WELCOME!

FIG-MLA Program Information Session

Faculty course modification incentive grant and Maine Learning Assistant Program

1865 THE UNIVERSITY OF MAINE

RISE Maine Center for Research in STEM Education
Science, Technology, Engineering, & Mathematics

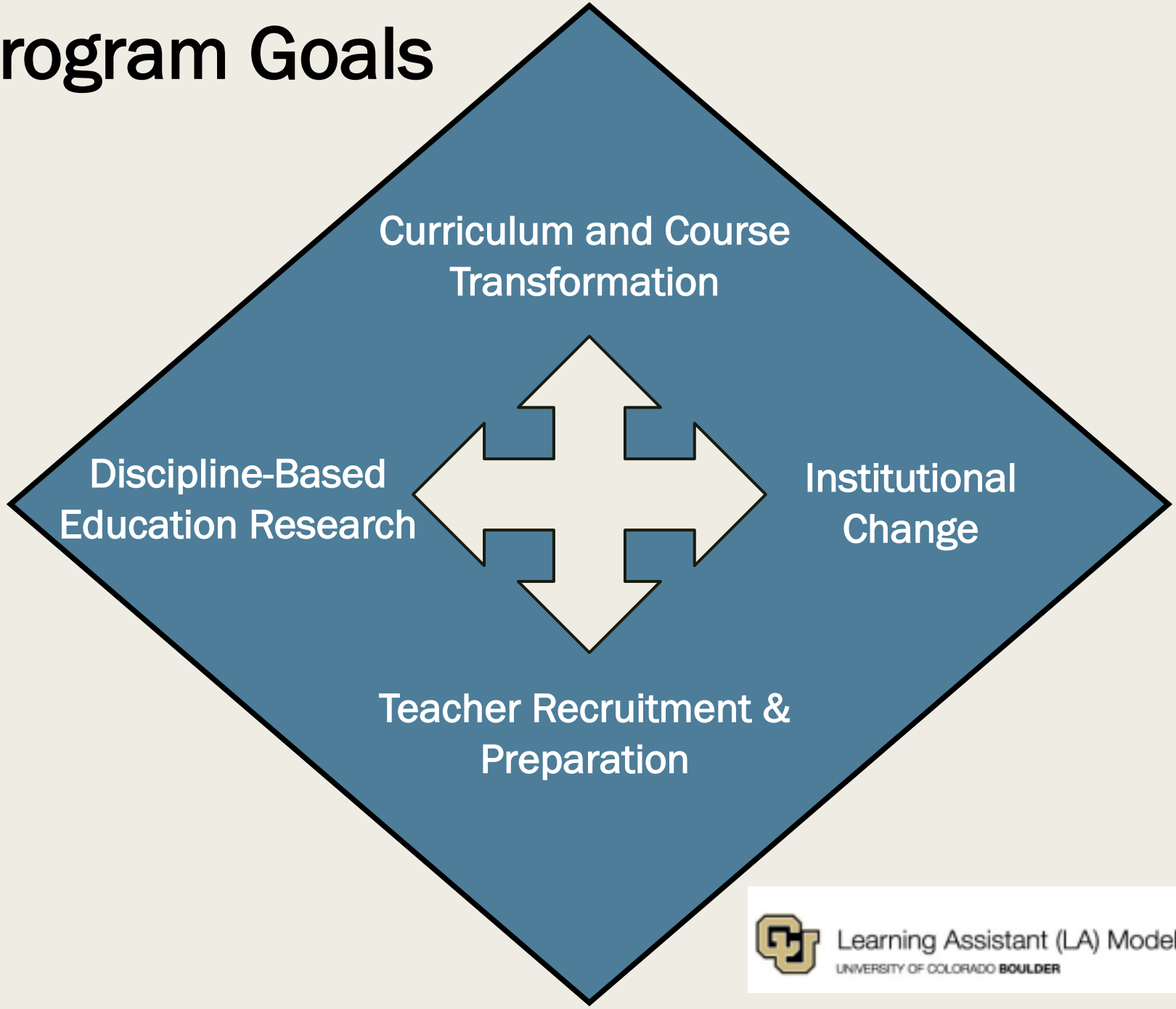
Learning Assistant Program Overview

Learning Assistant (LA) Model

UNIVERSITY OF COLORADO **BOULDER**

