

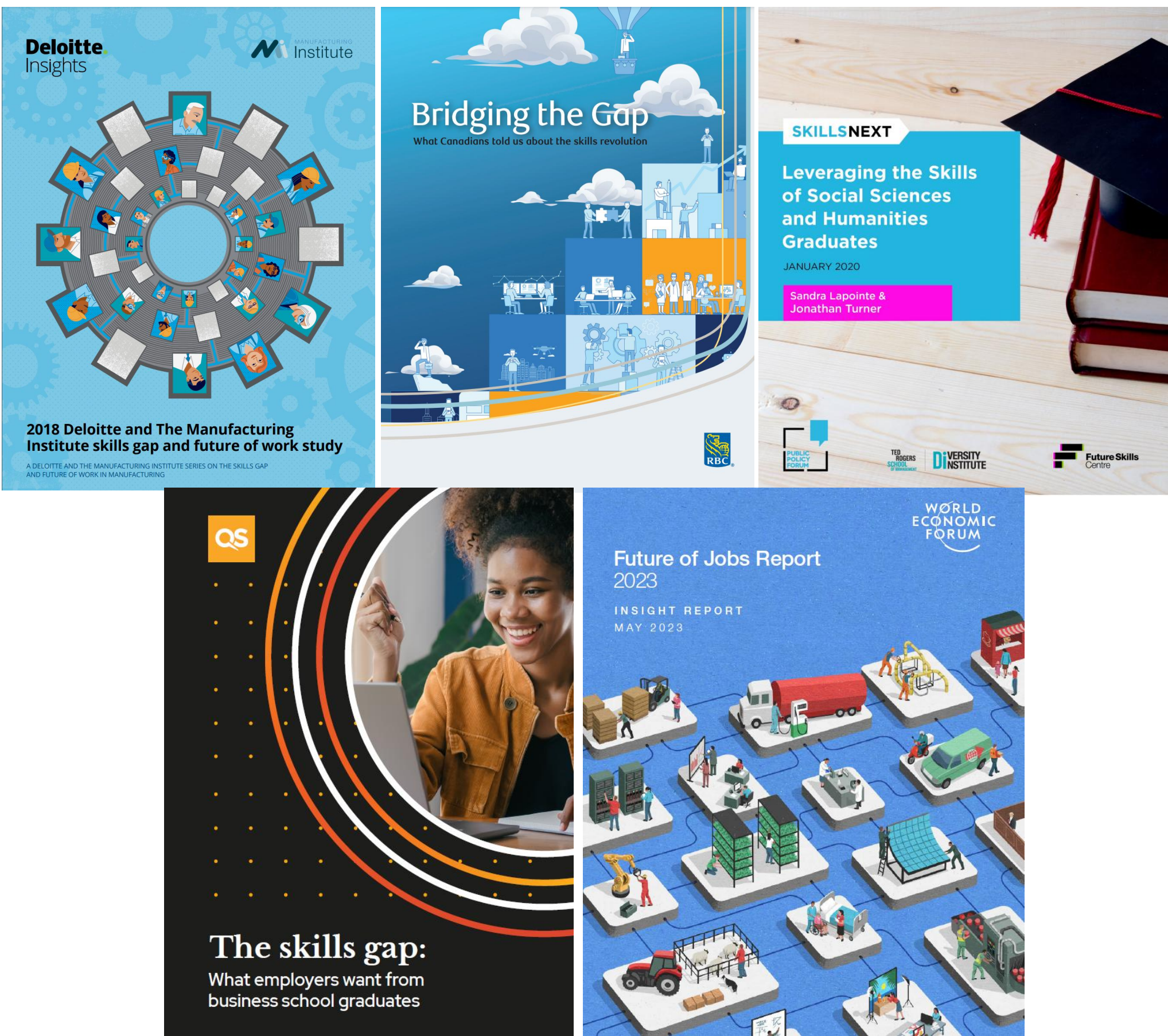
# Addressing Skills Gap: A Systemic Reframe and Redesign of Capstone using Design-Based Research



