SUPPORTING ACTIVE LEARNING IN GATEWAY COURSES THROUGH MULTIGENERATIONAL TEAMS (DUE-1821589)

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- Welcome, Introductions

- Project background

- How Math and Physics use of teams to embed active learning in introductory courses

- Individual Brainstorming on how to use teams to help embed active learning in courses

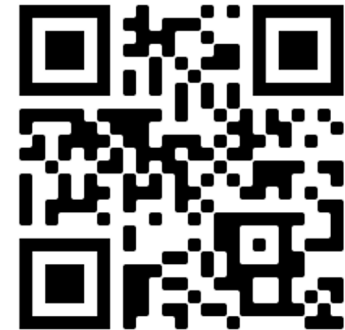- Group Discussion including supports needed to build teams

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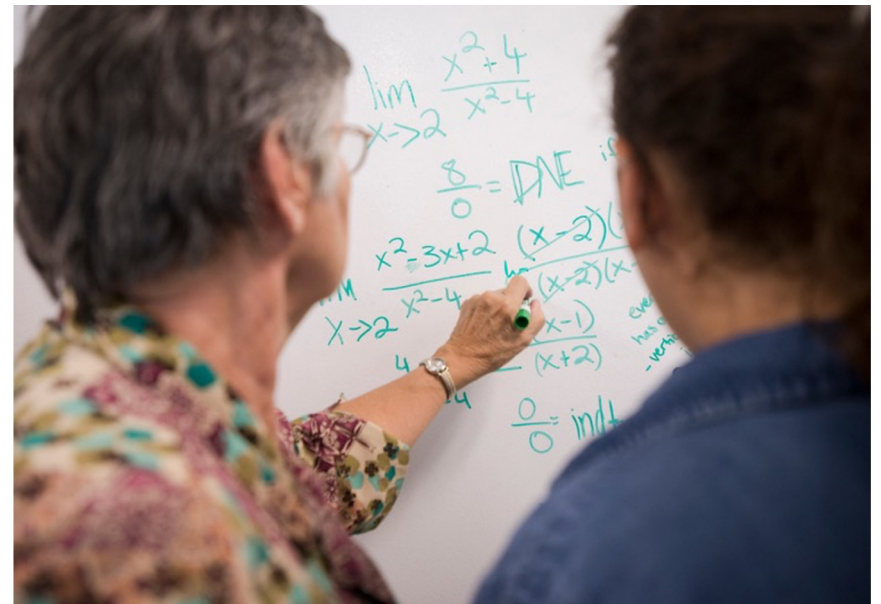
How can active learning help you and your students?

Do you have teams working in your course? If so, what roles do they play?

https://poll.fm/10924035

NSF IUSE: BUILDING A CULTURE OF ACTIVE LEARNING THROUGH COURSE-BASED COMMUNITIES OF TRANSFORMATION

RESEARCH TEAM

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Electrical & Computer Engineering

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Higher Education Program

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Physics & Astronomy

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Mathematical Sciences

Mark Snyder, Associate Professor
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Student, Physics Education Research

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Physics Education Research

Melinda Ryan, Project Manager

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PROJECT GOALS

- Use **multi-generational teams** to **spread the culture** of **active learning within the STEM faculty** and facilitate **broad adoption**.

- Develop an understanding of how a **faculty-driven grassroots approach**, combined with **institutional support**, can **build a culture of active learning**.

- **Study strategies to remove barriers** for faculty implementing new evidence-based teaching methods.

- **Prepare the next generation of STEM educators** by **involving graduate and undergraduate students** in the implementation of active learning in the classroom.