Learningassistantalliance.org

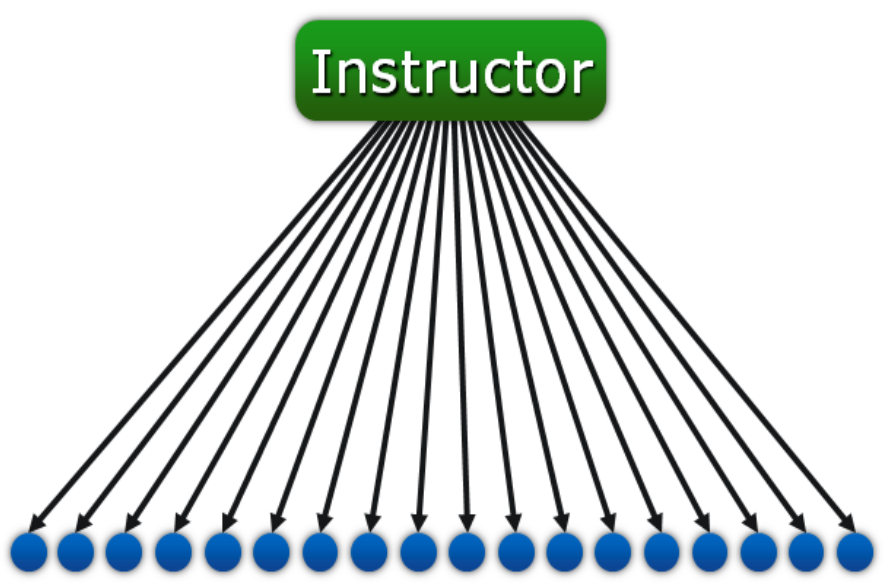
Program Goals



Learning Assistant (LA) Model
UNIVERSITY OF COLORADO BOULDER

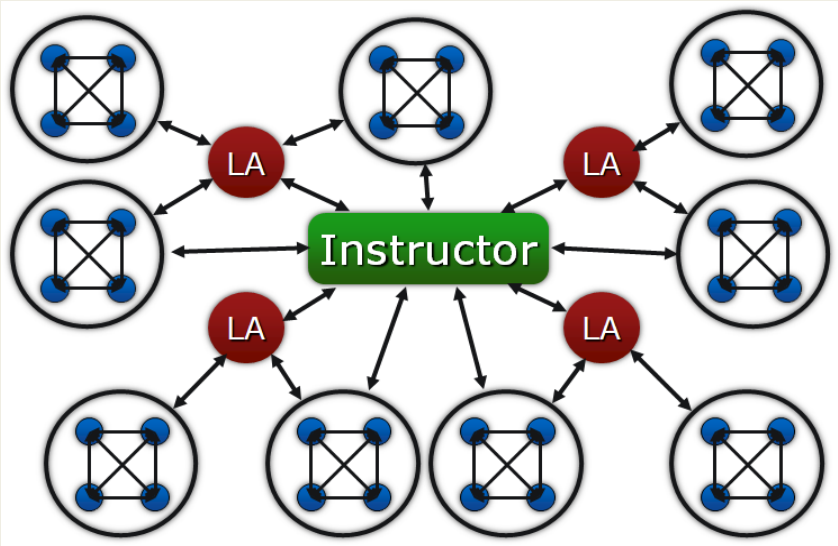
How are courses “transformed?”

Traditional



Students

Transformed



Learning Assistant (LA) Model
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Why Transform Courses?

