



Learning Fellows: Agents of Change

Erin DeSilva

Adrienne Gauthier

Cindy Tobery

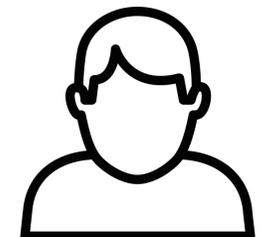
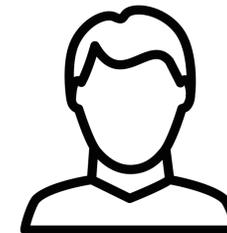
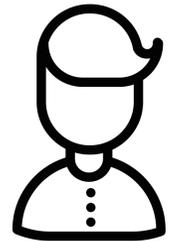
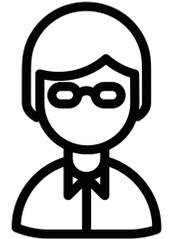
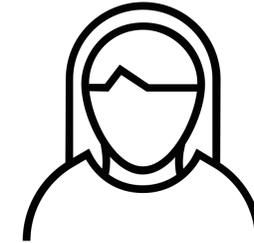
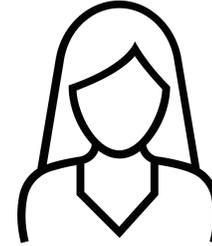
Kes Schroer

2 June 2017



Who are Learning Fellows?

- Learning assistants: undergraduate, in-class peer mentors
- Facilitate group problem-solving sessions & group discussions
- Lead demonstrations, discussions, case studies, and simulations
- Provide academic support during class
- Meet with faculty once/week to give feedback and prepare for next week's class



Establishing the Range of Learning Fellows on Campus

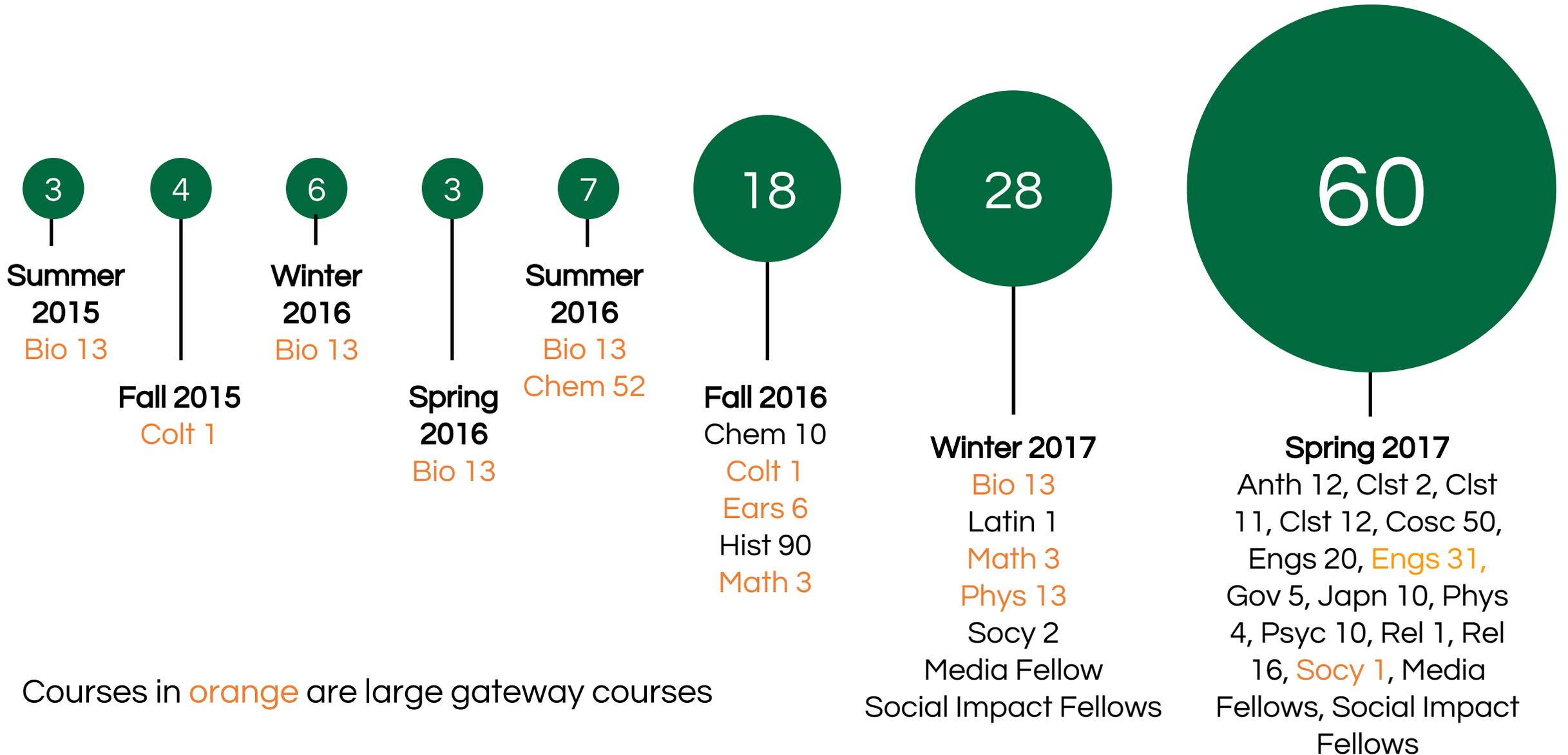
Modeled after University of Colorado Boulder

