A piece of light gray paper is torn in the center, revealing a white rectangular area. The text is centered within this white area. The torn edges of the paper are visible, showing a rough, deckled texture.

# Leveraging Supports to Bring Evidence-Based Teaching into STEM Classrooms

Meghan Bathgate | Yale University  
BLC March 2019

Who we are & what  
are we doing?

What's so special  
about supports?

What does it mean  
for us?

Who we are & what  
are we doing?



## Cognitive Psychologist

Teacher



Student

*Motivation*

*Engagement*

*Prior experience*

## Who we are & what are we doing?

1. Become familiar with the evidence showing the importance of supports for evidence-based teaching
2. Make evidence-based decisions on how to use these supports to promote effective teaching
3. Use this data to inform our own practice



What's so special  
about supports?

Aware of  
evidence-based  
teaching

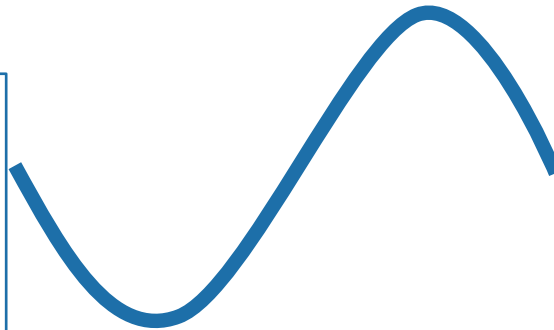
Implementing  
evidence-based  
teaching



What's so special  
about supports?

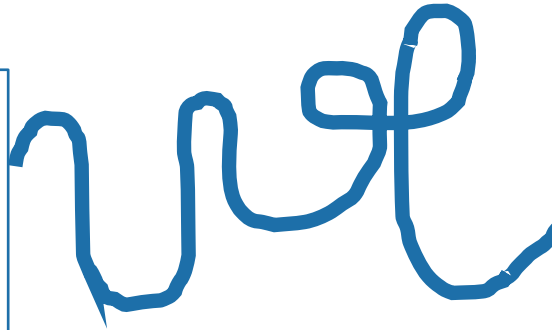
Aware of  
evidence-based  
teaching

Implementing  
evidence-based  
teaching



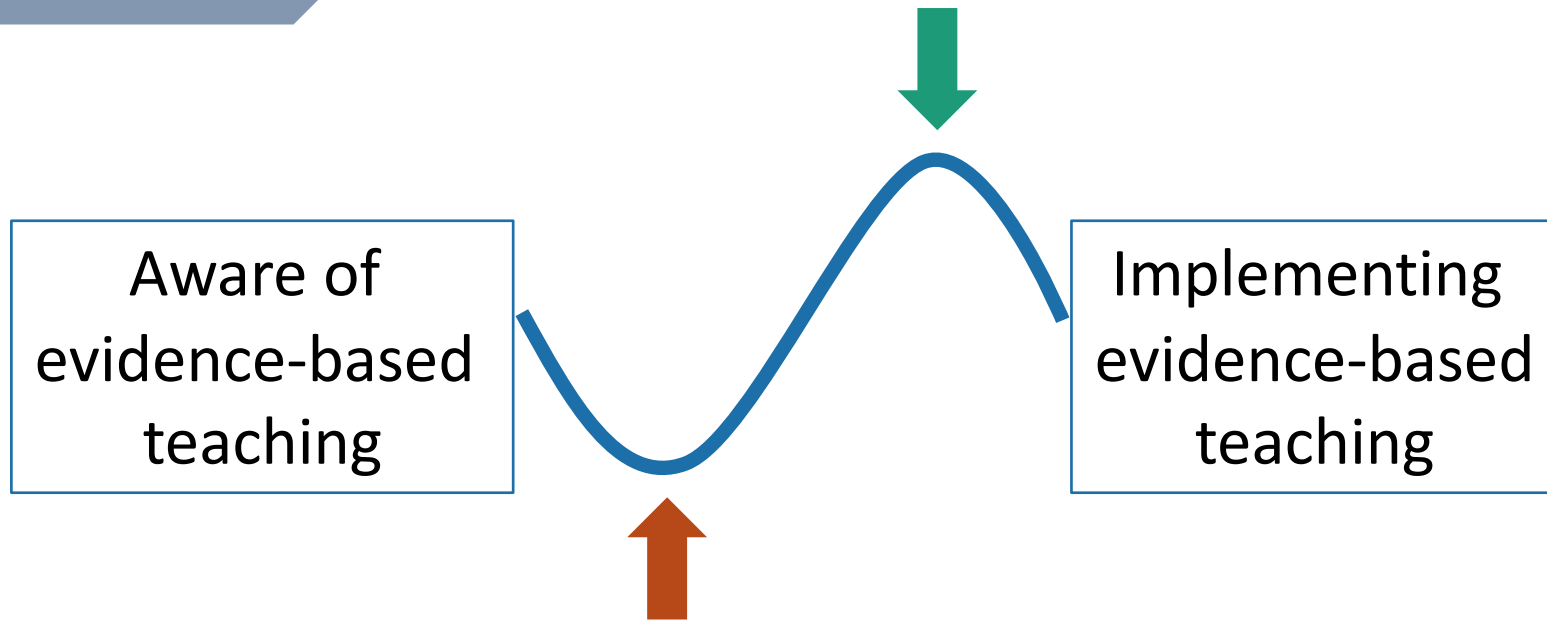
What's so special  
about supports?

