

Qualitative Research Methods: *Concept Mapping*

Annie R. Pearce, Ph.D. Candidate
CEM/CEE/GIT

Agenda

- Handout + Evaluation Worksheet
- Research Problem
- Research Design
- Methods & Validity Issues
- Anticipated Outcome & Impacts
- Discussion/Questions

Research Problem

- The lack of a comprehensive conceptual structure to define and operationalize built environment sustainability leads to:
 - Redundancy across efforts
 - Potential omission of important attributes
 - Information overload

Goals

- Establish a conceptual structure of attributes to:
 - Provide a context-sensitive basis for comparison of existing tools
 - Condense existing knowledge
 - Identify previously unrealized attributes
 - Allow for evolution of new knowledge
 - Be the basis for a theoretical metric

Research Objective

To develop a conceptualization of sustainability for built facilities, specifically single-family detached residential facilities.

Primary Research Question

Q_0 : What are the qualities or attributes that should be known in order to evaluate the sustainability of built facility systems?

H_0 : A concept map of sustainability will identify the qualities of built facility systems that need to be known in order to evaluate the sustainability of facilities.

Supporting Research Questions

Q₁: What is the underlying structure of sustainability as it is understood by expert practitioners?

H₁: A concept map developed using Trochim concept mapping applied to a sample of expert practitioners will reflect the conceptual structure of built facility sustainability as it is understood by this population of stakeholders.

Supporting Research Questions

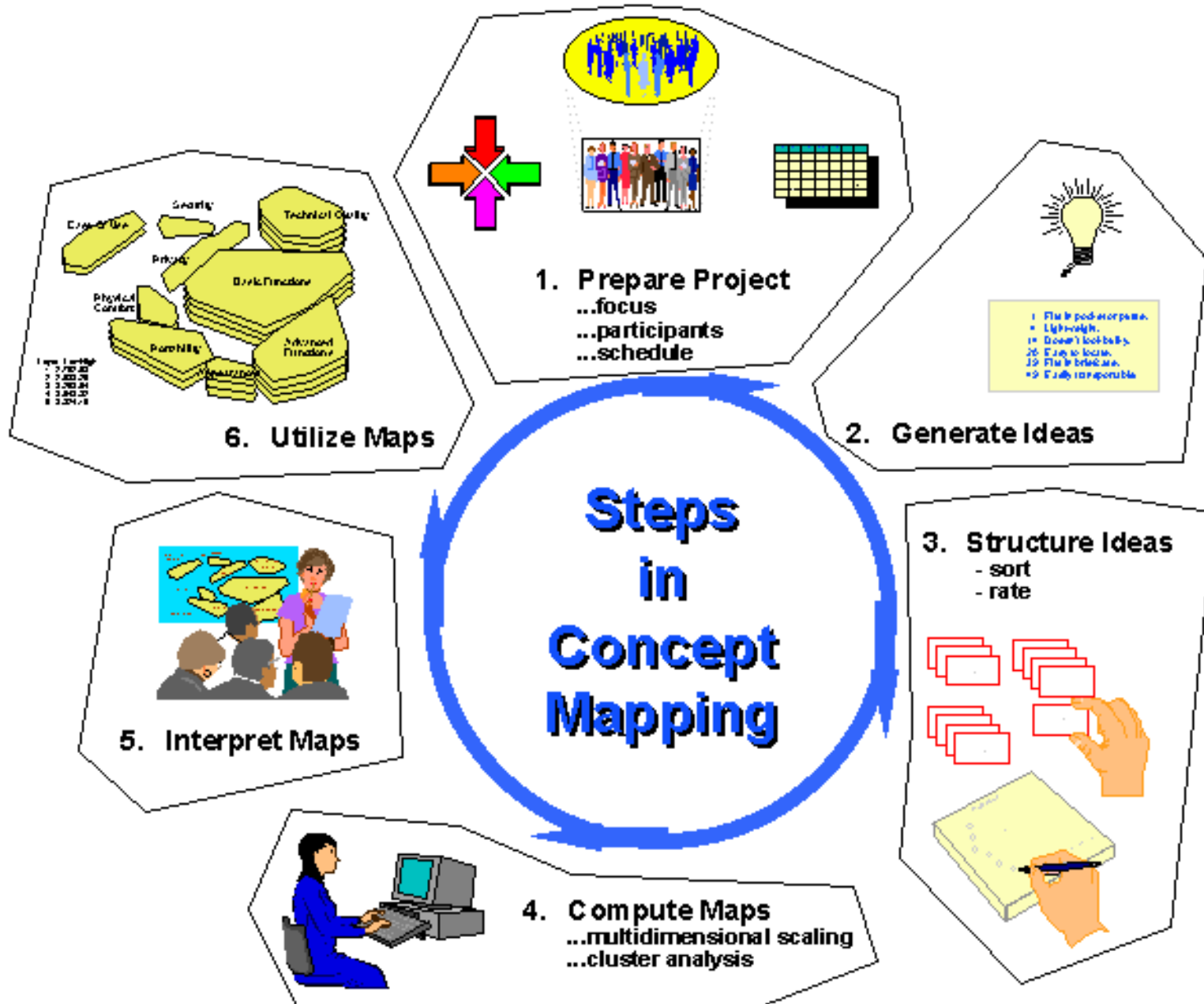
Q₂: What is the underlying structure of the concept of sustainability as it is documented across the published literature in the domain of the built environment?