UC Boulder	Dartmouth
Research university, 32000 students	Small liberal arts college, 6350 students
Exclusively STEM or STEM education	Evenly distributed in all divisions – Arts & Humanities, Social Sciences, and STEM
+50 courses/year	40 courses over two years
Separate teaching huddles for faculty & Fellows and a pedagogical course for Fellows.	Fellows & faculty have “mini” pedagogical activities in every teaching huddle. There is no pedagogy course.
Semester system	Quarter system

Dartmouth “primed” for Fellows program

- Many flipped classes
- Active-learning regularly happening on campus
- Faculty & instructional designers accustomed to working together
- TA training program & Future Faculty series
- Undergraduate & graduate students serving various roles in classrooms

Number of Learning Fellows by term



Learning Fellows by the numbers, 2015-2017

49

faculty
partners

24

departments &
academic
programs

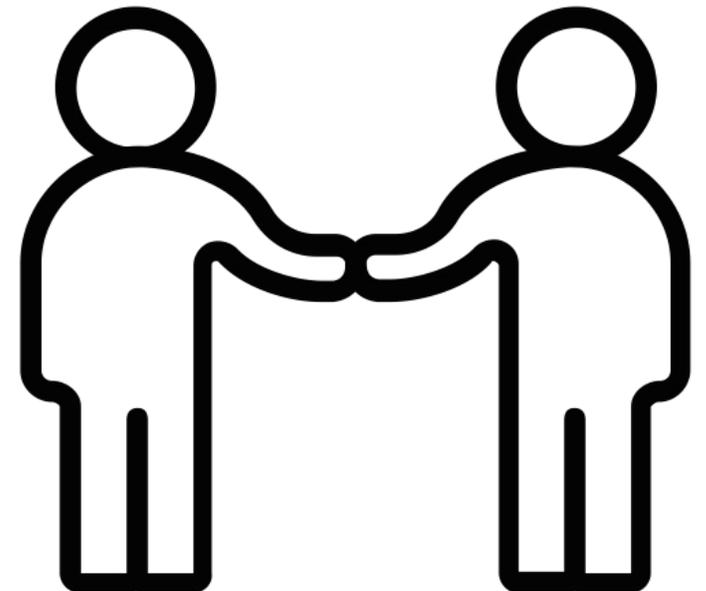
129

Learning
Fellows

More than **2,300** Dartmouth students impacted

Other institutional partners

- Academic Skills Center
- Center for Service
- Dartmouth Undergraduate Veterans Association
- Institute of Writing and Rhetoric
- Jones Media Center
- Office of Pluralism and Leadership
- School of Graduate and Advanced Studies
- Society of Black Engineers
- Student Accessibility Services
- Thayer School of Engineering
- Teaching Science Fellows
- Tutor Clearinghouse