Meta-Analysis
225 Studies Comparing
Learning in Traditional Lecturing vs.
Active Learning in Science and Math Classes

Traditional Lecture

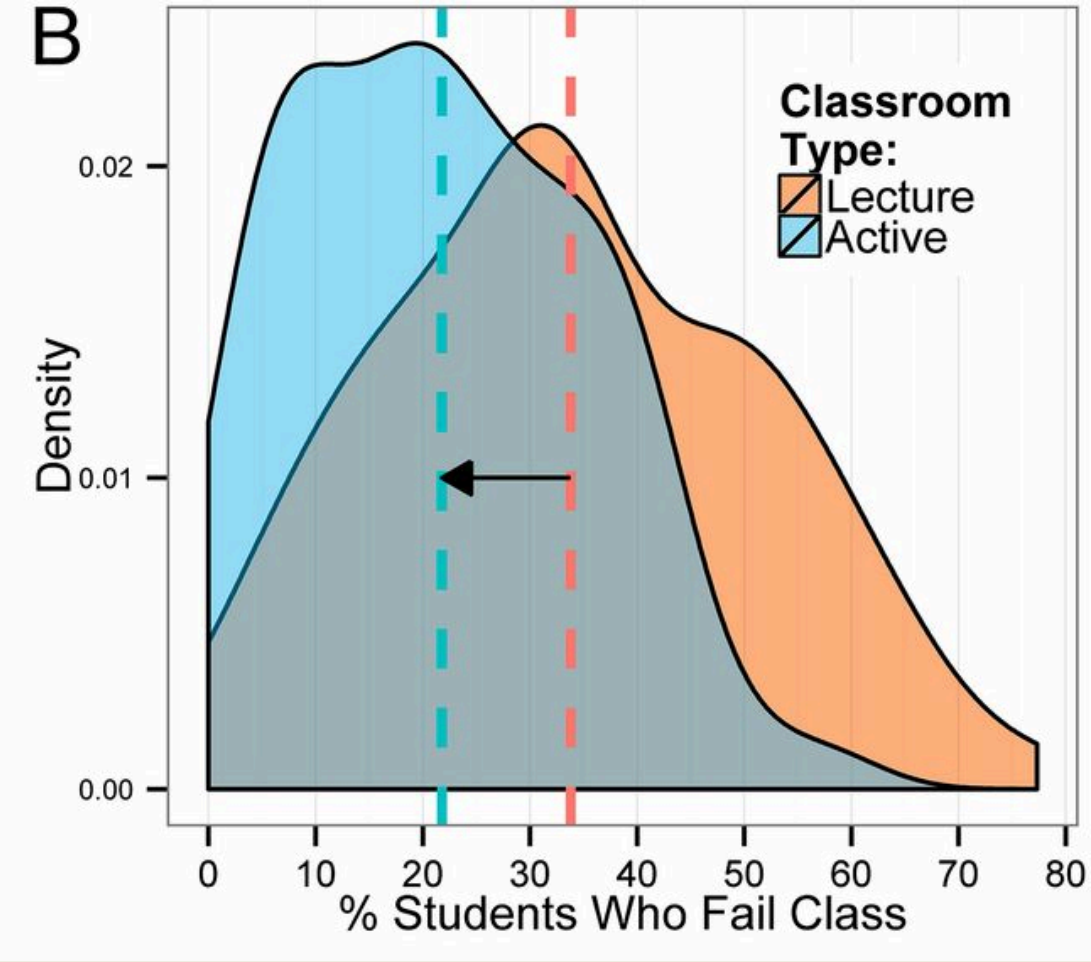
vs.

Active Learning
Ex: Clicker Questions

Common Assessment and Failure Rate

Freeman S, Eddy S, McDonough M, Smith MK, Okoroafor N, Jordt H, Wenderoth MP (2014). Active learning increases student performance in science, engineering, and mathematics. Proc Natl Acad Sci USA 111, 8410–8415.

