CAREER: Redefining Scientific Literacy at the Community Level—Researching Science Learning Using a Social Network Approach | AWARD # *2042142*

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Project Description

The goal of this AISL funded project is to develop an empirically-based conceptual model and metrics for community level scientific literacy (CSL) (Fig 1). This mixed-methods, multiple case study research (Fig 2) will illuminate the contexts and features of community organization that support the development of CSL and influence successful group action to combat compounding climate change vulnerabilities.

Key Achievements

- I have conducted a literature review and Delphi study to conceptualize CSL (manuscript in review).

- Currently, I am conducting qualitative research (interviews and listening sessions) with community #1 (of 3) to understand the context and to elicit their perceptions of CSL (Phase 3; Obj 3a).

Audience & Settings

Audience: Adults in a geographical community

Disciplinary area: Education; climate resilience

Learning environment: Everyday life

Access and Inclusion

This project engages with a Community Liaison and a Community Advisory Board. The purpose of these community roles is to ensure ecological validity and sensitivity to local realities for all research activities.

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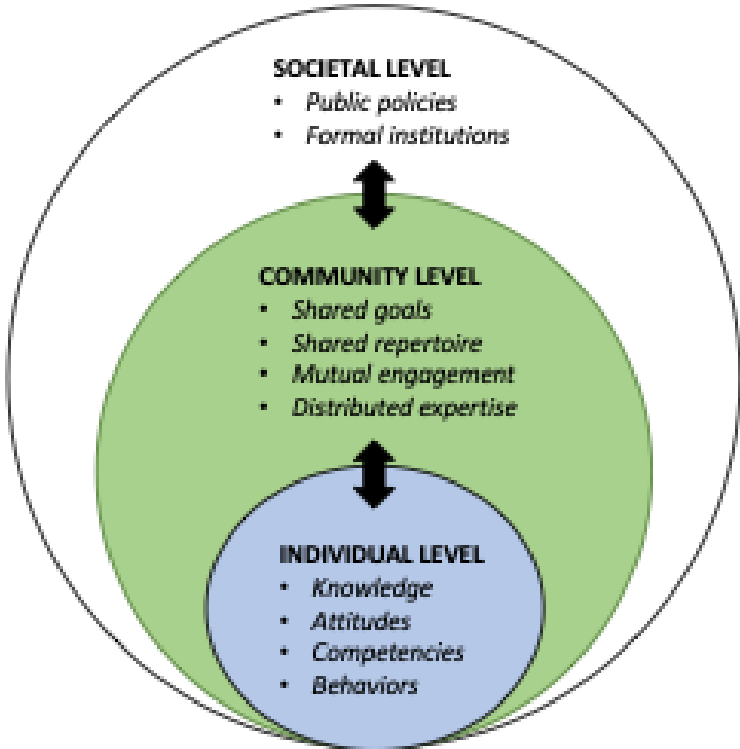
Figure 1. Scientific literacy at different levels of social organization

SOCIETAL LEVEL
- Public policies
- Formal institutions

COMMUNITY LEVEL
- Shared goals
- Shared repertoire
- Mutual engagement
- Distributed expertise

INDIVIDUAL LEVEL
- Knowledge
- Attitudes
- Competencies
- Behaviors

Objective 1.
Define constructs for CLSL

Objective 2.
Develop measures for CLSL constructs

Objective 4.
Describe the relationship, if any, between the contexts and social networks of community cases with their ability to collectively engage with science to solve science-related, large-scale societal issues

Objective 3a.
Describe the contexts of community cases

Objective 3b.
Visualize and quantify the social networks of the community cases

Phase 1: Conceptual Development

Phase 2: Operationalization

Continuous Refinement and Development

Phase 4: Application

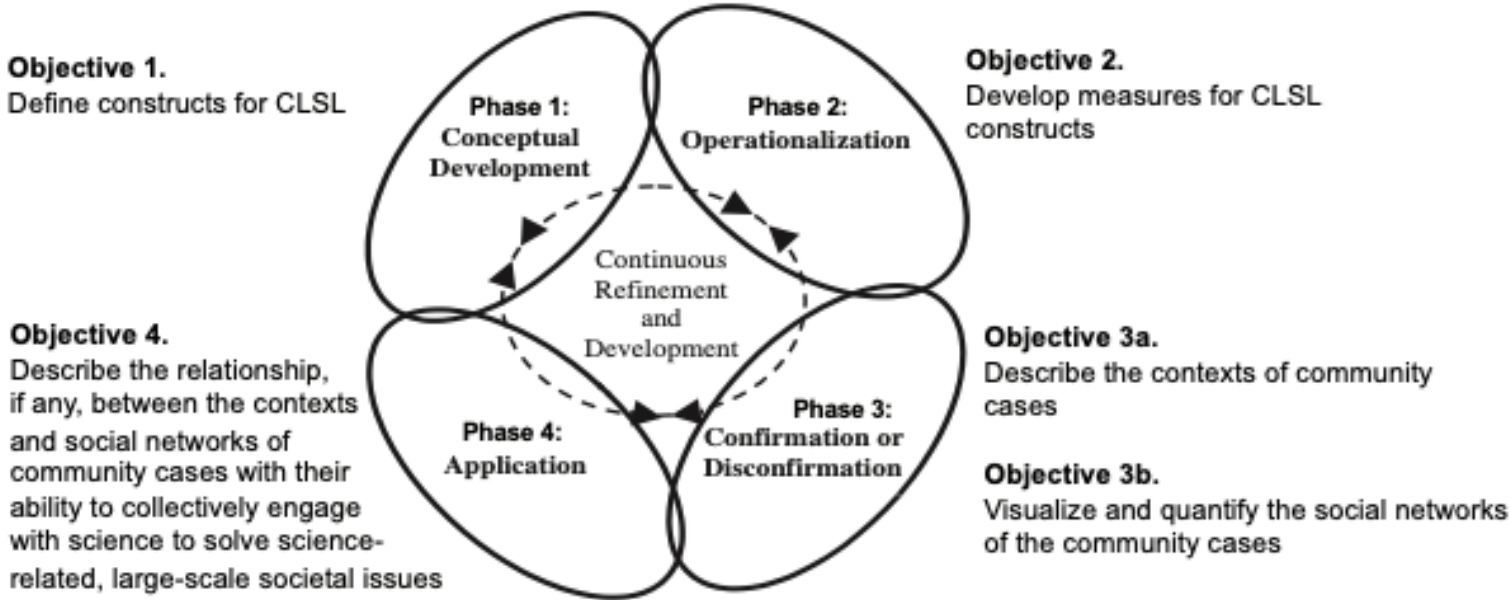Phase 3: Confirmation or Disconfirmation

Figure 2. Phases of Applied Theory Building (center, from Lynham, 2002) and Project Research Objectives