Project Logic Model
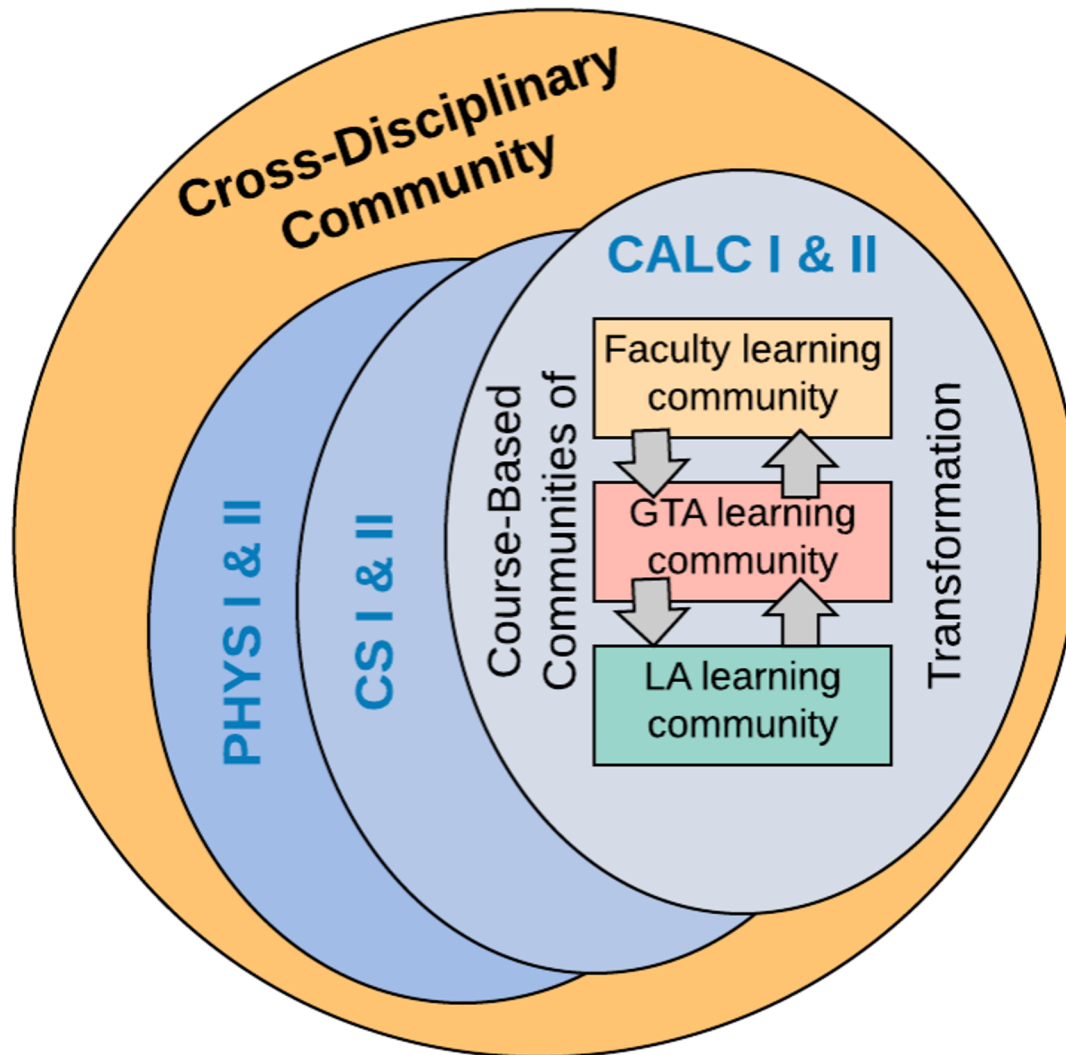
Coming Soon:

A monthly series of discussions about supporting active learning in STEM college teaching.

Friday 11:30 am – 12:30 pm

RESEARCH QUESTIONS

- How do the tactics outlined in the **grassroots change theory** help to **create sustainable course-level and department-level changes** toward the use of inquiry-based learning?

- To what extent do **graduate apprentice instructors** and **undergraduate learning assistants assist in diffusing course-level change** to the department or college level?

- How do **grassroots tactics, implemented through communities of transformation**, interact to **diffuse course-, department-, and institution-level change**, and to **influence organizational learning**?