Aware of  
evidence-based  
teaching



Implementing  
evidence-based  
teaching

What's so special about supports?



What are the personal and institutional factors that prevent or support evidence-based teaching?

What's so special  
about supports?

What *prevents* you from doing so?

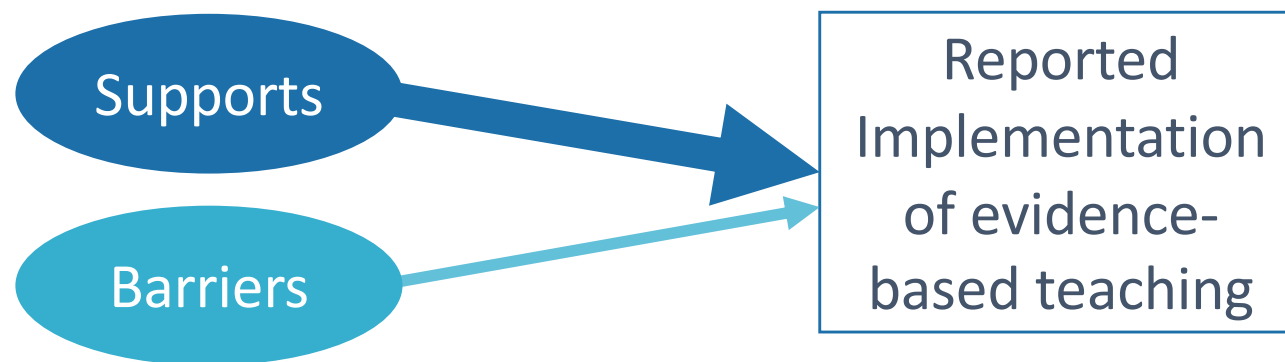
e.g., Shadle, Marker, & Earle, 2017; Michael, 2007; Hora, 2012; Brownell & Tanner, 2015; Herreid & Schiller, 2013 ; Bradforth et al, 2015

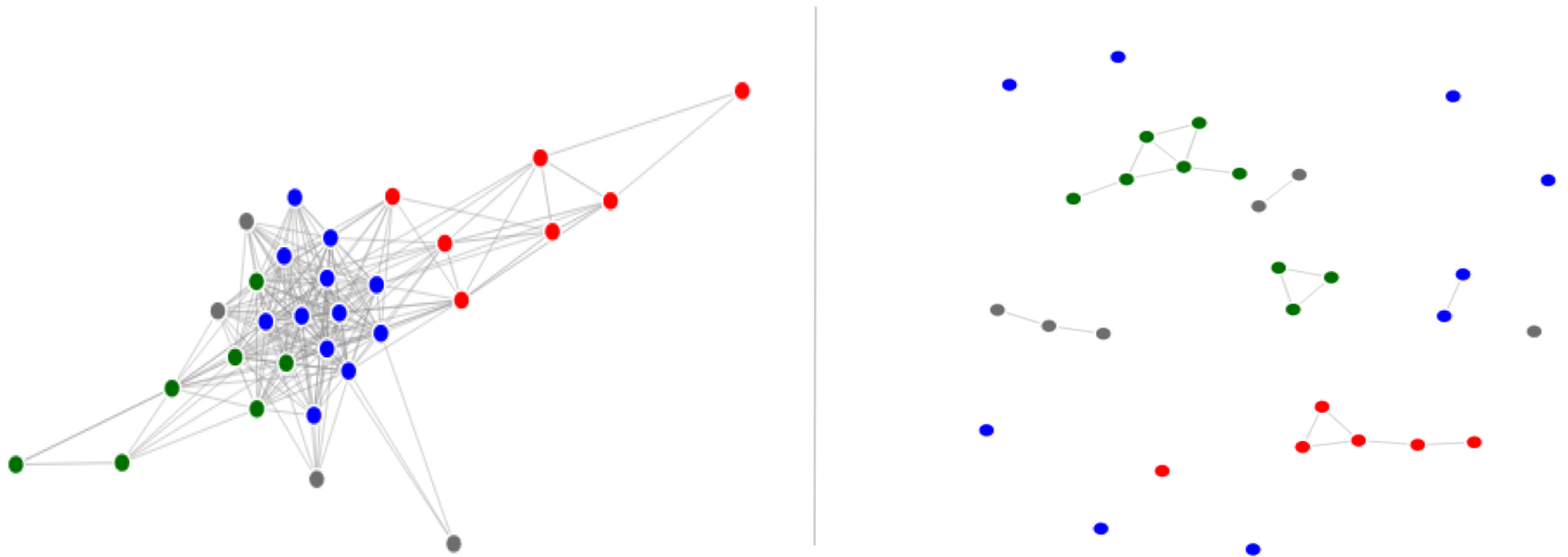
What's so special  
about supports?

