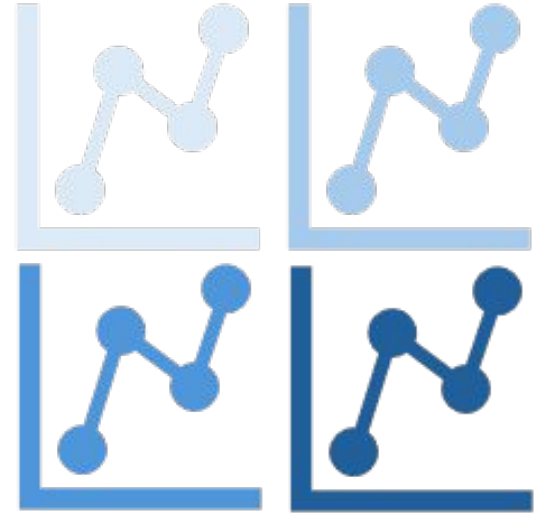


# Transforming Classroom Practices Through Data-Driven Communities of Practice: **The Ascend Initiative**



**\*Rachael M. Hannah** *University of Alaska Anchorage*

**Kathryn Johnson** *Xavier University*

**Sushilla Knottenbelt** *University of New Mexico*

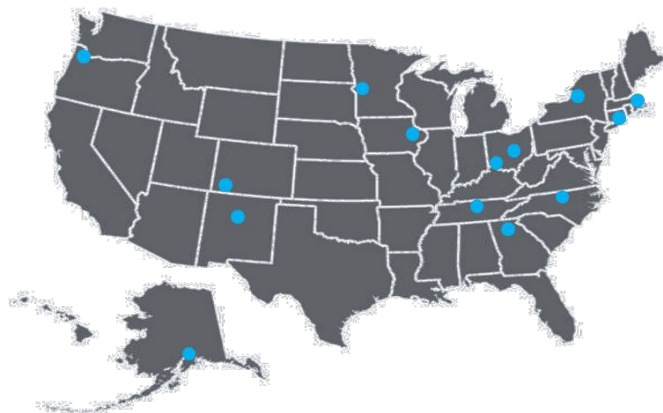
**\*Christine Rodriguez** *Fairfield University*

**Karen Schmeichel** *Oglethorpe University*

**Joe Suilmann** *University of New Mexico*

# What is The SCIENCE Collaborative?

The Student-Centered Institutional Enhancement  
and Co-Learning Exchange Collaborative



- Elon University
- Fairfield University
- Fisk University
- Fort Lewis College
- Hamilton College
- Oglethorpe University
- Otterbein University
- Portland State University
- Simmons University
- University of Alaska Anchorage
- University of Iowa
- University of Minnesota Morris
- University of New Mexico
- Xavier University

## MAST Goal

By 2030, 100% of the students at our institutions will be empowered and supported in their academic, professional, and personal goals during and beyond their early undergraduate STEM experiences.

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## POSTERS on 6/10



### #P45a @ 5:15

Assessing the Success of a 14-Institution  
Collaborative Undergraduate STEM  
Education Inclusivity Initiative  
Madison Fitzgerald-Russell et al.

### #P44b @ 6:15

The SCIENCE Collaborative: Collectively  
Increasing Institutional Capacity for STEM  
Undergraduate Education Reform  
Kathryn Johnson et al.

# What is Ascend? And how does it support our work?

Ascend is a data-driven professional learning tool for college instructors.

Ascend helps instructors partner with students to establish conditions that accelerate learning, and promote retention & equity.