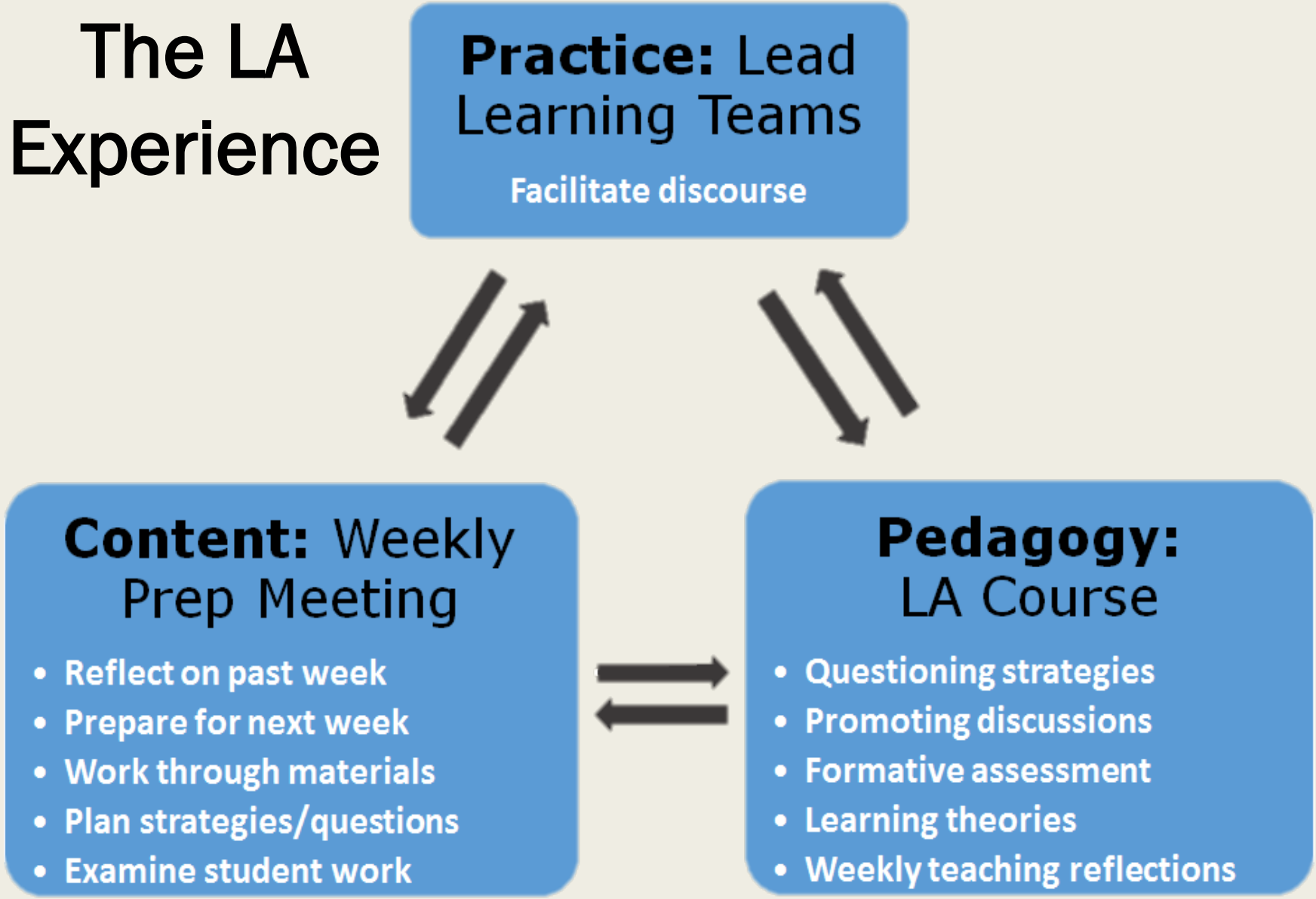
Results of Meta-Analysis



Failure rates under active learning and under lecturing. The mean failure rates under each classroom type (21.8% and 33.8%) are shown by dashed vertical lines.