UNIVERSITY OF  
CALGARY

Dr. Sonja Johnston, PhD (Educational Research, Learning Sciences)  
Werklund School of Education, Doctoral Thesis (August 2024)  
Supervisor: Dr. Michele Jacobsen

## Skills Gap

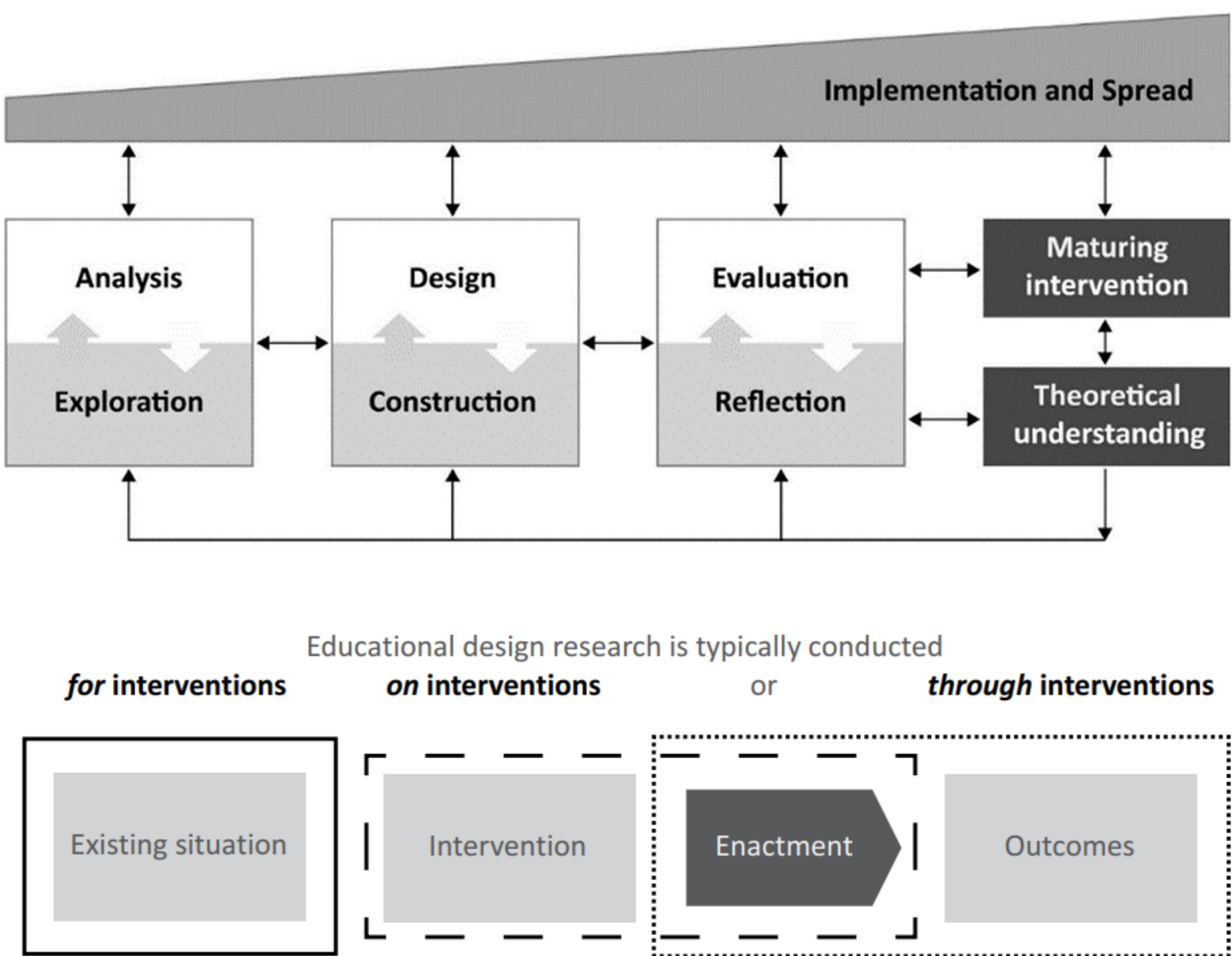


Could skills gap be a systems problem versus a student problem?