- **5 minute survey**
- **Anonymous**
- **Automated data analysis**
- **Rapid**
- **Administered iteratively (3+/course)**

## LEARNING CONDITIONS MEASURED BY SURVEY



1. ***Trust and fairness***
2. ***Institutional growth mindset***
3. ***Social connectedness***
4. ***Identity safety***
5. ***Social belonging***
6. ***Belonging certainty***
7. ***Self efficacy***

# Ascend + Community of Practice (CoP) = ????

1

ONE COURSE -  
ONE INSTRUCTOR

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Can be isolating  
& vulnerable

2

COLLEGE/UNIVERSITY  
CoP

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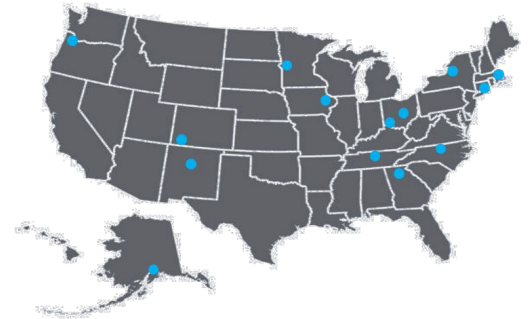
Supportive but only  
local change

3

MULTI-INSTITUTIONAL  
CoP

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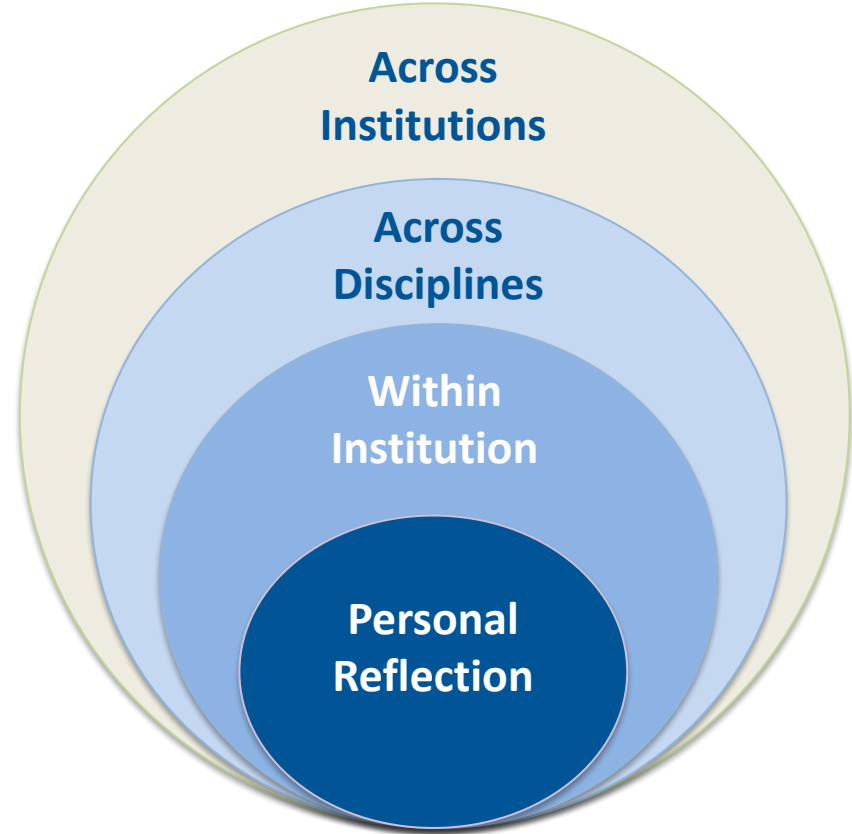
The SCIENCE Collaborative



Even more support &  
MAST outcome?


# Communities of Practice in Action

- Support faculty and collaborative reflection of
  - Classroom data and community belonging goals
  - Instructional design interventions
  - Discipline-based learning
- Real-time data enables aligned, student-centered instructional shifts.



# From Reflection to Action: Scaling Faculty Agency

## Classroom Practices Library (Example):

 **TOOL**

### Supporting Self-Efficacy by Integrating Self-Relevance and a Sense of Purpose into Your Course

Approaches to help students see their coursework as relevant to their own experiences and their future goals.