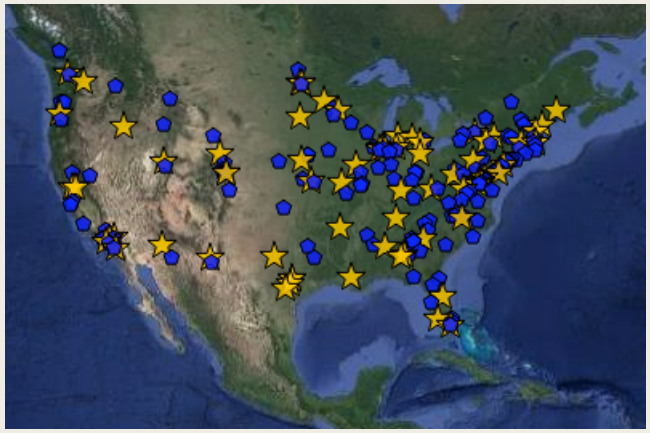
Scott Freeman et al. PNAS 2014;111:8410-8415

The LA Experience



Learning Assistant (LA) Model
UNIVERSITY OF COLORADO **BOULDER**

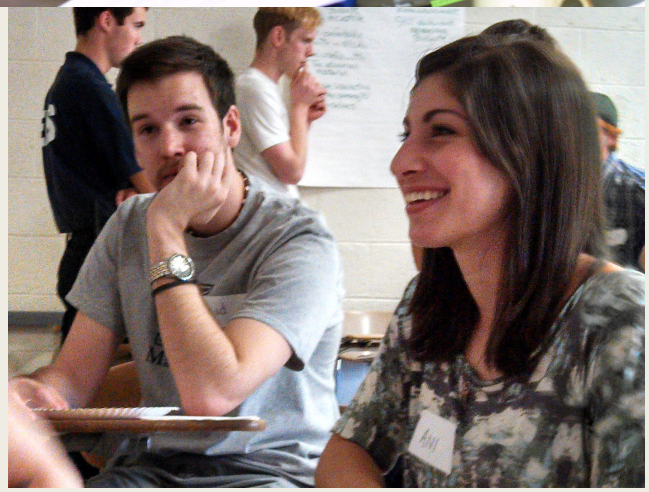
UMaine FIG-MLA Program



- Designed to
  - enhance instruction in undergraduate STEM courses
  - promote interactive engagement and student-centered instruction through peer facilitation
  - raise interest in careers in teaching

* Otero et al. (2010). A physics department's role in preparing physics teachers: The Colorado learning assistant model, Am. J. Phys., 78 (11).

Maine Learning Assistants



- Undergraduate students who
  - excelled in the course
  - express interest in exploring careers in teaching

  Many MLAs have continued on to the Master of Science in Teaching (MST) program at the University of Maine
- Maine Learning Assistants (MLAs) participate in weekly prep meetings with FIG instructor, weekly MLA seminar, and in-class facilitation
- MLAs do not grade or meet one-on-one with students

Faculty Course Modification Incentive Grants

- Faculty propose course modifications intended to:
  - Add or enhance student-centered learning opportunities
  - Incorporate effective use of MLAs
  - Improve course rigor and student retention
- Faculty develop an evaluation plan to guide evidence-based course improvements
  - Data collection may include pre/post content and attitude surveys, exams, quizzes, in-class activities, and more.

Since the FIG-MLA program began in 2012…

34 instructors involved,

29 courses modified in 12 departments, and

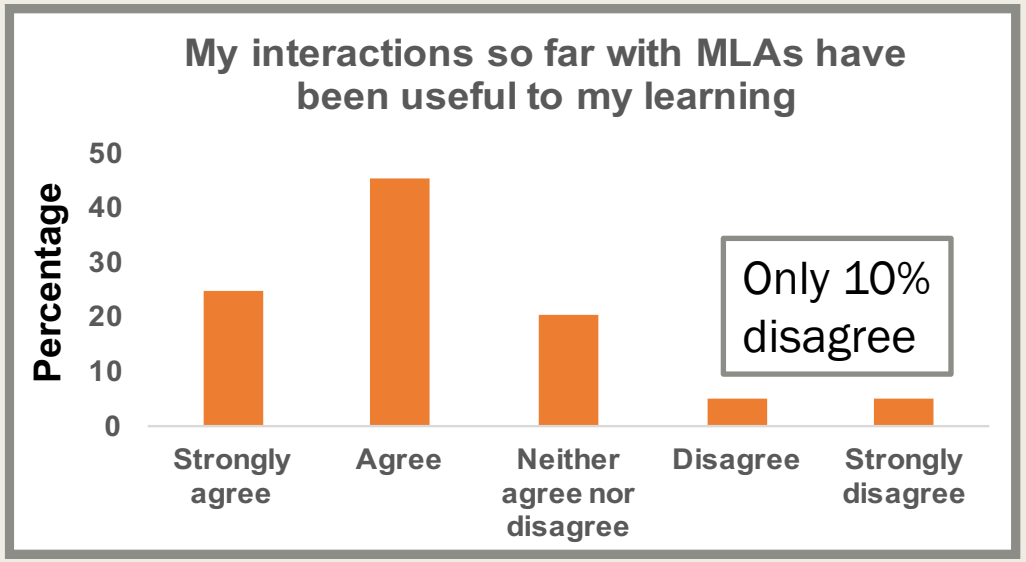
236 undergraduates have been MLAs!