(Lapointe & Turner, 2020; QS, 2023; Radin et al., 2020; RBC, 2019; WEF, 2023)

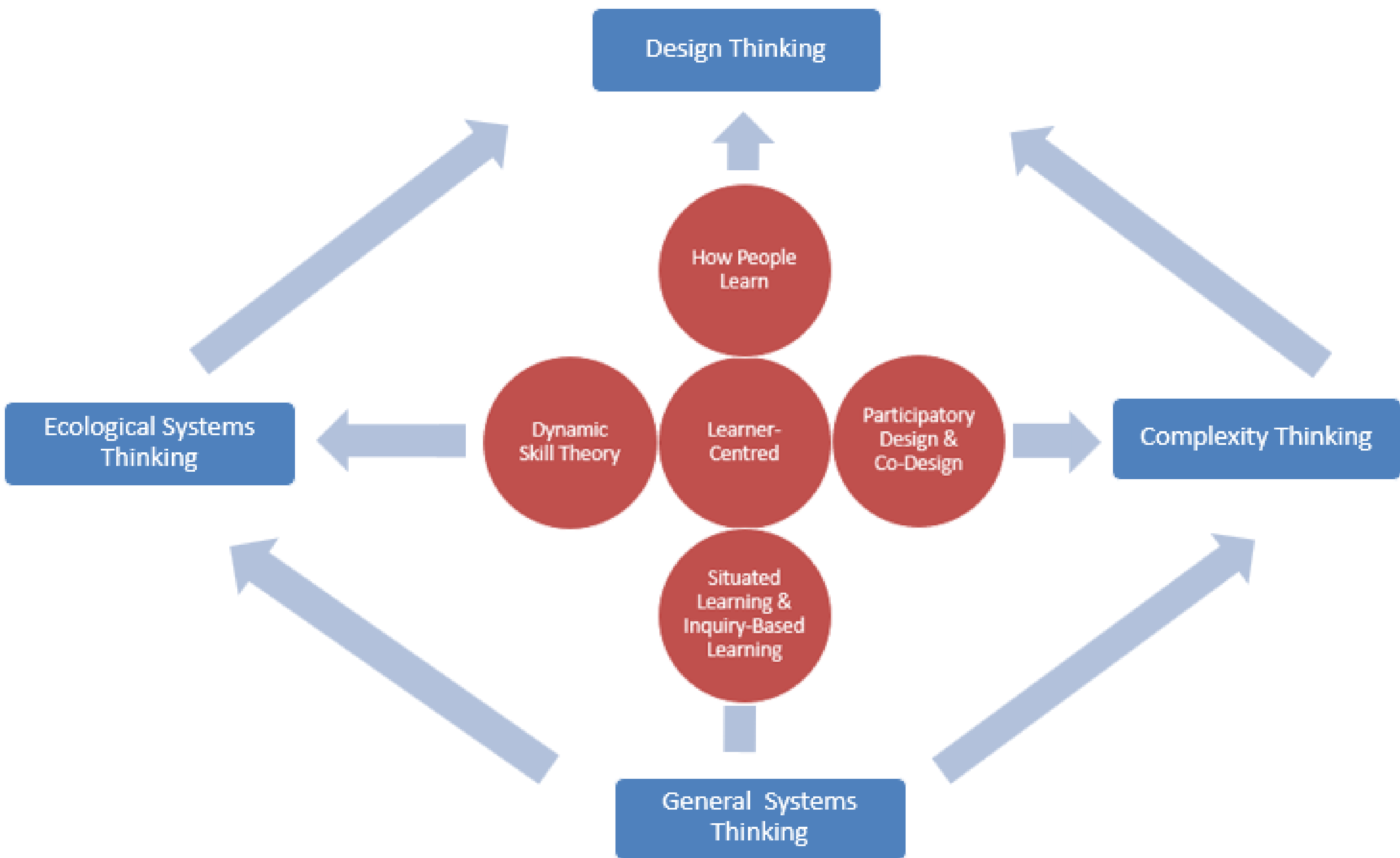
## Research Question

How can reframed designs and course-based interventions be used in a systems approach to Capstone to improve student learning experiences and stronger workplace readiness?



