Systemic Engagement: Universities as partners in systemic approaches to community and systems change

Miles A. McNall, Robert E. Brown, Jessica V. Barnes-Najor, and Hiram E. Fitzgerald
Michigan State University

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How can universities partner with communities to more effectively resolve complex problems?
The Isolated Impact Approach

- Addresses a single problem
- Limited attention to context
- Modest short-term effects within a narrow range of outcomes for targeted population
- Dynamics of system are unchanged
- Lack of coordination among efforts

Kania & Kramer, 2011
Mess

A system or complex and dynamically interacting web of ill-defined or wicked problems (Alpaslan and Mittroff, 2011, p. 169)
Related Concepts

- **Wicked Problems** (Rittel and Webber 1973)

- **Syndemics** (Singer, 1994)
  
  “set of synergistic or intertwined and mutual enhancing health and social problems facing the urban poor” (1994, p. 933).
Pre-term birth and hypertension

Adapted from Miller, 2008
“A partial solution to a whole system of problems is better than whole solutions of each of its parts taken separately” (Ackoff, 1999, p. 324).
Systemic Engagement

Universities as partners in *systemic* approaches to community and systems change.
Origins of Systemic Engagement

Frustration is the father of systems approaches
Origins of System Engagement

**Systems Thinking & Modeling**
- Hard Systems Approaches
- Soft Systems Approaches

**Collaborative Approaches to Research & Evaluation**
- Community-Based Participatory Research
- Participatory Action Research
- Systemic Action Research
- Developmental Evaluation

**Systemic Approaches to Community & Systems Change**
- Collective Impact
- ABLe Change Framework
Six Principles of Systemic Engagement
Six Principles of Systemic Engagement

1. Systems thinking
2. Collaborative inquiry
3. Support for ongoing learning
4. Emergent design
5. Multiple strands of inquiry and action
6. Transdisciplinarity/transsectorality
Wiba Anung Partnership

- Michigan State University
- Inter-Tribal Council of Michigan
- Bay Mills Community College
- Nine Michigan tribes
Wiba Anung Partnership: Purpose

• Disparities in early childhood education outcomes

• Lack of early childhood research in tribal communities
1. Systems Thinking

- Boundaries
- Perspectives
- Relationships
Boundaries

- Systems perspective is inclined towards holism
- Boundaries are arbitrary but essential
- Boundaries determine who/what is included
  - Whose perspectives are considered relevant?
  - What elements of the context are included?
Boundaries

Tribal Community Systems

Tribal Early Childhood Context

Early Childhood Education Systems

Family Systems
Perspectives

• SE pushes out the boundaries of inclusion to incorporate the perspectives of a broad range of both community-based and university-based actors with a stake in the problem

• SE includes both *local and indigenous knowledge* and generalized university-based knowledge both in understanding problems and in generating solutions to manage them
Wiba Anung Partnership Team

- Elders
- Tribal Educators

Community Partners

- Faculty
- Students
- Research Staff

University Researchers

- Home Visiting administrators
- Head Start Administrators
- Head Start Teachers

Program Staff

- Program Participants

Parents and Caregivers
Relationships

- SE explores the relationships between systems and subsystems and among the components of systems to reveal the complex dynamics that perpetuate the problem of concern.
Relationships

Tribal Community Systems

Early Childhood Educational Systems

Family Systems
Honoring Our Children
Opportunities
2. Collaborative Inquiry & Action

• Use of collaborative and participatory approaches to research and evaluation:
  – Community-Based Participatory Research
  – Participatory Action Research
  – Participatory Evaluation
Collaborative Inquiry & Action

- Developing Research Questions
- Selecting Methods
- Designing Instruments
- Interpreting Results
- Generating Action Steps

Partnership Team
3. Support for Ongoing Learning

Community/systems change initiatives:

• require **flexible, adaptive approaches to inquiry** that produce findings in real time to support ongoing learning and action.

• involve **ongoing cycles of inquiry and action**, with evaluators and researchers providing continuous support to learning teams.
Support for Ongoing Learning

Interpretation

Results

New Research Question

New Research Strand
4. Emergent Design

- Operating in the context of complex dynamic systems requires an approach to inquiry that is flexible, adaptable, and responsive to context.

- Design, methods, and measures are sketched out initially in very broad terms, with the specific elements of the design emerging based on what is being learned.
Multiple Strands of Inquiry and Action

• The effective management of messes depends on the mobilization of multiple strands of inquiry and action, with each strand directed at a particular element within a larger mess.
Multiple Strands of Inquiry & Action

- Focus groups with community partners
- Surveys and observations in classrooms
- Developed *Making it Work!* framework

- Inclusion of Native Language and Culture
- School Readiness
- Effective Teacher-Child Interactions
Transdisciplinarity/Transsectoralility

- Complex social problems do not respect the boundaries of academic disciplines

- They require *transdisciplinarity*, or the participation of multiple disciplines in addressing messes.
Transdisciplinarity

Tribal Early Childhood Context

- Early Education
- Psychology
- Human Development
- Education
- Anthro
- Nursing
- Kinesiology
- Human Medicine
- Engineering
Challenges in Implementing Systemic Engagement
Barriers to **Systemic Engagement**

- Unfamiliarity with collaborative approaches inquiry
- Unfamiliarity with more open-ended approaches to inquiry (emergent design, support for ongoing learning)
- Coordination of multiple strands of inquiry
- Transdisiplinarity/Transsectorality
The T-Shaped Professional

• “The need for T-shaped skills surfaces anywhere problem solving is required across different deep functional knowledge bases or at the juncture of such deep knowledge with an application area” (Leonard-Barton, 1995, p. 75).

• T-shaped professionals combine the benefits of deep problem-solving skills in one area, with broad complex-communication skills across many areas (Donofrio, Spohrer & Zadeh, 2010).
The T-Shaped Professional

Boundary Crossing Competencies
Teamwork, Communication, Perspective, Networks, Critical Thinking, Global Understanding, Project Management

Many Disciplines
Understanding & Communication

Many Systems
Understanding & Communication

Depth in at least one discipline
Analytic thinking & problem solving

Depth in at least one system
Analytic thinking & problem solving

Understanding and communication across areas

Source: Jim Spohrer, IBM Labs
Phil Gardner, MSU
Boundary Crossing Competencies

Many Disciplines

Many Systems

Deep in at least one discipline

Deep in at least one system

Systems Thinking

Transdisciplinarity

Collaborative Inquiry

Multiple Strands
MSU Collegiate Employment Research Institute

http://www.ceri.msu.edu/t-shaped-professionals/
Innovations in Collaborative Modeling

Addressing complex social and environmental problems through systems modeling techniques

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PRESENTATIONS
We are soliciting presentations on:
• Transdisciplinary (linked) modeling that integrates knowledge and practice across disciplines
• Participatory modeling that involves stakeholders from a wide range of sectors
• Quantitative systems modeling techniques

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Contact Information:

Miles McNall, Ph.D., Director
Community Evaluation and Research Collaborative
University Outreach and Engagement
Michigan State University
Kellogg Center
219 S. Harrison Road Rm. 93
East Lansing, MI 48824
(517) 353-8977
mcnall@msu.edu
http://outreach.msu.edu/cerc/
References