Visualizing Innovation Diffusion and Organizational Change

The change model combines a bottom-up, or grassroots, approach via individual faculty operating within STEM programs with top-down (university administrative) support.
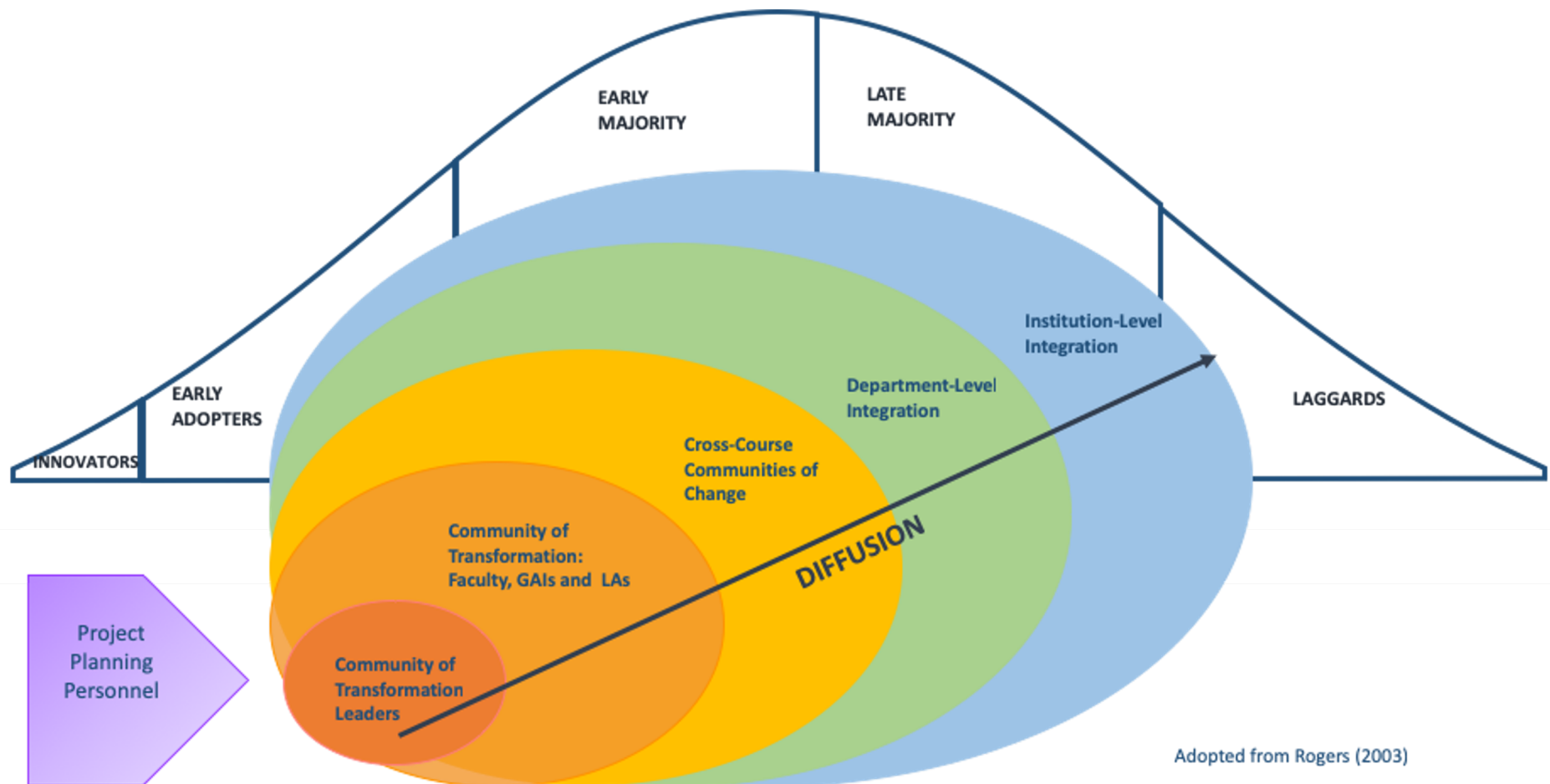
Adopted from Rogers (2003)

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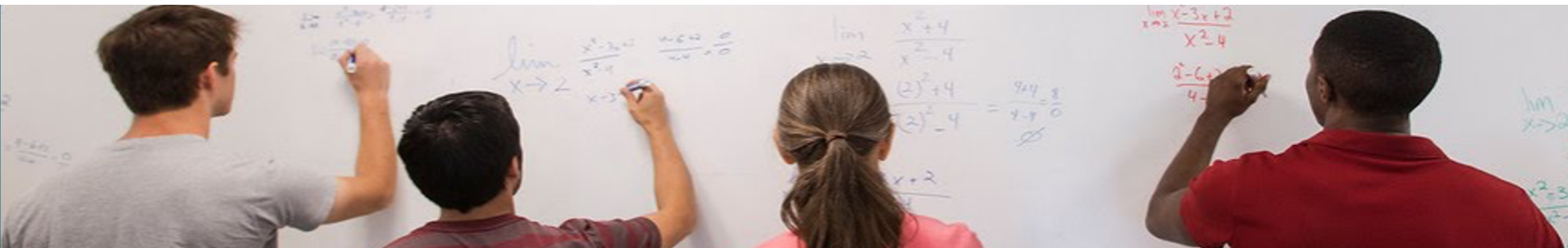
Individual Reflection on Your Courses

- Identify a course or course sequence in your discipline and think about the following:

  - Are multiple instructors involved with the course during a given semester?

  - Are multiple instructors involved with the course from semester to semester? (will be important for sustainability)

  - Are GTAs involved with the course?

    - What are their roles?

    - If there are no GTAs involved with the course, would it be desirable to have them involved?

  - Are undergraduate learning or teaching assistants involved with the course?

    - What are their roles?

    - If there are no LAs or UTAs involved with the course, would it be desirable to have them involved?