**PRACTICE CATEGORIES:**

[Belonging](#) [Identity Safety](#) [Self-Efficacy](#)

[Social Connectedness](#)

[LEARN MORE →](#)



## Structured Reflection Guides Help Faculty:



**INTERPRET ASCEND  
DATA IN CONTEXT**



**DESIGN STRATEGIES  
RESPONSIVE TO  
STUDENT FEEDBACK**



**SHARE INSIGHTS  
ACROSS PROGRAMS**

**Communities of Practice help  
transformation by connecting  
evidence into action**

# Ascend + CoP participation: AY 2024-2025

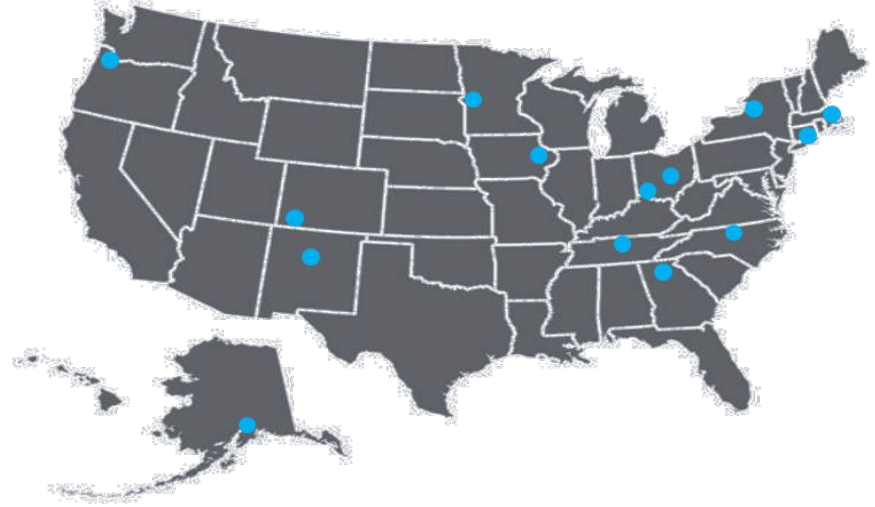
## Fall '24:

- 10 Campuses
- 30 Class Leads
- 1,730 Student Responses

## Spring '25:

- 8 Campuses
- 21 Class Leads
- 1,234 Student Responses

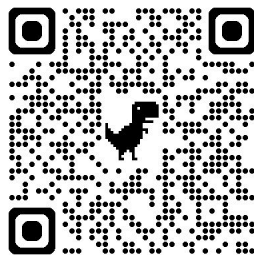
The SCIENCE Collaborative



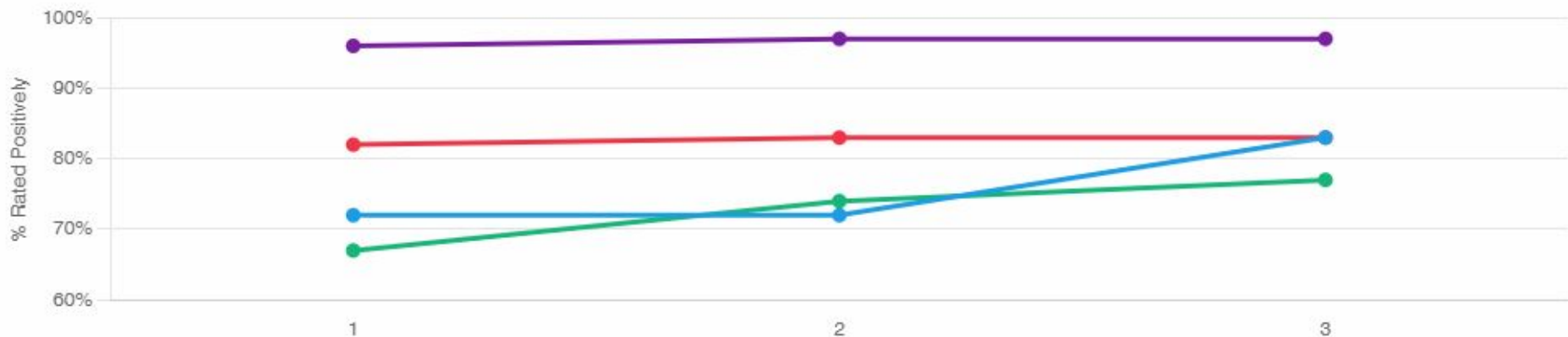


# Course-Level Data - Intro Biology

*What I can do in my classroom?*



## Learning Condition Trends



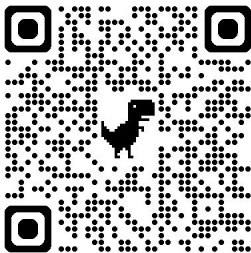
### Belonging Certainty

Belonging uncertainty is the concern people have about the extent to which they belong, or fit in, in different contexts or across time. Social isolation and belonging uncertainty are negatively associated with achievement, performance, and well-being. Belonging certainty is the absence of this concern. [Learn strategies to improve.](#)