Survey of ~700 faculty

Perceived supports & barriers to evidence-based teaching

Reported implementation of evidence-based teaching





*Bathgate, Aragón, Cavanagh, Waterhouse, Fredrick & Graham, In press*





HOW?

Which supports are addressing which barriers?

Are there “super supports?”

Are there “sticky barriers?”

HOW?

Student resistance

Pre-existing  
resources

Showing  
data

Starting  
small

Student  
input

Coordinating  
with  
colleagues



What's so special  
about supports?

# LEAPS

Leveraging Evidence-based  
Academic and Personal Supports

---

GOAL:

Make actionable recommendations based on an empirical  
network of supports and barriers  
driven by data from peers.

What's so special  
about supports?

# LEAPS

Leveraging Evidence-based  
Academic and Personal Supports

---

## Measurement Design

- Team development through previous data, continued evaluation, literature review, talk-alouds, team-testing

## Fall Pilot

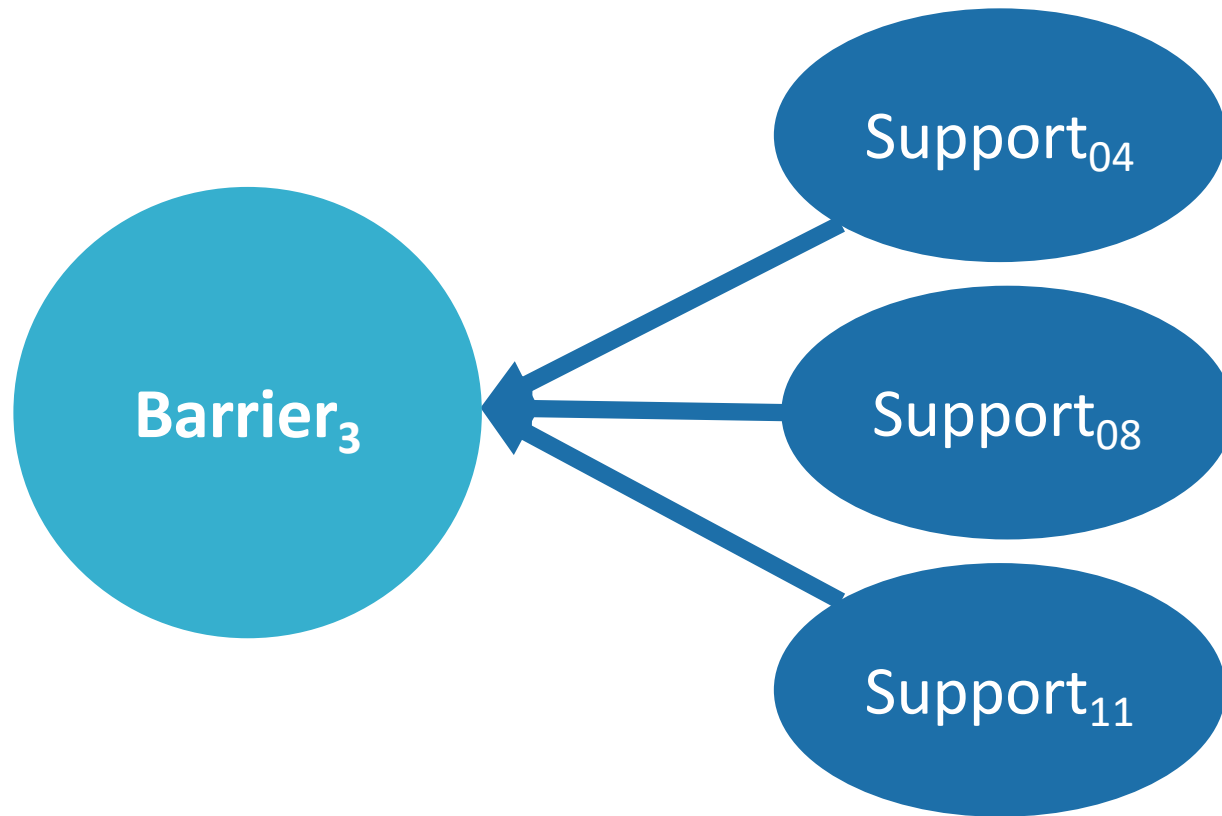
- Launched to defined audience (~200 response)