H₂: A concept map developed by combining content analysis of the literature and Dumont concept mapping will reflect the structure of built facility sustainability as documented in the literature.

Supporting Research Questions

Q₃: Do existing conceptual frameworks and/or models of built facility sustainability match the underlying structure identified in the composite map (answer to RQ₀)?

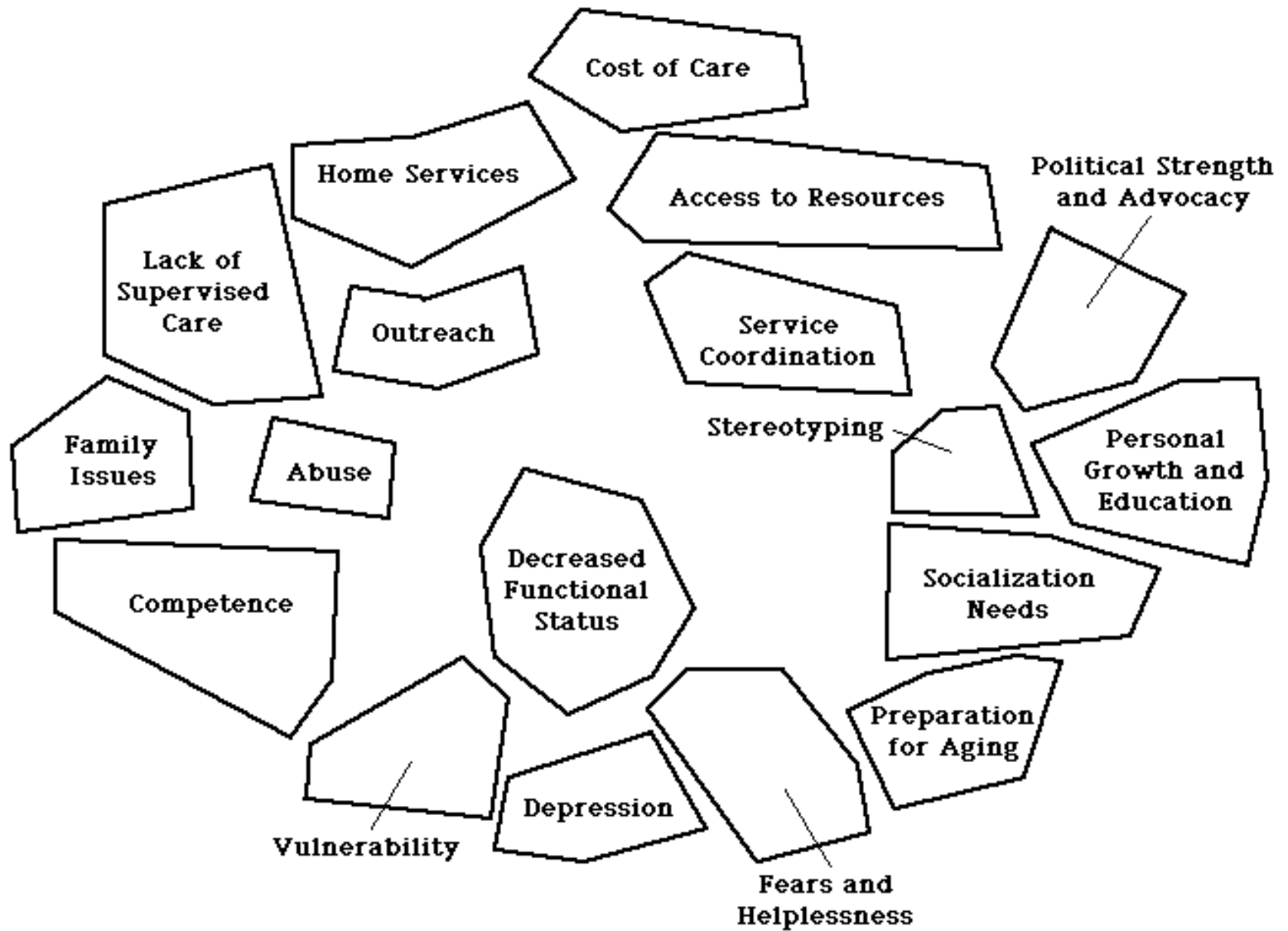
H₃: Existing frameworks/models are ad hoc and context-specific, and may **not** include or appropriately emphasize all the features identified in the composite map (RQ₀).



