Grand Valley State University

From the SelectedWorks of Danielle L Lake

February 3, 2016

Wicked Problems and Transdisciplinarity Workshop.

Danielle L Lake

Available at: https://works.bepress.com/danielle_lake/24/
WICKED PROBLEMS AND
TRANSDISCIPLINARITY

MEOPEER FEBRUARY 3, 2016

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OBJECTIVES

Describe Barriers to Transdisciplinary Research

Define wicked problems & explain methodology

Frame your research as a wicked problem

Provide methods and strategies

Leave with tools for implementation

Foster connections for future collaboration
DISCIPLINE A

- Epistemic Values
- Methodological Traditions
- Meta-physical Commitments
- Meta-ethical Commitments

DISCIPLINE B

- Epistemic Values
- Methodological Traditions
- Meta-physical Commitments
- Meta-ethical Commitments
Sustainable Knowledge, Robert Frodeman

Sustainability Science

- Problem-focused
- Use-inspired
- Response to wickedness

Sustainable Knowledge

- Higher Ed
- Humanities Position
- Philosopher’s Role
DISCIPLINARITY & INTERDISCIPLINARITY
Tools for Spanning Boundaries
The Toolbox Project
The Disciplinary Value Risk Feedback Loop

**COST:** There are no incentives to engage other disciplines.

**RISK:** They do not understand my work. It's risky to engage others.

**DANGER:** Interdisciplinary work lacks depth & rigor.

**SUSPICIAN:** I am suspicious of peers who engage other disciplines.
The Transdisciplinary Value Risk Feedback Loop

**RELUCTANCE:** There are no institutional incentives to do transdisciplinary work.

**SUSPICIAN:** Work is dangerous. I am suspicious of engaged scholarship.

**RISK:** The public does not understand or appreciate my work.

**COST:** Takes more time and money. It is messy and yields lower quality work.
Transdisciplinary, Sustainable Research

From

To
Dedisciplinarity
Sustainability Science as sustainable knowledge?
Abstract Laddering: What is the value and the potential impact of your research?

- What is your essential research question?
- The 5 Why’s: why does this matter?
- The 5 How’s: How could you make a real world impact through your research?
WHAT WE COULD DO...

- Experiential learning
- Problems are contextualized
- Emphasis on values
- Iterative learning process

- Stress plurality and creativity
- Need for Empathy
- Encourage reciprocity

<table>
<thead>
<tr>
<th>Factors</th>
<th>Simple</th>
<th>Complex</th>
<th>Wicked</th>
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<tbody>
<tr>
<td>1. Definition</td>
<td>Easily defined</td>
<td>Messy</td>
<td>Chaotic</td>
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<tr>
<td>2. Variation</td>
<td>Static and linear</td>
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<td>3. Learning Process</td>
<td>Replicable answers</td>
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<td>7. Solution</td>
<td>Ideal resolution</td>
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<td>No solution; impending crisis</td>
</tr>
<tr>
<td>Example</td>
<td>Baking bread</td>
<td>Space travel</td>
<td>Global climate change</td>
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Our Problems are intertwined

THE IMPERATIVE

expand every system of problems (mess) right up to and as far beyond our “comfort zone” as we can tolerate.
So let's get a sense of the system...
Mapping the System: “a group of interacting, interrelated or interdependent components that form a complex and unified whole” (Anderson and Johnson, 1997, p 2).

Why do it?
- Purpose = identify key institutions and individuals that have a “stake”
- Identify relationships between
- Collaborative creation
- Start with a simple diagram
- Evolve over time.

What to consider?
- Who holds power?
- Who benefits?
- Who suffers?
- Who opposes the research?
- Who will be an early advocate?
Mapping the System (collaboratively)

- Identify: systems, institutions, people
- Connect: through lines / relationship
- Describe: relations or actions
- Group: similar perspectives

Online Tool: NovaMind Mindmap
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Confronting our assumptions

Make the “unthinkable” thinkable

SUGGESTIONS:
- Manageable Action
- Plan incrementally
- Iterate
- Encourage strategic thinking
- Emphasize the people
OPEN-MINDED ADVOCACY

✓ RESPECT differences
✓ RESIST privileging your own,
✓ RECOGNIZE the role of conflict,
✓ INTEGRATE insights.
How will we deal with the conflict???

- Avoid
- Accommodate
- Compete
- Compromise
- Collaborate

SUSPEND
“Listen w/o resistance”

REFLECTIVE DIALOGUE
Explores underlying causes & Frame problem

GENERATIVE DIALOGUE
Ingenuity, creativity

DELIBERATE
“to weight out”

DEFEND
“to ward off”

-- Modified from William Isaac’s
Dialogue and the Art of Thinking Together, 1999
<table>
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<tr>
<th>Dialogue is about LEARNING.</th>
<th>Debate is about WINNING.</th>
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<td>Assume others have a piece of the answer</td>
<td>Assume there is one answer – yours.</td>
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<td>Collaborate</td>
<td>Combat</td>
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<tr>
<td>Find common ground.</td>
<td>Win</td>
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<td>Listen to understand; find basis for disagreement</td>
<td>Listen to find flaws; counter-arguments</td>
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<td>Inspect your assumptions.</td>
<td>Defend your assumptions</td>
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<td>Discover new possibilities and opportunities.</td>
<td>Seek agreement with your position.</td>
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Design Thinking

- Define
- Empathize
- Ideate
- Test
- Prototype
- Re-define

Circle arrows indicating a continuous cycle.
SPAN BOUNDARIES

INVITE IN ←

GET OUT →

Require ACCOUNTABILITY

INTEGRATE in order to GENERATE *new* knowledge

DISSEMINATE ideas to interested stakeholders
PARTICIPATORY ACTION RESEARCH

1. Establish Community & Building Competency
2. Develop, Refine, & Implement Action Plans
3. Implementation & dissemination of work
4. Reflection & Synthesis
PROCESS CAN

- Convert *defense mechanisms* into *coping mechanisms*
- Build Networks
- Advisory boards
- Experiential Learning
What is at stake?

What WILL we do? HOW? WHEN?

What SHOULD we do together?

What COULD we do together?

How? When?

30/30 commitment

Summarize & Revise

STRATEGIC DOING
REQUIRES

Flexibility

Understand Assumptions

Humility

Tenacity

Emotional Intelligence

Cultural Competence
All participants — researchers, community organizations, government, business, community members — “expect that they will receive as well as give, learn as well as teach, and be served as well as serve” (Jacoby, 11).
What is success anyway?

Comprehensively frame issue
Acknowledge conflicts in values
Wide inclusion
Types of evidence used
Response to uncertainty
Perspectives changed
Impact reality

(Turnpenny, Lorenzoni, & Jones 2009)
EXTENDING OUR EFFORTS AND BRIDGING DIVIDES

What ideas resonated with you in relation to your own research?

How might you integrate any ideas or tools into your research?