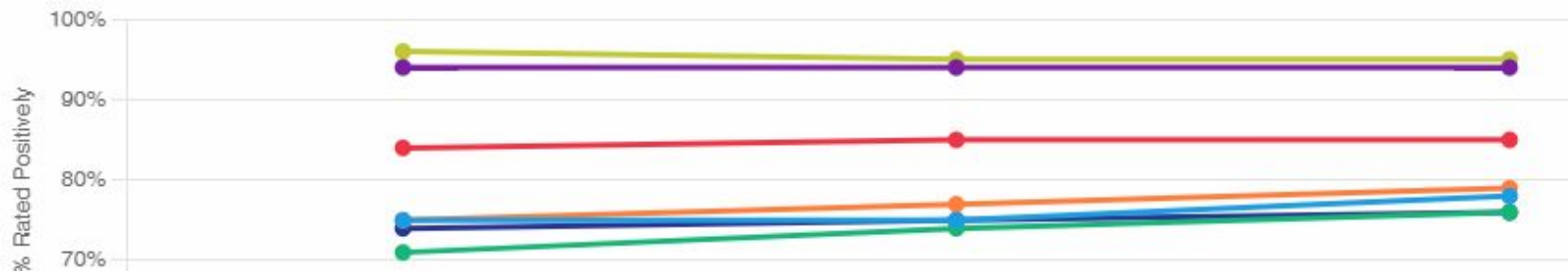
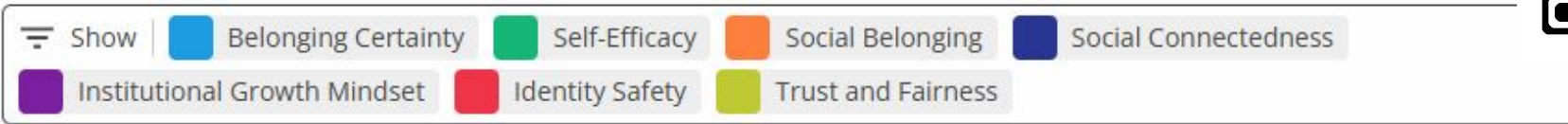




# University CoP Data - University of Alaska Anchorage



## Learning Condition Trends

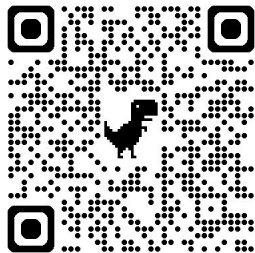


LEARNING CONDITION	RESPONSES	RATED POSITIVELY ON LAST SURVEY	± FROM FIRST SURVEY
--------------------	-----------	---------------------------------	---------------------

Belonging Certainty 162 (of 163) responses	All (162)	78%	<div></div>	+3
	Insecure (49)	67%	<div></div> ⚠	+6
	Secure (113)	82%	<div></div>	+1



# Multi-Institutional CoP Data - Fall 2024



LEARNING CONDITION	RESPONSES	RATED POSITIVELY ON LAST SURVEY	± FROM FIRST SURVEY
<b>Belonging Certainty</b> 1796 (of 1812) responses	All (1796)	66% <div><div></div></div>	+1
<b>Identity Safety</b> 1792 (of 1812) responses	All (1792)	83% <div><div></div></div>	0
<b>Institutional Growth Mindset</b> 1790 (of 1812) responses	All (1790)	91% <div><div></div></div>	+1
<b>Self-Efficacy</b> 1791 (of 1812) responses	All (1791)	68% <div><div></div></div>	+1
<b>Social Belonging</b> 1789 (of 1812) responses	All (1789)	77% <div><div></div></div>	+1
<b>Social Connectedness</b> 1789 (of 1812) responses	All (1789)	74% <div><div></div></div>	+1
<b>Trust and Fairness</b> 1786 (of 1812) responses	All (1786)	95% <div><div></div></div>	-1