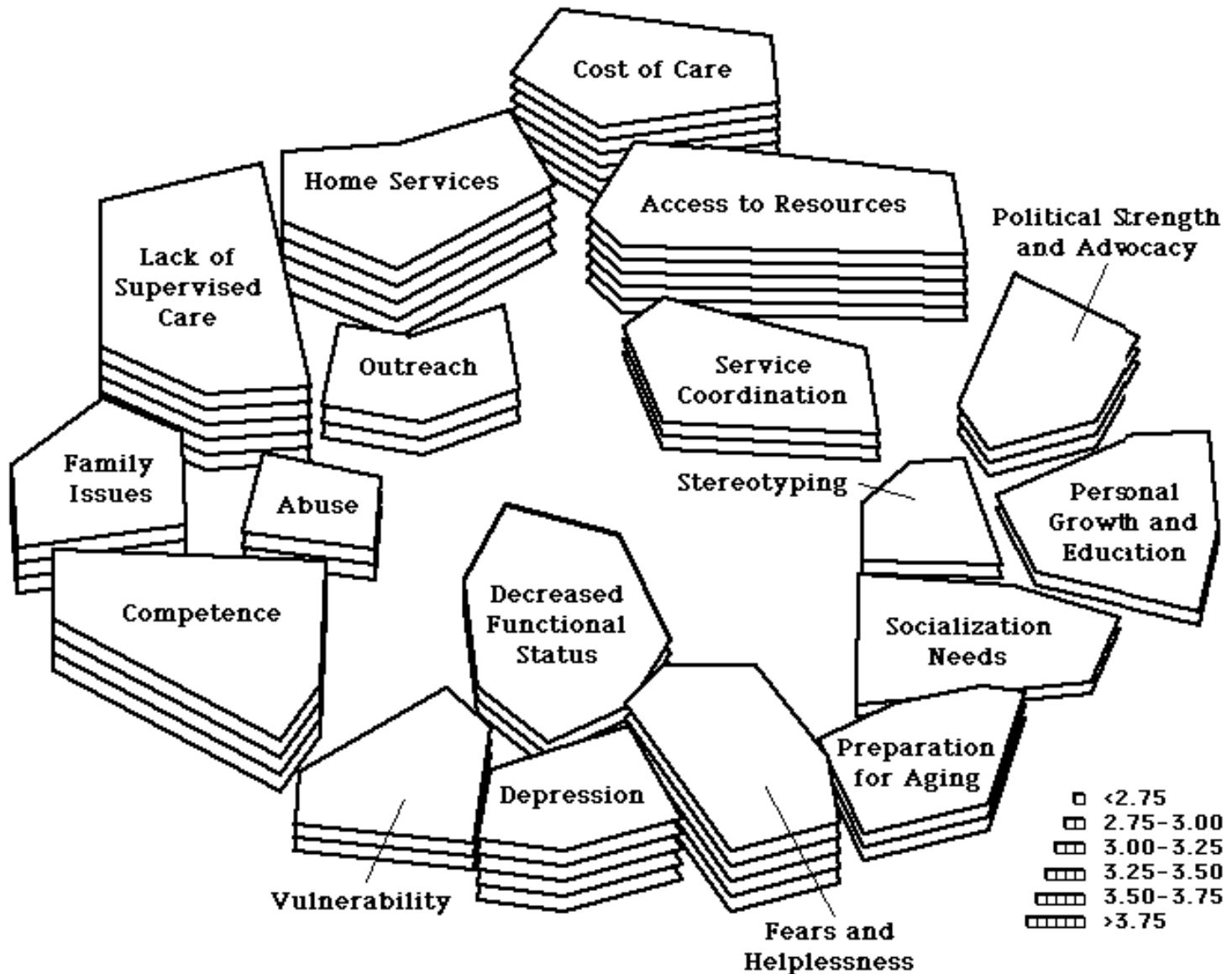
NUMBERED POINT MAP



NAMED CLUSTER MAP



CLUSTER RATING MAP



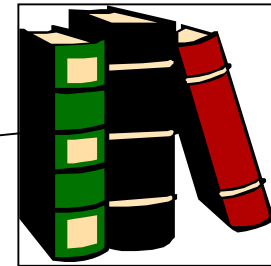
Step 1: Focus

- **Goal:** Concept Map of Sustainability with respect to Built Facilities



- Perspectives:

- Expert Practitioners
- Cross-literature analysis
- Selected existing models

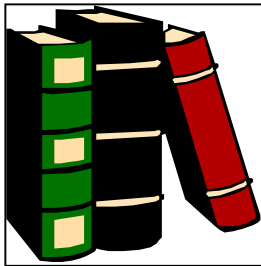


Step 2: Generate Concept Items

Data Source:



Seed items from literature;
Gaps filled by individual brainstorming



All items from literature;
Items generated by content analysis



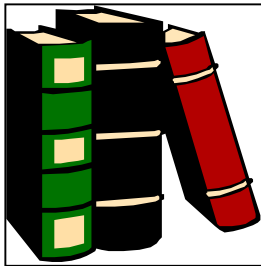
Selected raw models from literature/practice
Data from hierarchical organization of source

Step 3: Structure Concept Items

Sort/Rate Strategy:



Sorted “in a way that makes sense to you”
Rated using Likert scale of importance

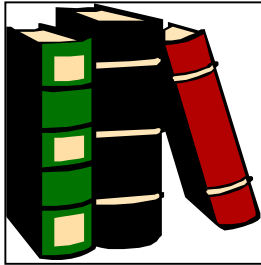


Sorted using existing BE typologies
Rated by item frequency



Sorted using Cooksy process
Rated by frequency/level in hierarchy

Step 4: Compute Maps



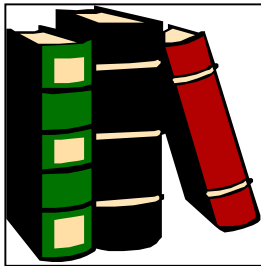
- 1) Multidimensional Scaling
- 2) Iterative Cluster Analysis

Step 5: Interpret Maps

Interpretation Plan:



Final maps reviewed by expert participants;
Suggested changes noted & incorporated



