

How do first co-op experiences transform engineering students and prepare them for the workforce?

Opening the "Black Box of Co-op" through Transformative Learning Theory.



#2500693: Exploring Engineering Students' Journey of Transformative Learning through Their First Cooperative Education Industry Experiences

Transformative Learning

Cooperative Education

Workforce Readiness

Background

Why this matters

- 72% of top U.S. engineering programs offer co-ops.
- Co-op participants often show better academic and career outcomes.
- Yet little is known about *how* co-op experiences create these outcomes.
- This hidden process is known as the "**Black Box of Co-op.**"

What is Not Yet Known

We know co-ops improve outcomes, but we do not know:

- What makes a co-op transformative?
- How students from marginalized groups experience co-op differently?
- How transformative learning influences work readiness?

Methods

Year 1

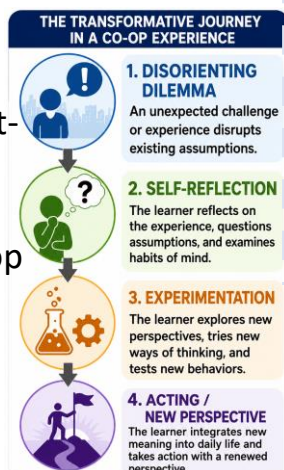
- Develop Engineering Work Readiness Scale Survey ~1,300 first-time co-op students

Year 2

- Follow students through first co-op
- Reflection journals
- Focus on marginalized groups

Year 3

- Mixed-methods analysis
- Dissemination and workshops



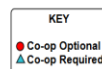
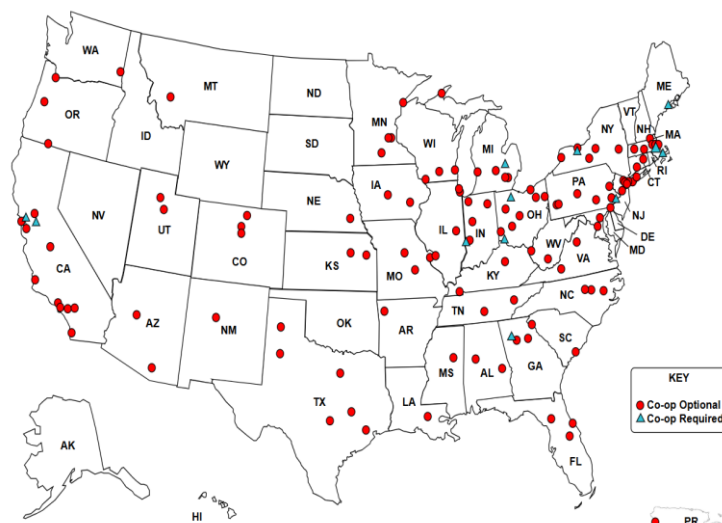
Challenge Area

- How can transformative learning be measured most effectively in co-op settings?
- What additional factors should be considered when examining work readiness among marginalized engineering students?

Expected Outcomes

- ✓ New understanding of the "Black Box of Co-op"
- ✓ Engineering Work Readiness Scale (EWRS)
- ✓ Evidence-based recommendations for co-op design
- ✓ Improved support for marginalized engineering students

Map of institutions offering co-ops.



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