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Math CCT Leader: Robert Sachs

Physics CCT Leader: Jessica Rosenberg
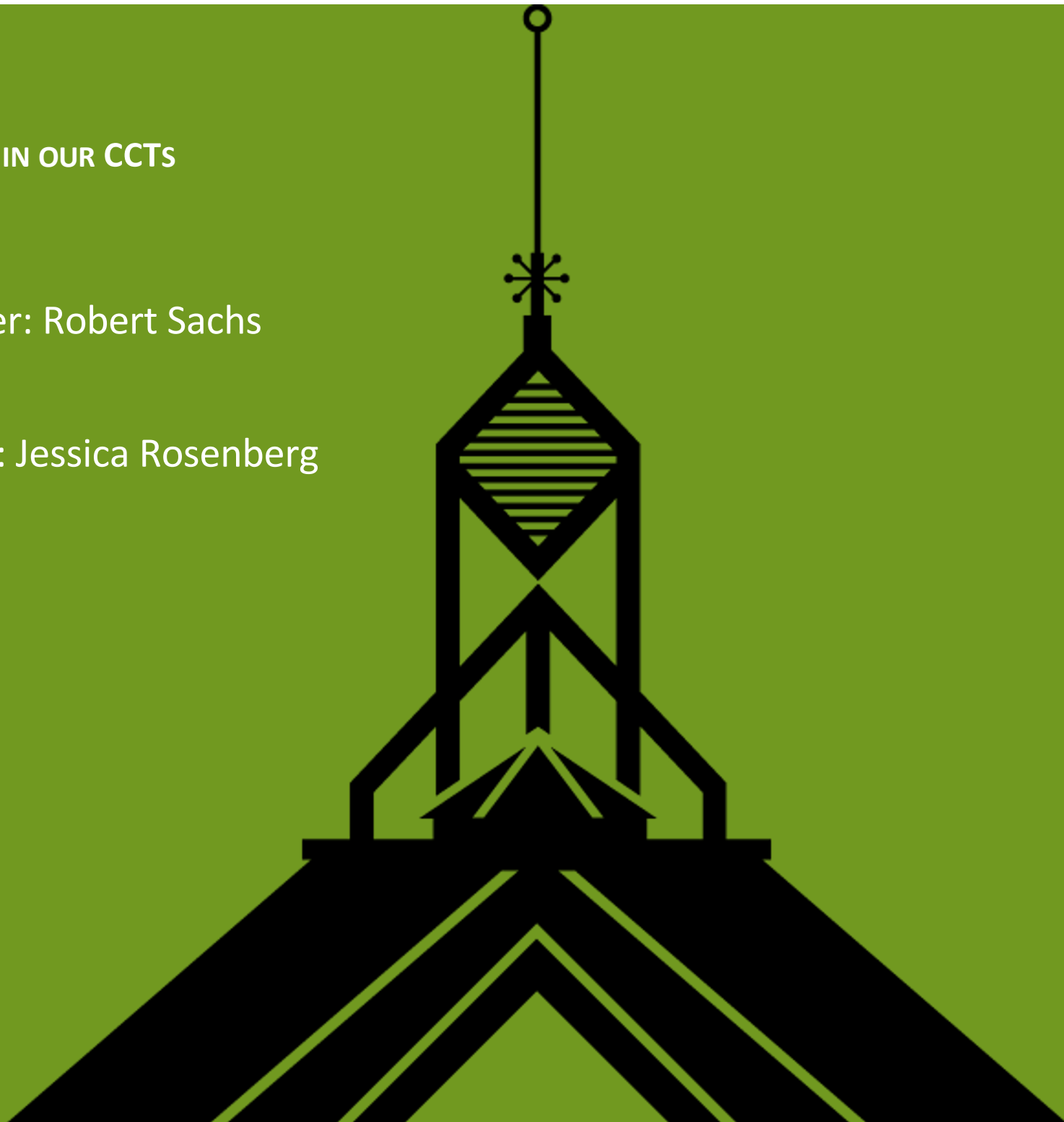
Brainstorm and Breakouts

Individually: Think about how you want to support active learning and the use of teams to institutionalize active learning in the classroom

- Is active learning being used in your class?

  If so, what kinds of activities and are you thinking of expanding on this effort?

  If not, what kinds of activities would you like to see added?

- Do faculty, GTAs, and/or UTA/LAs work together on this course?

  If so, are they working together to promote and use active learning?

  If not, are there ways that they could work together?

- What challenges and opportunities exist for building teams?

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Now in groups

- Be Bold, Concrete, and Imaginative

Share and review active learning being used in your courses.

- Can you identify ways to expand the use of active learning?
- How will you build teams to expand and sustain active learning in your courses?

Discuss the types of teams currently involved in your courses.

- Can you share how they are interacting with each other?

Discuss challenges and opportunities for building teams.

- What is needed for success and sustained change?
- What institutional support do you need for building course-based teams?

Debrief

QUESTIONS

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