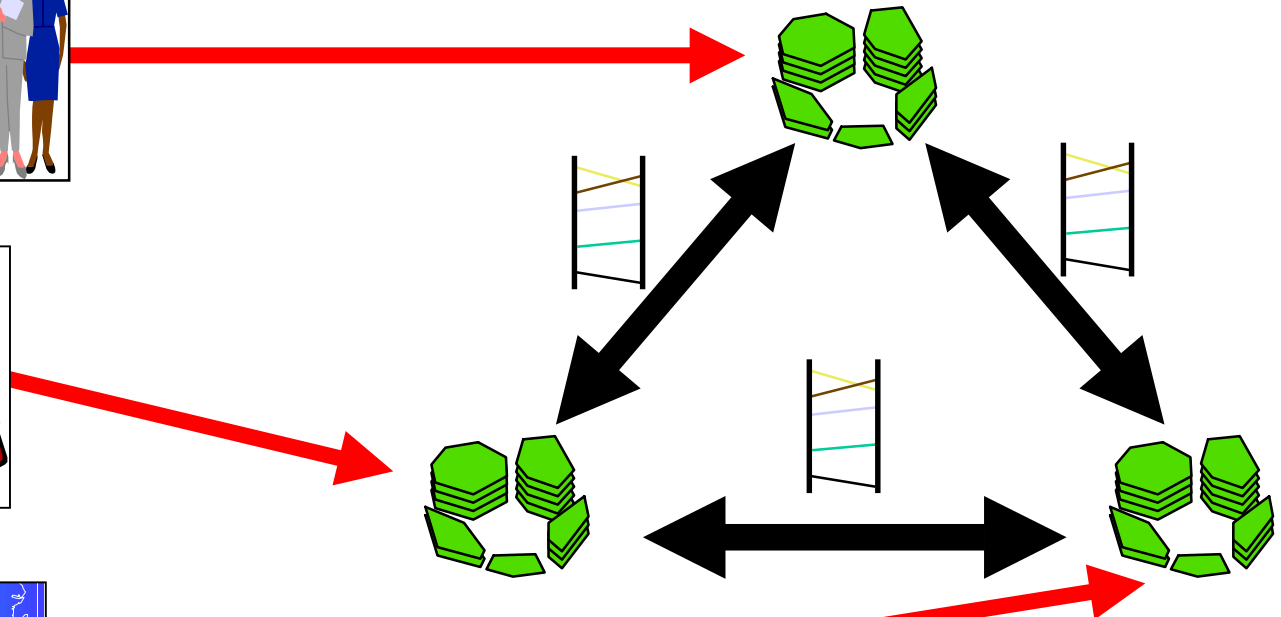
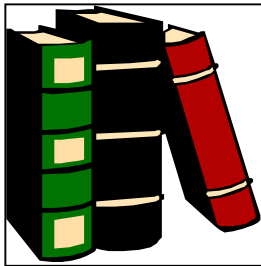
Compared with individual and group maps
