Organizational Change Networks (OCNs): A Framework for Systemic Reform in Support of STEM Education

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Overview

Definition of Organization-focused Change Networks (OCNs):
- Networks that connect organizations or institutional leaders advancing change.

Project Purpose:
- Examine how OCNs develop, function, and advance significant change goals in higher education, including stages in their growth.

Research questions:
- What are the lifecycle stages of OCNs?
- What Critical Considerations characterize the various stages of the lifecycle?
- How do these Critical Considerations relate to a network’s viability and impact?

What is an OCN?

Environment
- Reciprocity / mutuality /
- Change in the environment
- Layers of stakeholders (institutions, programs, persons)/ porosity

Lessons Learned
- A set of Critical Considerations inform each stage of OCN development.
- OCNs continually and reciprocally interact with their environments.
- OCNs are strong levers for systemic change across institutions in STEM education.

Critical Considerations Across Lifecycle

Study Design and Methods

- Networks studied:
  - Advanced Technological Education Network (ATE)
  - Bay View Alliance (BVA)
  - Center for the Integration of Research, Teaching, and Learning CIRTL
  - Network of STEM Education Centers (NSEC)
  - Partnership for Undergraduate Life Science Education (PULSE) Fellows Network
  - Reinvention Collaborative (RC/ now UERU).

- Document analysis
- Interviews & focus groups
- Participant observation
- Cross-case analysis

Literature Informing the Research

- Networks as levers for change: Network Improvement Communities (Bryk et al, 2015)
- Networks in higher education (Kezar & Gehrke, 2015)
- Higher education institutions as complex organizations within complex systems (Senge, 1990; Weick, 1976)
- Organizational Lifecycles (Popp, Milward, MacKean, Casebeer, & Lindstrom, 2014; Provan & LeMaire, 2012)
- Theory of Fields (Fligstein & McAdam, 2021)

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