attend to your own experience in order to enhance your performance.

• Learning to get your own forestructures, language, thematizing out of your own way.
References and Resources


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