generated by expert practitioners



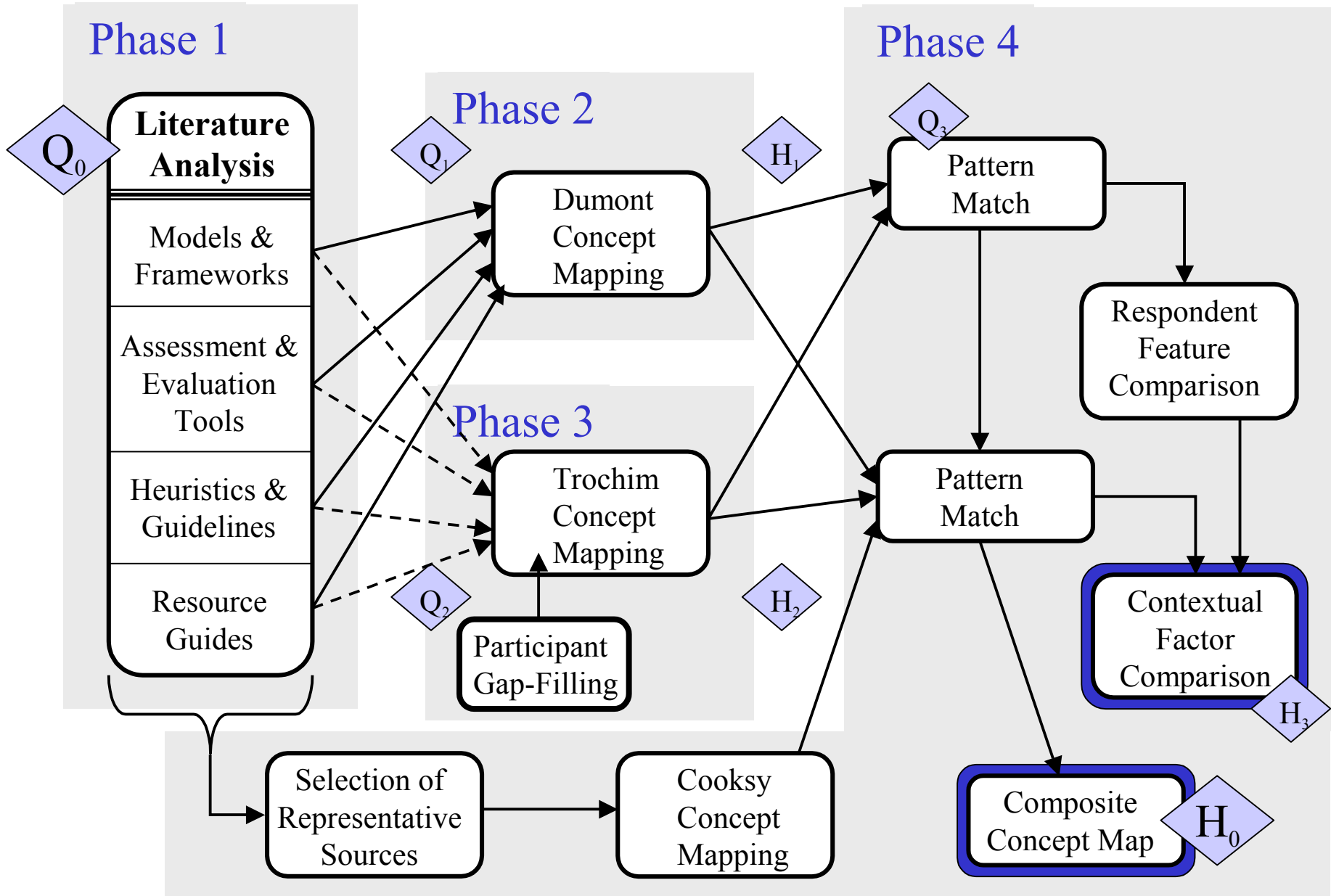
Compared with individual and group maps
generated by expert practitioners