## Spring Launch

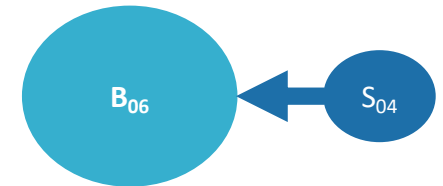
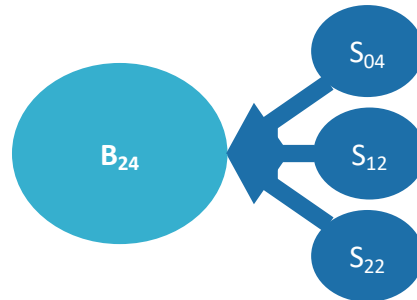
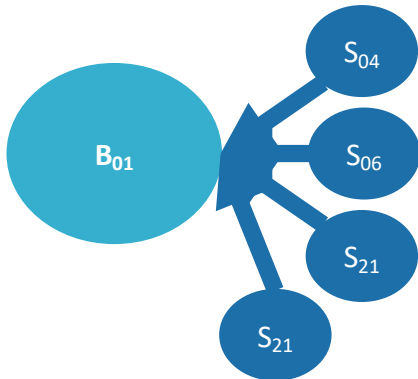
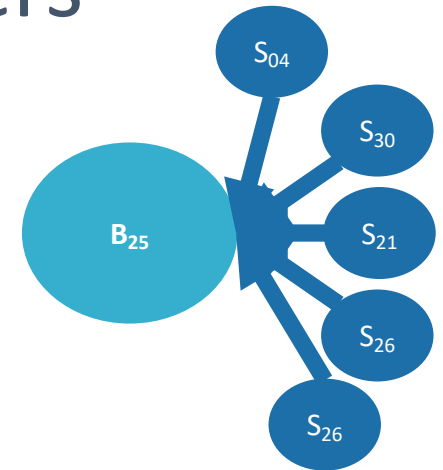
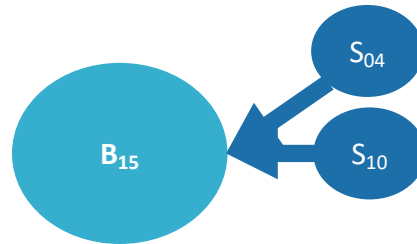
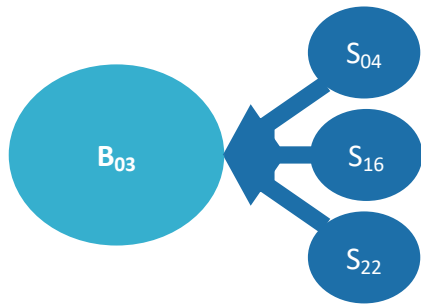
- Currently over 500 responses