2 in 3

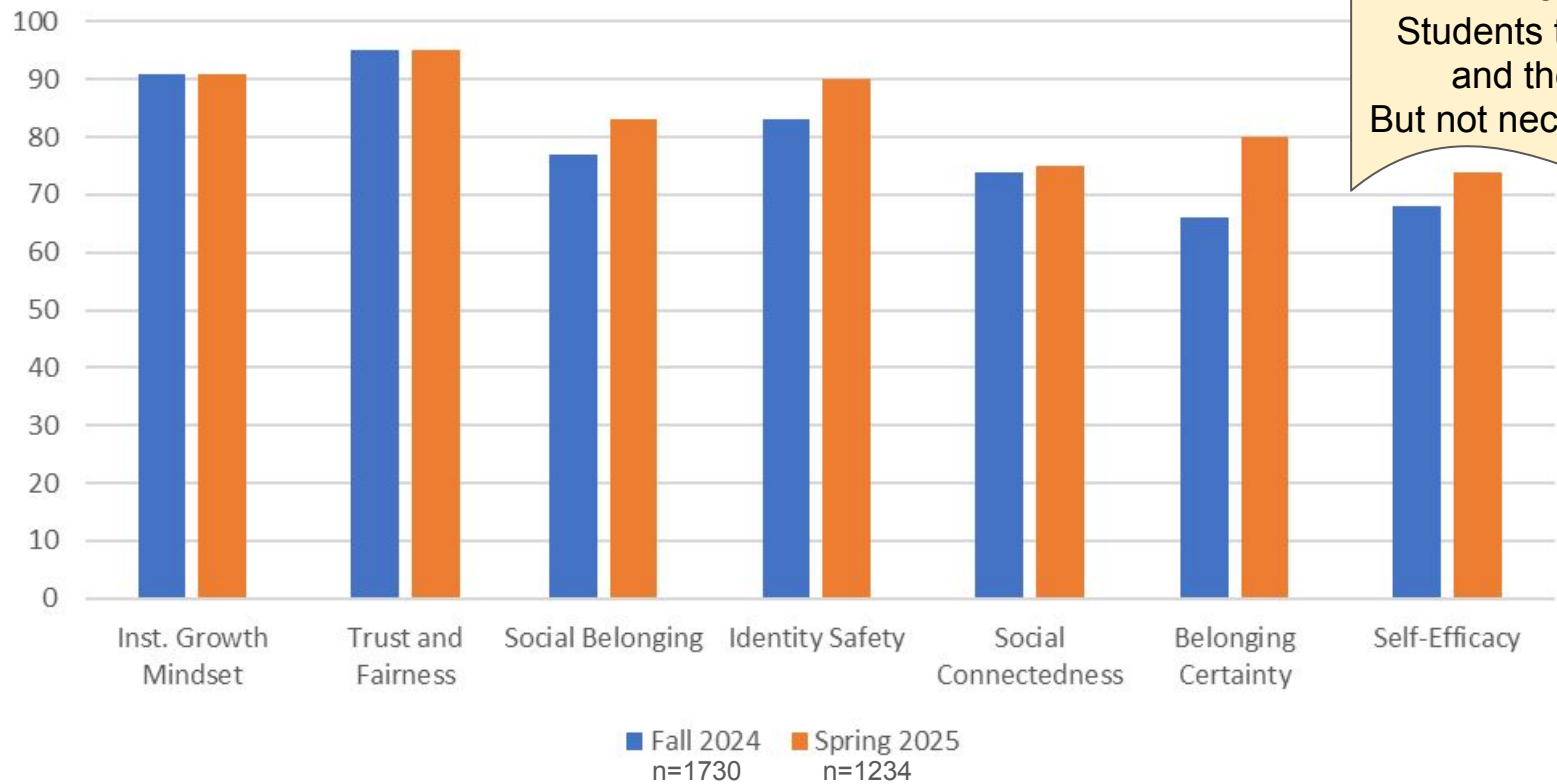
4 in 5

3 in 4

9 in 10



# Multi-Institutional CoP Data Fall 2024 and Spring 2025



Key takeaway  
Students trust the institution  
and their instructors -  
But not necessarily themselves



