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## INTRODUCTION

### Abstract:

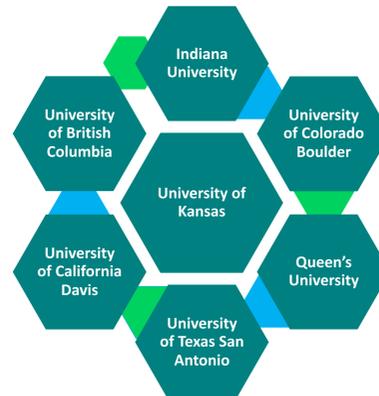
In this poster I will highlight the 7 identified principles of the Transforming Education, Stimulating Teaching and Learning Excellence (TRESTLE; <http://trestlenetwork.org>) network; a network of 7 institutions organized around a common vision of leading change focused on department-based course transformation efforts. External evaluation surveyed network members about the Principles. Network members generally agreed with the principles and felt that the TRESTLE project as a whole, and at their campus, embodied those Principles. Respondents agreed with the Principles more strongly than they agreed with whether the project emphasized that Principle. Respondents indicated that there was a good deal of local variation on how the ideas behind the Principles were put into practice because of differences in context, despite this overall consistency of purpose. Comments indicate that some principles were harder to implement (such as gathering evidence of the result of change), and this had negative implications for the work.

### WHAT IS TRESTLE?

**Networked improvement community** of 7 institutions focused on

- Department-embedded expertise
- Course transformation
- Intellectual community
- Visible evidence to support change

Model adapted differently at 7 institutions.



### WHAT WE DID

Used the pre-existing values and strategies of TRESTLE to articulate a set of Principles.

**We are using Principles to evaluate integrity of implementation in this complex adaptive change project.**

Thus, articulated Principles were developed *after* the intervention, which is not typical.

### SURVEY SAMPLE

Surveyed network partners on their use and understanding of these post-hoc Principles:

- 25 responses
- Typically 3-4 per campus
- 9 PIs, 5 embedded experts, 5 engaged faculty, 4 admin, 2 other.

## WHAT ARE PRINCIPLES?

Principles are statements that identify:

- **Core values**
- **Philosophy**
- **Operating assumptions**

Overall, principles allow a project to externalize core values and tell a story of what matters (*Principle Focused Evaluation*, M. Q. Patton, 2017).

## WHY PRINCIPLES?

Principles:

- Are useful in **complex systems**
- Support **decision making**
- Allow **flexible solutions** by offering guidance but not a rule
- Create **accountability**

## TRESTLE PRINCIPLES

*Cultural change in STEM departments is best supported and sustained by a project which includes:*

- 1. Course redesign:** Course redesign is an effective lever for instructional change providing authentic learning opportunities.
- 2. Evidence-based:** Evidence drives effective change; both the existing knowledge about effective teaching, and evidence generated of the impact of course transformation.
- 3. Human capital:** Faculty need help in the form of human capital (i.e. people who give direct support) to support course redesign and overcome lack of time.
- 4. Expertise:** Faculty need to acquire or get access to the pedagogical expertise in order to change their teaching and overcome lack of expertise and time to acquire it.
- 5. Department focus:** Efforts are best focused within departments, including empowering departments to lead change. Departments are a key unit for changes in teaching practice and culture at the university.
- 6. Community:** Change spreads when community is fostered between people and institutions, so that they share ideas and evidence.
- 7. Visibility:** Public sharing of results creates visibility for change. This is how change spreads systemically, and it supports accountability for change.

## WHAT IS A GOOD PRINCIPLE?

A good principle:

- Offers guidance which is distinguishable from the not-Principle
  - Is grounded in relevant evidence
  - Can be applied in different ways in different contexts
  - Is evaluable (you can judge whether it was followed)
  - Supports decision-making
- For more see *Principle Focused Evaluation*, M. Q. Patton, 2017.

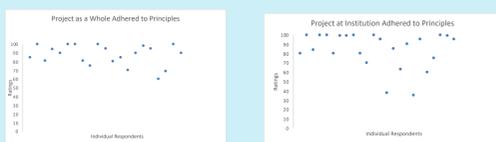
## PRINCIPLE-RELATED QUESTIONS:

- Has TRESTLE adhered to its principles?
- How were Principles adapted across campuses? Across stakeholders?
- Are the Principles effective?
- What can we learn for future projects?

To address these questions, we surveyed network partners (see survey sample above). Findings reported below.

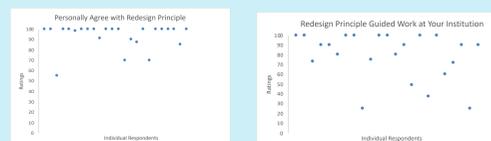
**Finding: Network partners agreed with the Principles. They felt that the TRESTLE project as a whole, and at their campus, were consistent with the Principles.**

- Ratings of agreement were typically 90% or above.
- While only about half (N=14) were quite familiar with the Principles, 87% felt that TRESTLE as a whole was consistent with the principles, and 84% that work at their campus was.



**Finding: Network partners reported local variation in how Principles were enacted.**

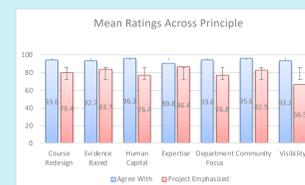
- Ratings of how the Principle guided work at the institution varied. Below are results for the first principle, "Course redesign."



- Open-ended comments revealed elements of the work, such as that courses were often incrementally changed rather than subject to a one-time redesign, and that this was more effective.

**Finding: "Visibility" had the biggest ideal/practice gap, and "Expertise" had the narrowest gap.**

- There was typically a sizeable gap between the rating of agreement with the Principle, and how well it guided the work
- Reports of how the Principles were **not** used were informative: Difficulties **included lack of evidence** of effectiveness, difficulty of **broad engagement**, and **sustainability** of efforts.



## Summary:

The use of Principles for the TRESTLE project has been useful for the project in identifying the key axes of implementation. Although the Principles were developed late in the project, their "spirit" or implied content were key to its success.

A survey based on the Principles has been valuable in uncovering various ways in which campus efforts enacted elements of the project, supporting learning about effective change.

Areas of difficulty include evidence for effectiveness, stakeholder engagement, and visibility of the results. These bear similarities to results on enactment of EP3 Project principles; see my other poster.