**Barrier<sub>3</sub>**

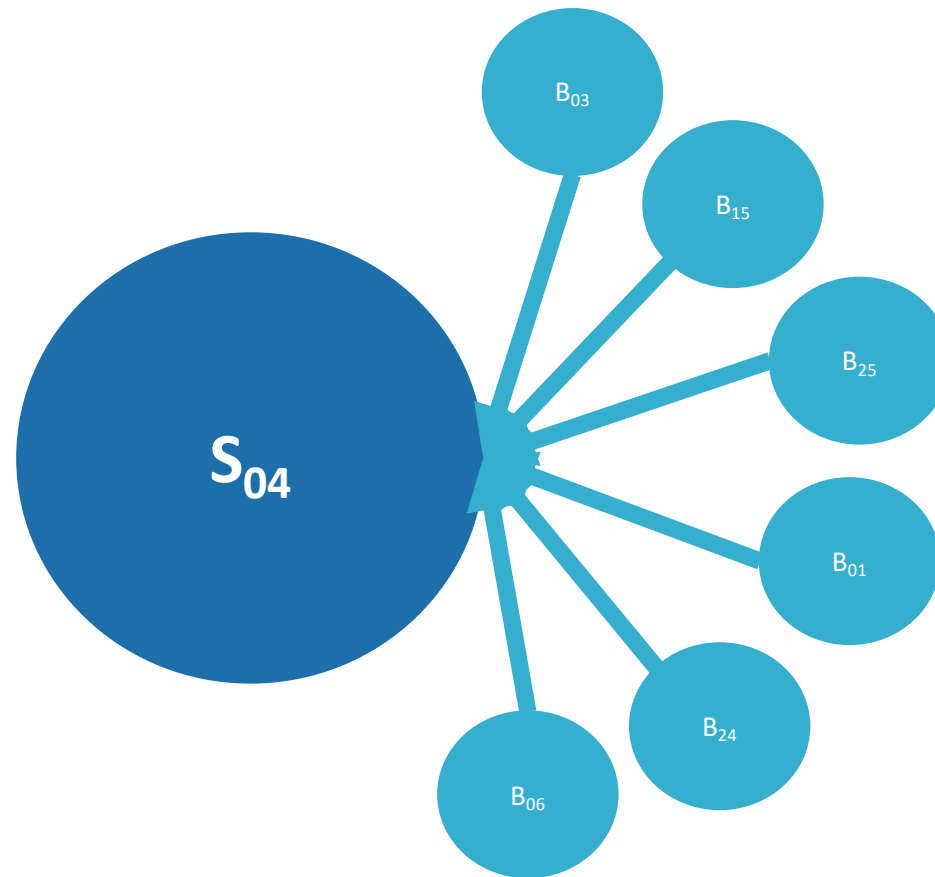


# Describe relationship among supports & barriers

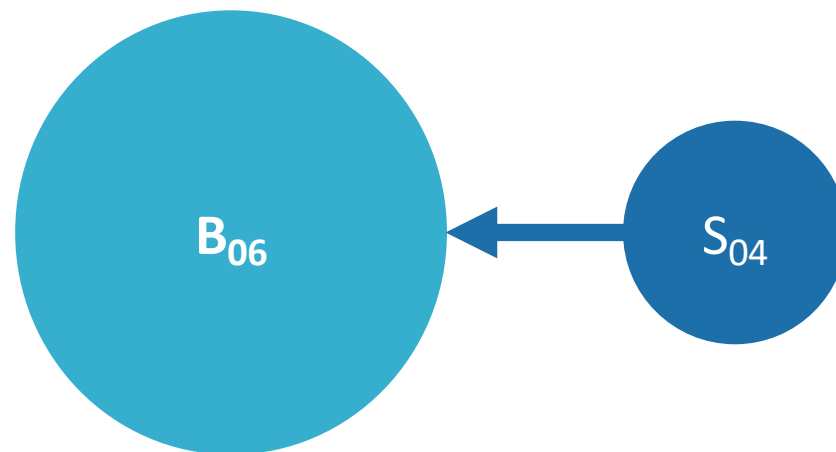




Identify “super supports”: Points of high leverage



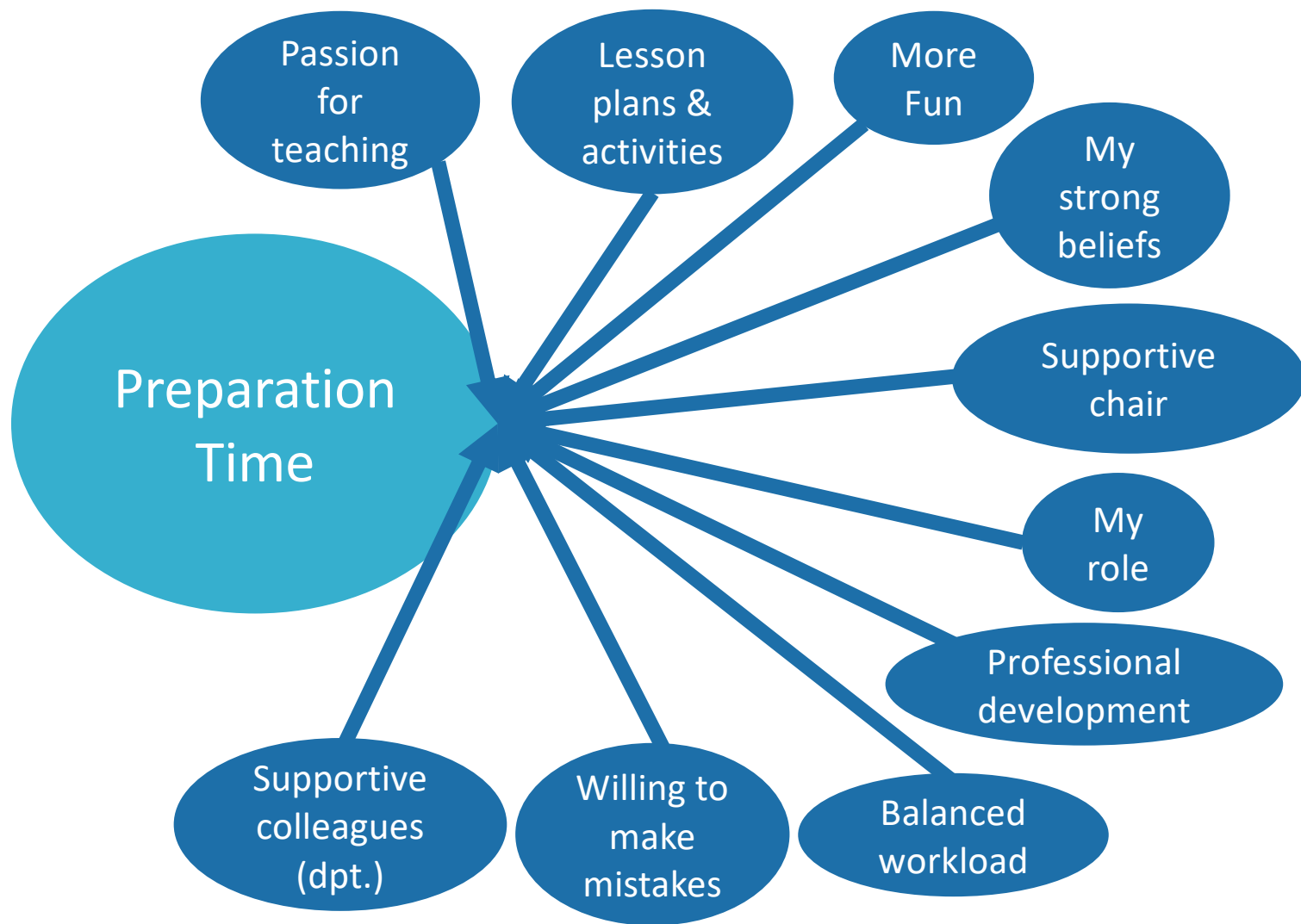
Identify “sticky barriers”