# Multi-Institutional CoP Data -

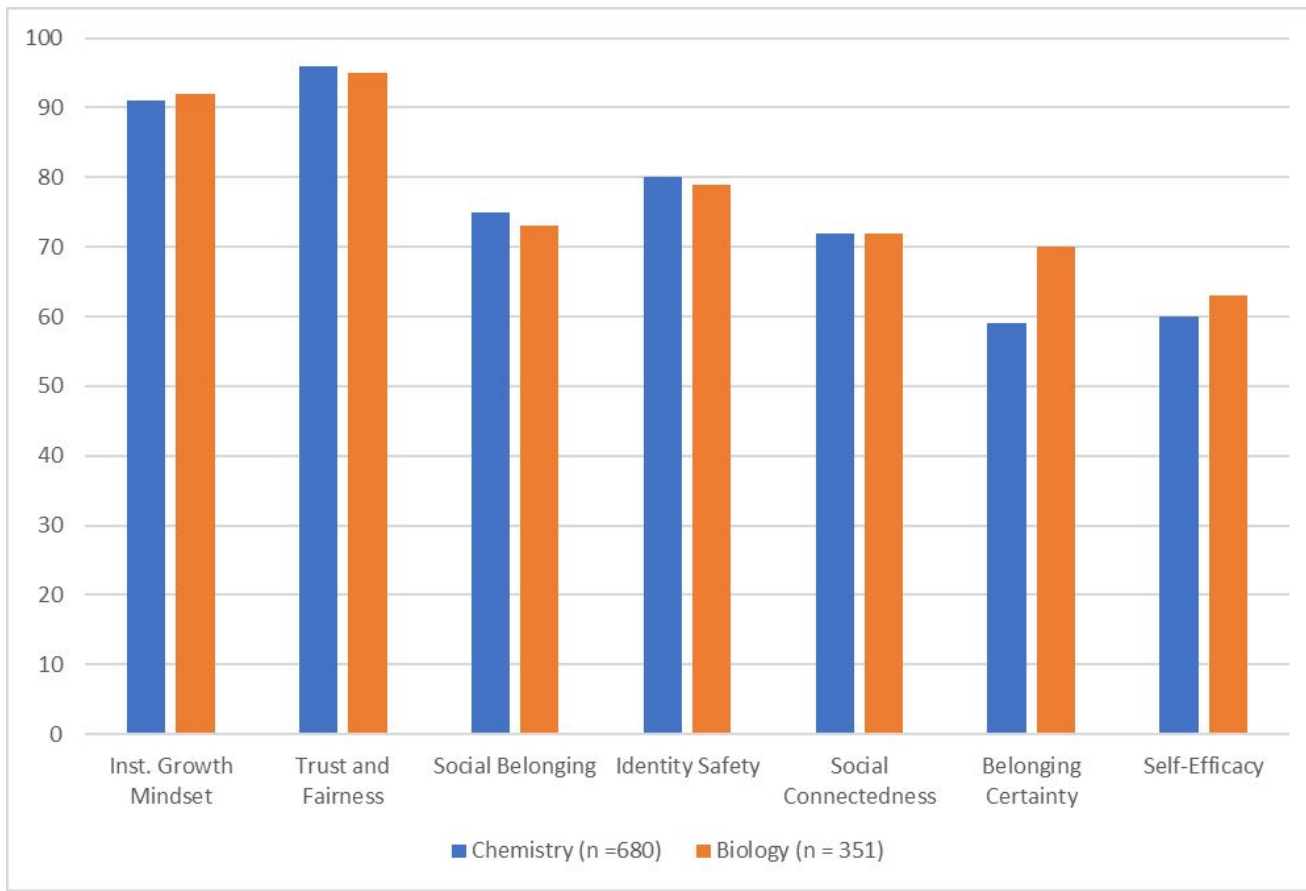
## MAST Goal

*By 2030, 100% of the students at our institutions will be empowered and supported in their academic, professional, and personal goals during and beyond their early undergraduate STEM experiences.*