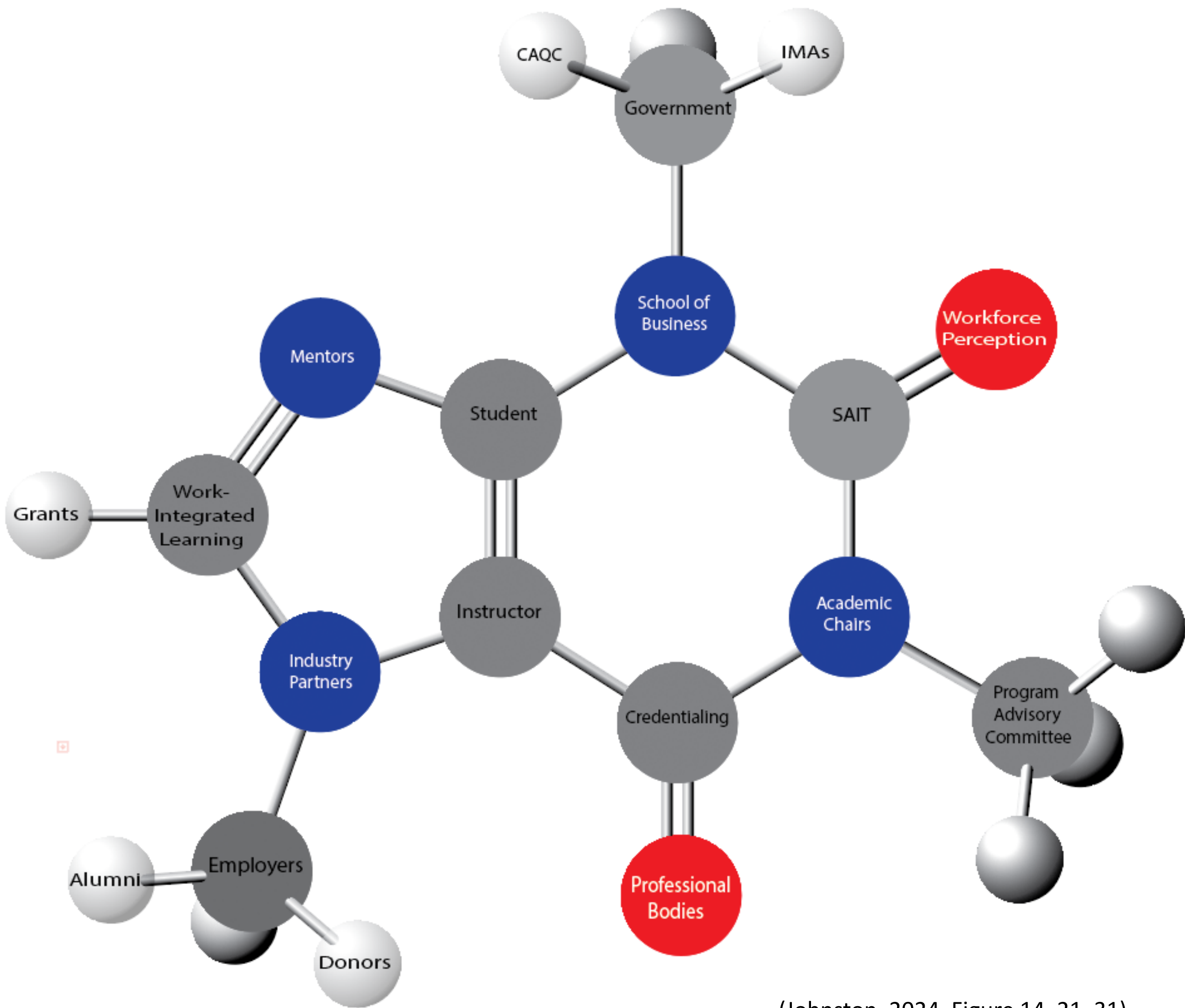
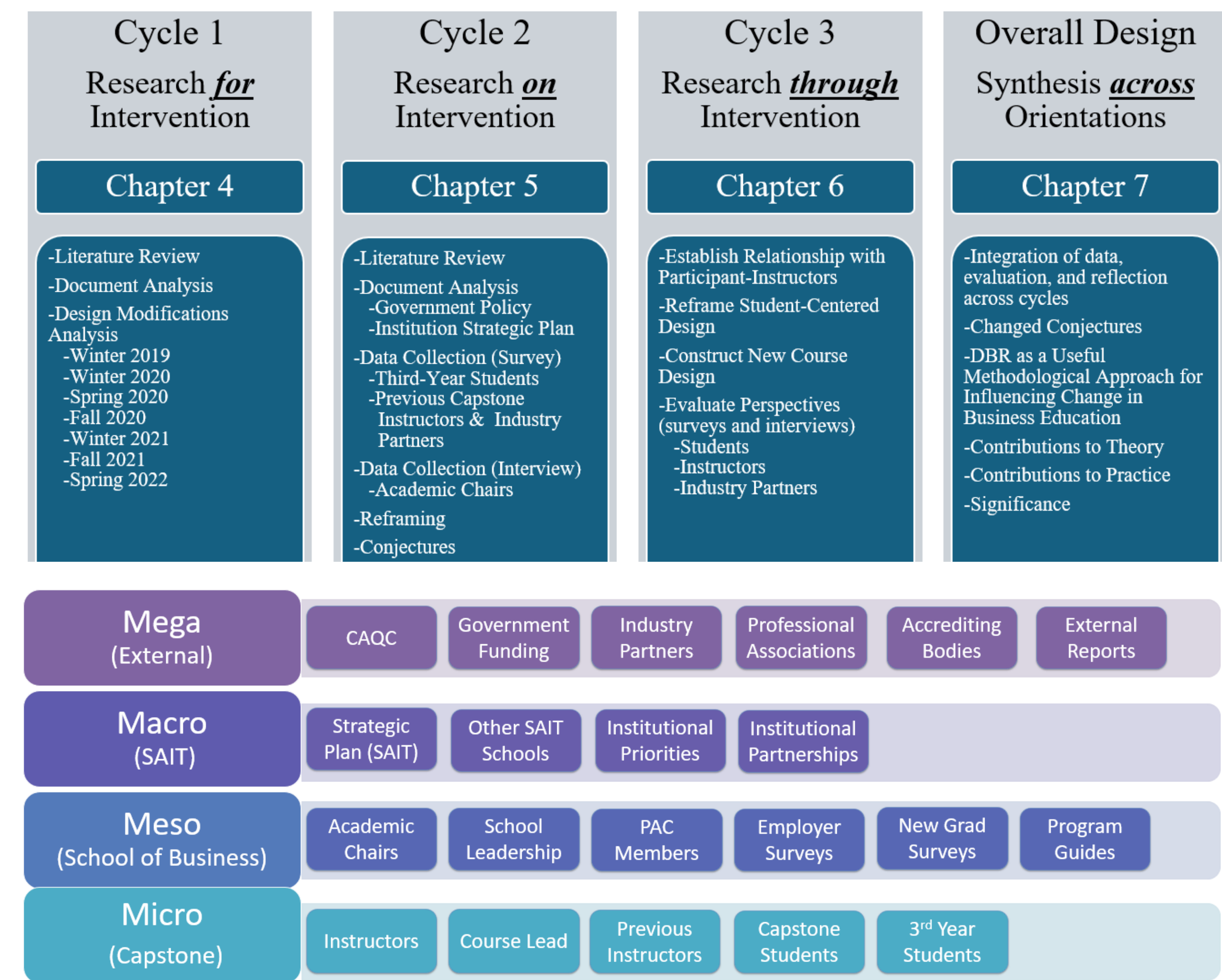
(McKenney & Reeves, 2019; Johnston, 2024, Figure 10, Figure 12)