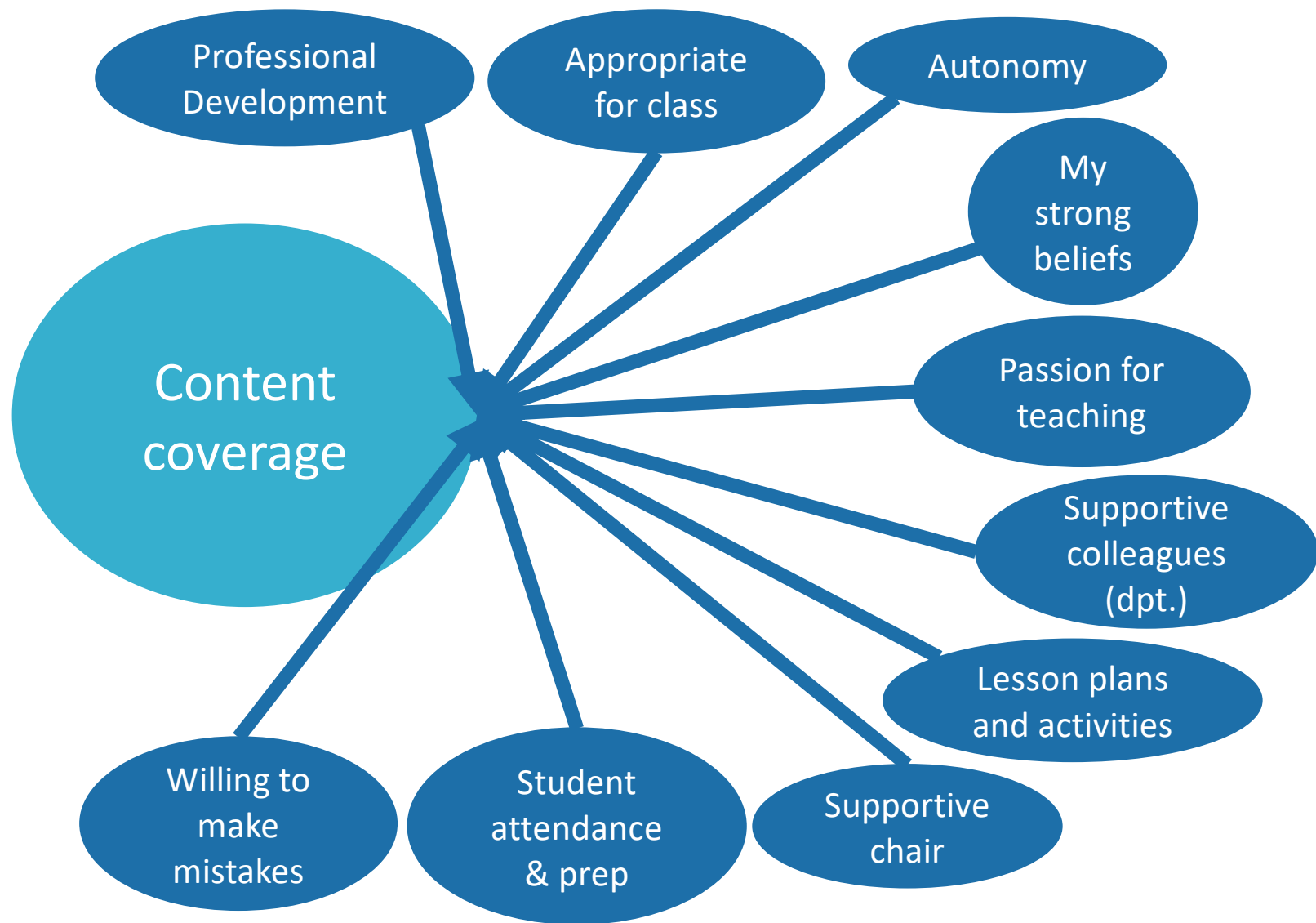


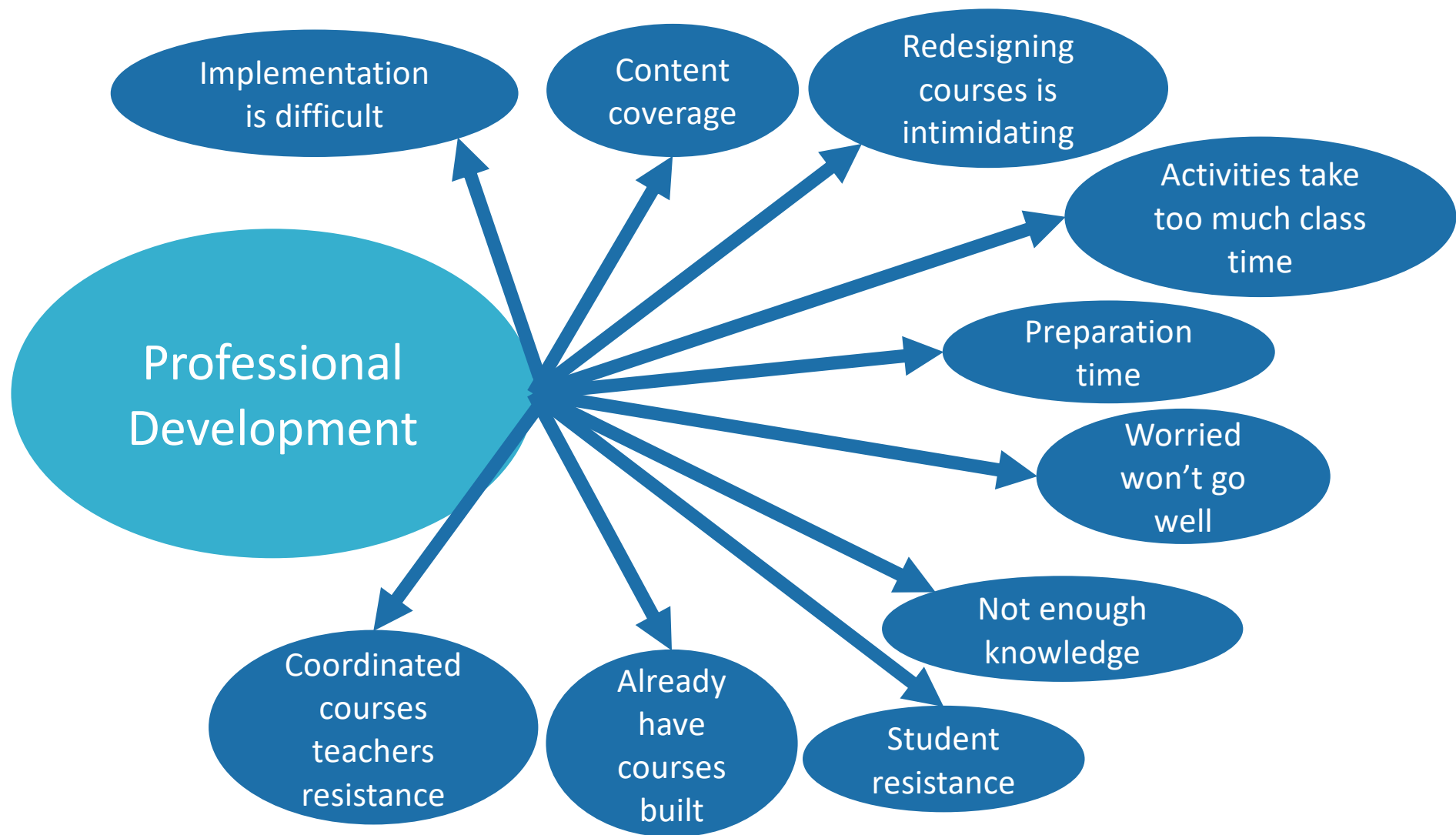
Who we are & what  
are we doing?

What's so special  
about supports?

What does it mean  
for us?







# Choose Your Own Adventure Marketplace

- Stand with barrier you'd like to address\*
- Dig into data associated with that barrier
- Create your own (individual or group) action plan\*\*

What does it mean for  
us?



# Choose Your Own Adventure Marketplace

## Step 1:

- Stand with barrier you'd like to address\*
- Dig into data associated with that barrier