# Multi-Institutional CoP Data Chemistry versus Biology Course Data Fall 2024



**Key takeaway**  
Aggregated course data across institutions allow for real-time discussion on potential low-lift classroom interventions

# Takeaways — I FEEL LIKE THIS CAN BE IN THE NARRATIVE OF THE FINAL “OVERVIEW SLIDE!!!

## Ascend:

- surveys student experience of a specific class and provides disaggregation
- links to ‘low lift’ resources to improve student experience
- provides a framework to connect with other instructors
- is a student experience intervention in itself
- is an effective tool to support instructor reflective practice

## Ascend communities of practice:

- support meaningful faculty interaction within and between institutions around teaching practices
- Make visible data trends across disciplines and institutions
- Amplify experiences of students belonging to minority demographic groups

# Ascend + CoP Overview

2



- Peer support
- Local themes
- Strategic Planning

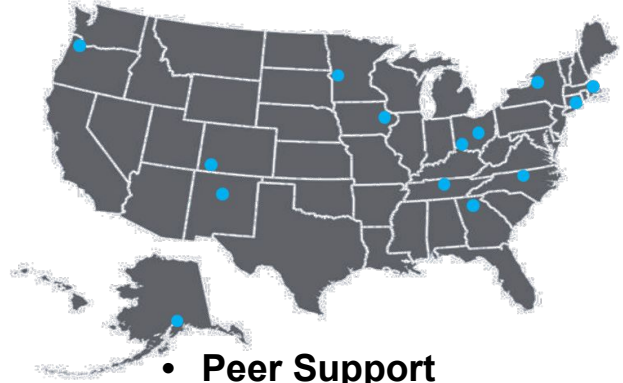
1



- Opt-in
- Use at all course levels
- Career-long Training

3

## The SCIENCE Collaborative

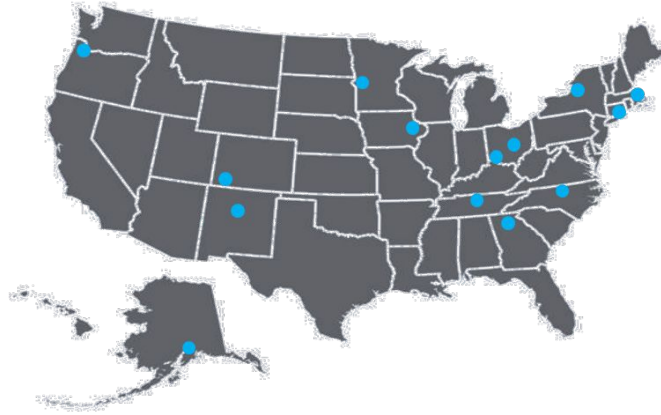


- Peer Support
- Common Language
- Discipline-specific info
- Cross-institutional themes
- Outcomes Assessment

4

**STEM Systems Change:**  
Effective Learning Environment

**Thanks to: The SCIENCE  
Collaborative and our “community of  
the willing”**



- **Elon University**
- **Fairfield University**
- **Fisk University**
- **Fort Lewis College**
- **Hamilton College**
- **Oglethorpe University**
- **Otterbein University**
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- **Simmons University**
- **University of Alaska Anchorage**
- **University of Iowa**
- **University of Minnesota Morris**
- **University of New Mexico**
- **Xavier University**

*This work was initially funded by HHMI IE3 - special thanks to D. Asai*

**Let's Continue  
the  
Conversation:**

**POSTERS on 6/10**



**#P45a @ 5:15**

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**#P44b @ 6:15**

**The SCIENCE Collaborative:  
Collectively Increasing Institutional  
Capacity for STEM Undergraduate  
Education Reform**

Kathryn Johnson et al.



# A Grassroots Approach



# Warming the Space- Impacts of ASCEND?

Freshman

Sophomore

Junior

Senior

Biology

Communi-  
cation

Physics

Nutrition

Social  
Science



Another  
Cool Class?

Mathematics

Chemistry

Engineering

Computer  
Science

Astronomy