Step 6: Utilize Maps

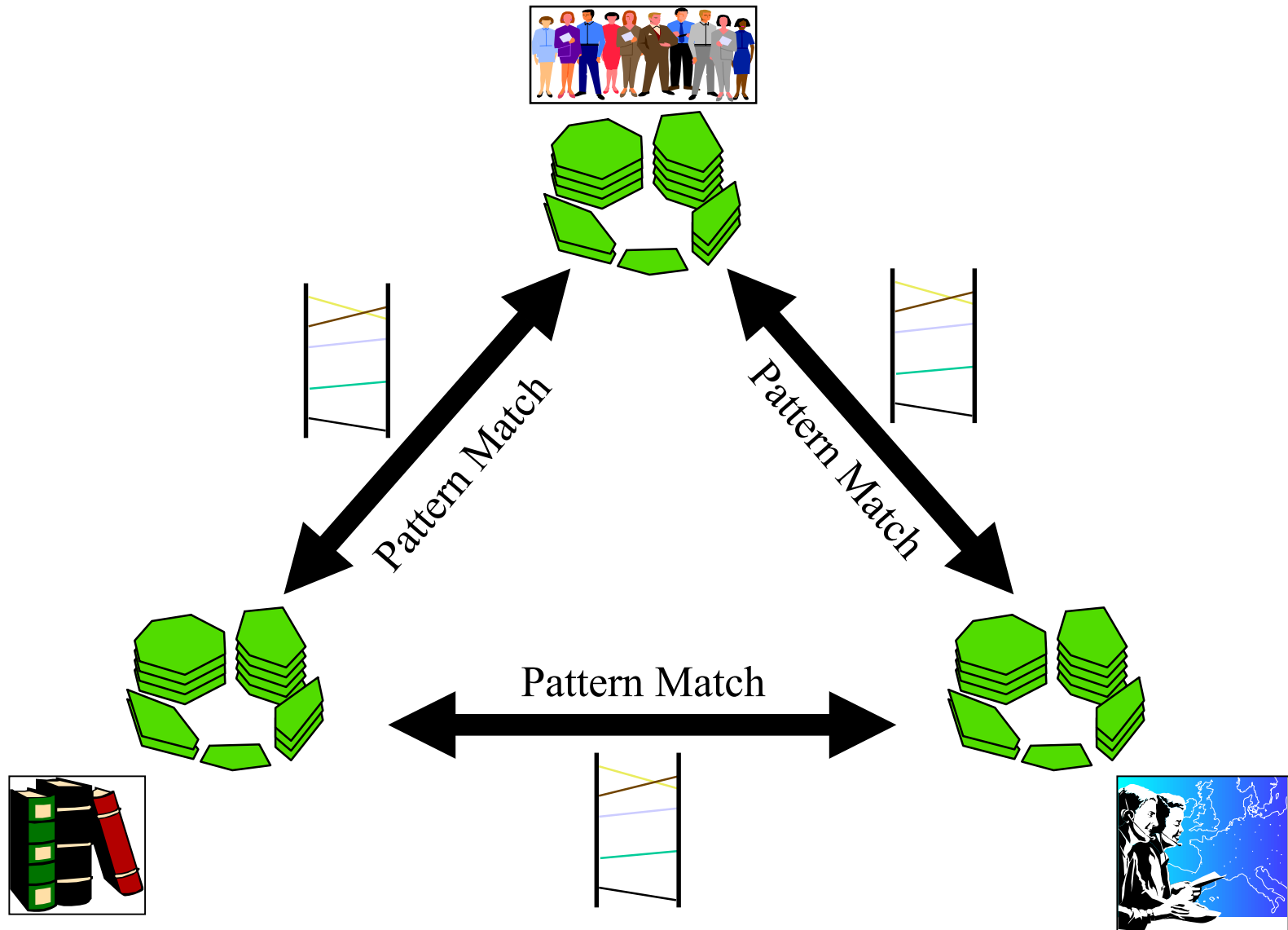
Purpose: to answer Research Questions...