*What patterns do you see?*

*Is anything surprising?*

*Is anything omitted?*

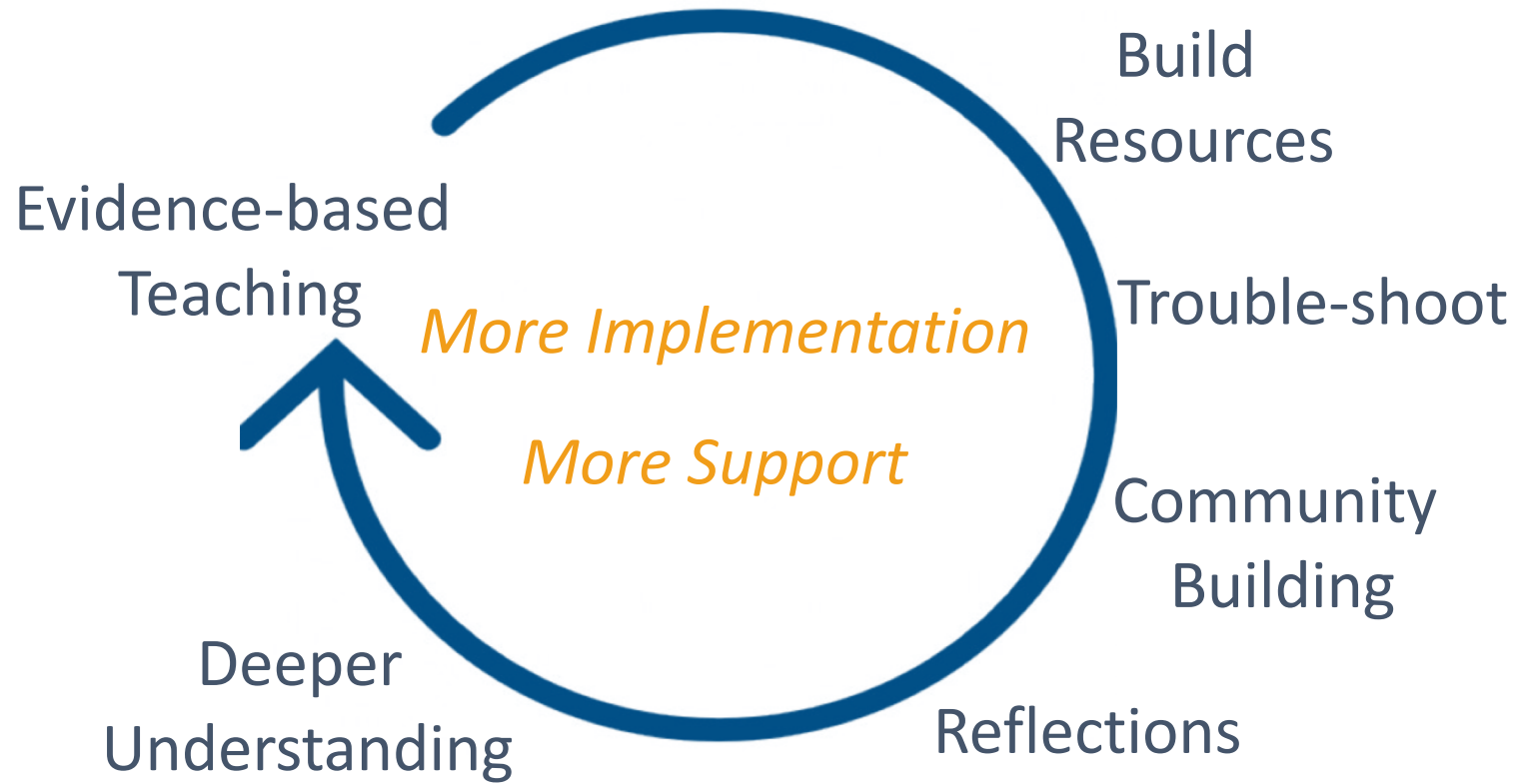
## Step 2:

- Create your own (individual or group) action plan\*\*

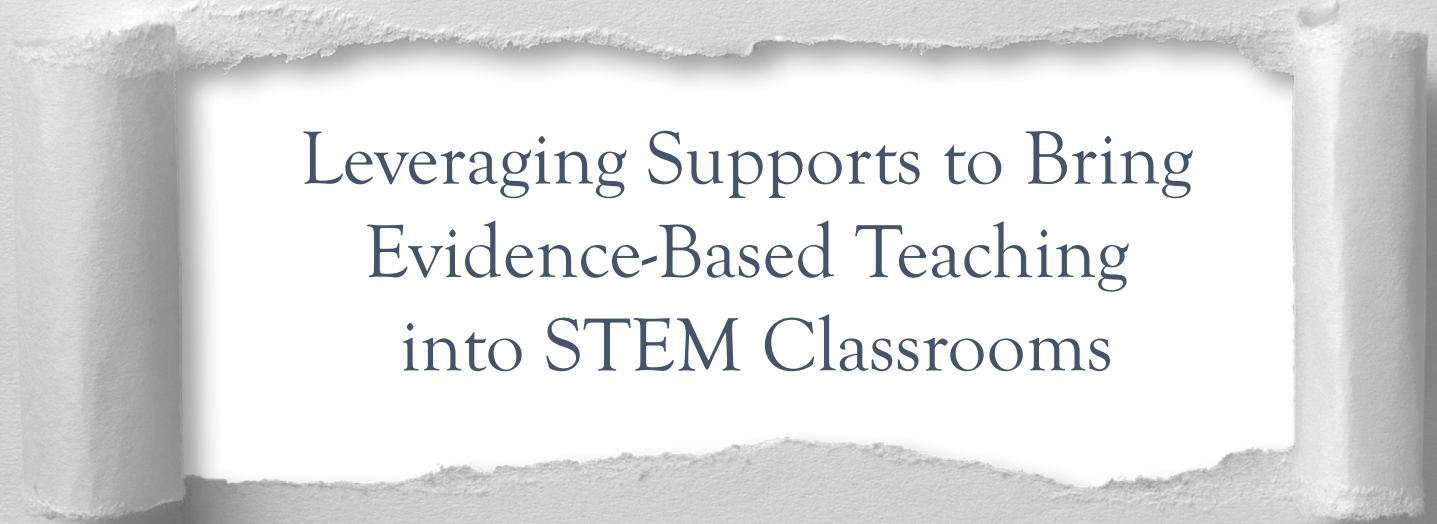
What does it mean for  
us?

*\*or barrier that you are interested in or hear often*

*\*\*can be the barrier you selected or not; I can share data where possible*



What does it mean for  
us?

A piece of light gray paper is torn in the center, revealing a white rectangular area. The text is centered within this white area. The torn edges of the paper are visible, showing a rough, deckled texture.

# Leveraging Supports to Bring Evidence-Based Teaching into STEM Classrooms

Meghan Bathgate | Yale University  
BLC March 2019