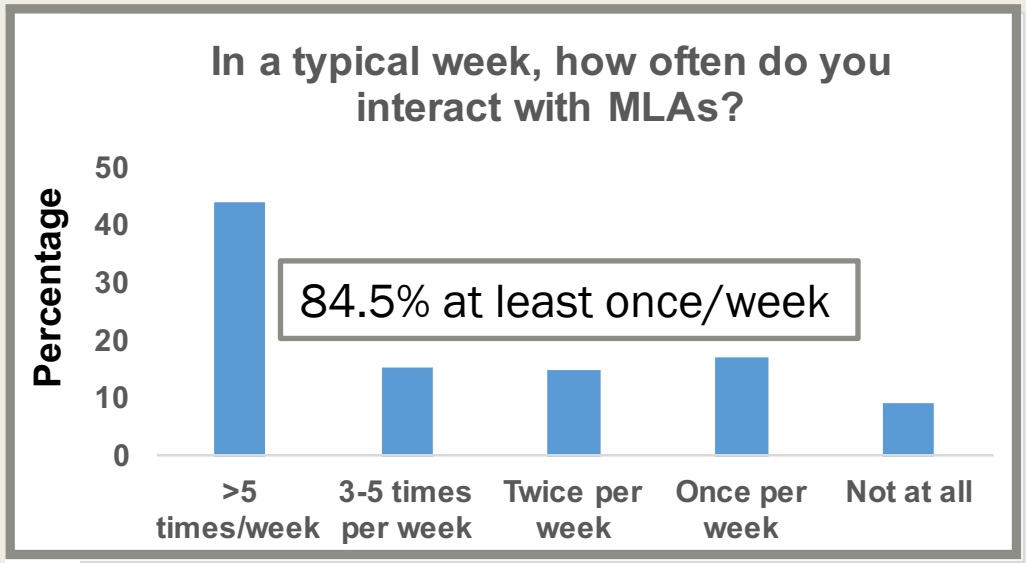
Biology * Chemical Engineering * Chemistry * Computer Science
Earth Sciences * Ecology and Environmental Science * Food Science
Electrical Engineering * Mathematics * Marine Science * Physics
Molecular & Biomedical Sciences