## Conceptual Framework with a Social Constructivist Perspective



(Johnston, 2024, Figure 4)

## Research Cycles, 4M Considerations, Proposed Molecule Model

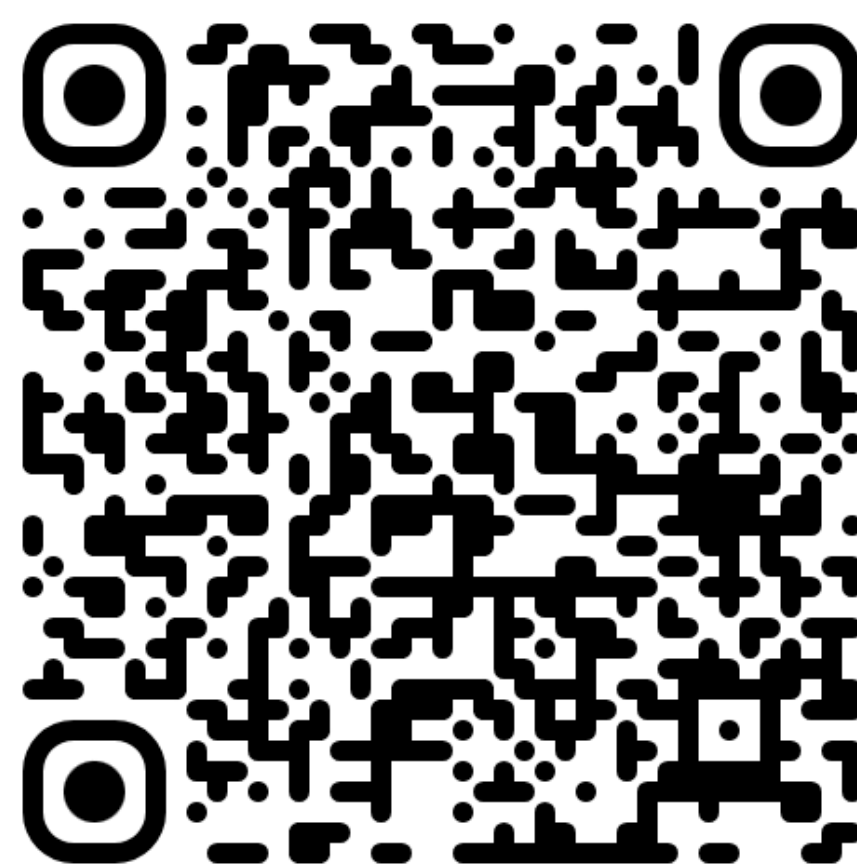


(Johnston, 2024, Figure 14, 21, 31)

## Key Insights/Considerations – Emphasis on Educational Coherence

Design Solution Elements from Research	Design Considerations	Theoretical Considerations
Assessments, Agency, Autonomy	Self-Assessments, Learner Driven, Competency Development	Learner-Centred Instruction, Dynamic Skill Theory
Socialization, Selection, Stakeholders	Informed Marketing, Purposeful Pathway, Molecule Model	How People Learn, Ecological Systems, General Systems Theory
Course Context, Components, Consideration	Coach Approach, Competency Development, Student Driven	Participatory & Co-Design, Situated Learning, Inquiry-Based Learning

(Johnston, 2024, Figure 32)



Scan for full dissertation

Johnston, S. L. (2024). Addressing skills gap: a systemic reframe and redesign of Capstone using design-based research (Doctoral thesis, University of Calgary, Calgary, Canada). Retrieved from <https://prism.ucalgary.ca>.

[Sonja.Johnston@sait.ca](mailto:Sonja.Johnston@sait.ca)  
[Sonja.Johnston@ucalgary.ca](mailto:Sonja.Johnston@ucalgary.ca)