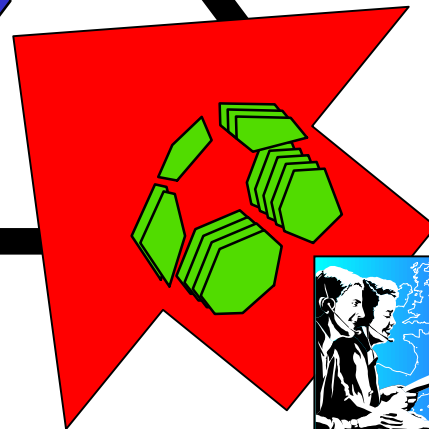
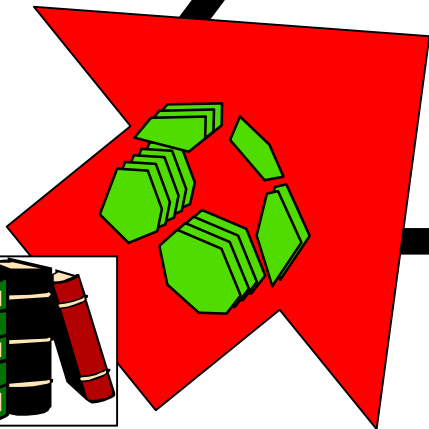
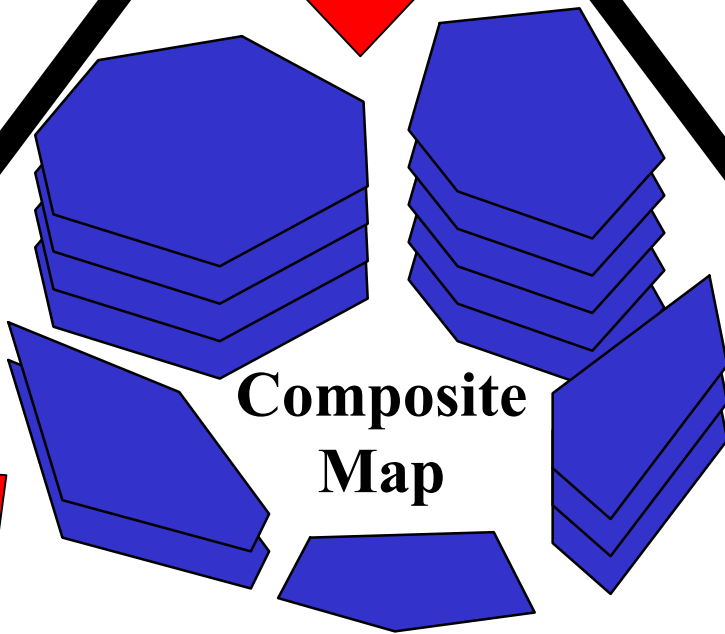
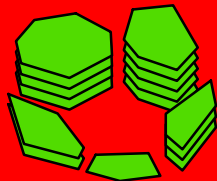


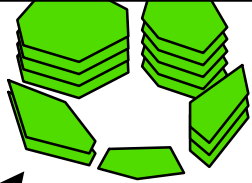
Research Design and Methodology



Triangulation of Methods







Contextual Influences