*Impacting over **5,000** students this academic year alone!*

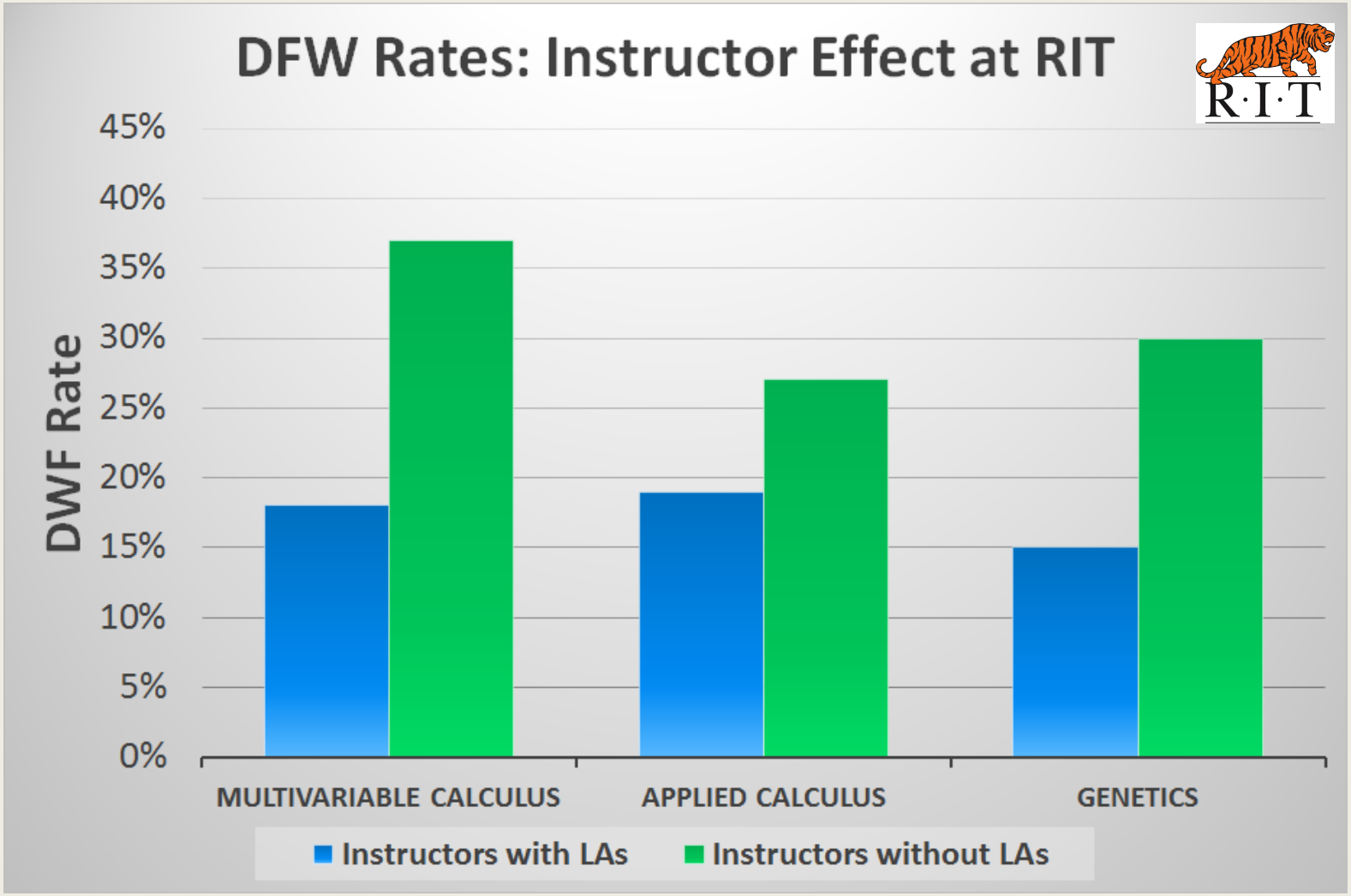
Impact of FIG-MLA Program on Students

- Data collected via student surveys and institutional data for all FIG-MLA courses
- Fall 2016, 15 courses, 577 responses
- DFW rates are currently being analyzed for 5 years of FIG-MLA data





Impact of FIG-MLA Program on Students Research at the RiSE Center



Benefits to Instructors

- Involved in a community of STEM instructors interested in STEM teaching and learning
- Use of Maine Learning Assistants to assist with and provide feedback on course modifications
- Assistance using data to inform: course improvements, assessments, in-class activities, and student misconceptions
- 20 hours of Master of Science in Teaching (MST) graduate student time to help with data analysis
- Summer stipend of $2500 for Year 1 and for Year 2
- Improve student learning and retention!

FIG-MLA Cost Schedule

- RiSE Center/UMaine covers:

  Year 1 & 2: 100% of the costs of MLA tuition*, MLA stipends**, and faculty stipends

  Year 3 & 4: 50% of MLA tuition and stipends

  Year 5+: 25% of MLA tuition and stipends

- Speak with your department about this cost schedule before you submit a proposal. The goal is for long-term sustainability of FIG-MLA courses.

*Tuition ranges from $279-908
**Current MLA stipend is $1008