Staff mentors, 2016-2017



Erin DeSilva
EdTech

Chem 10, Chem 52, Cosc
50, Ears 6, Math 3, Phys 4



Ashley Doolittle
Center for Service

Social Impact Fellows



Adrienne
Gauthier
EdTech

Bio 13, Math 3, Phys

13, Psyc 10



Scott Millspaugh
EdTech

Colt 1, Clst 2, Clst 12,
Japn 10



Adam Nemeroff
EdTech

Gov 5, Hist 90, Socy 1



Colleen Goodhue
Media
Production

Media Fellows



Mike Goudzwaard
EdTech

Rel 1, Rel 16



Kes Schroer
EdTech/DCAL

***Program manager**
Clst 11, Ears 6, Engs 20, Engs
31, Latin 1, Math 3, Socy 2



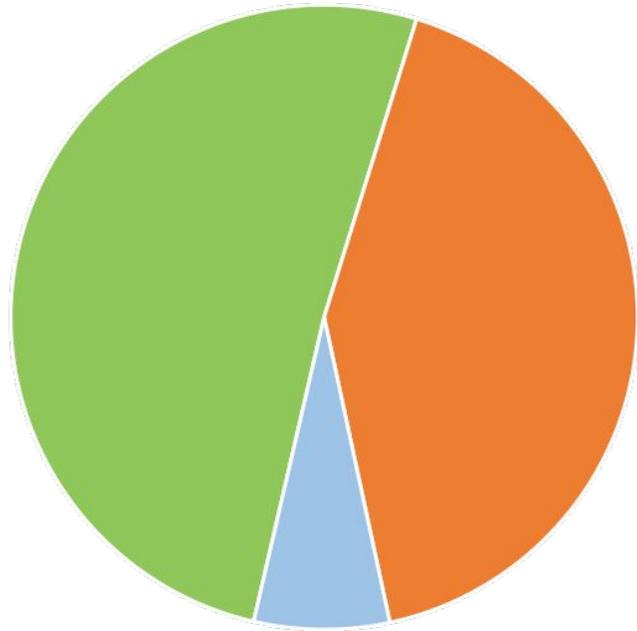
Cindy Tobery
DCAL

Bio 13, Chem 52,
Cosc 50, Engs 20

Increasing institutional, faculty, and
student buy-in

Dartmouth Learning Fellows is a joint venture

Funding for Fellows



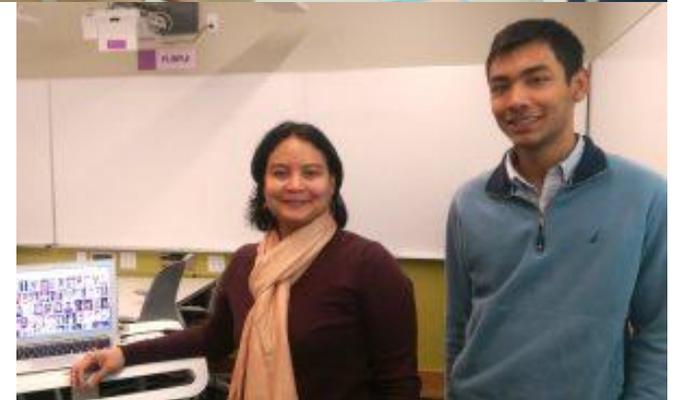
- President's discretionary fund
- Private donor, gateway courses
- Departmental

Administration & Management



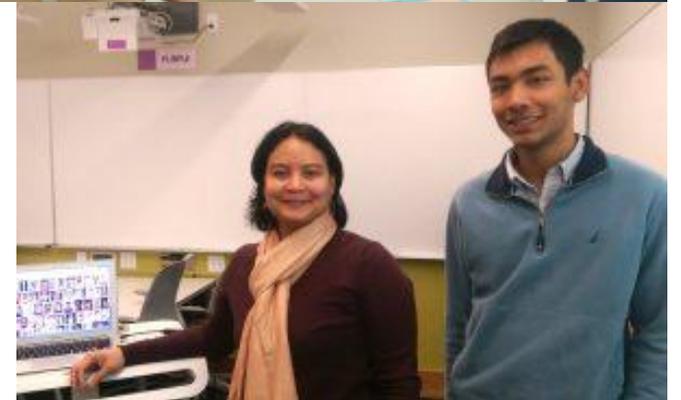
Learning Fellows enjoy the job because...

- They can give back to their community.
- They learn material better the second time around, when there is no grade associated with it.
- It's fun.
- They learn what professors do on the job.
- They learn about their own learning.
- They want to make learning more accessible.
- They form relationships with professors.
- They see "a-ha moments" in students.
- It's a chance to design classroom activities.
- It's professional experience.
- They are thinking about going to grad school.
- Students need peer mentors to adjust to college.
- It's a chance to inform the culture of teaching at Dartmouth.
- They "bridge" conversations between professors and students.
- They can make hard topics more fun.



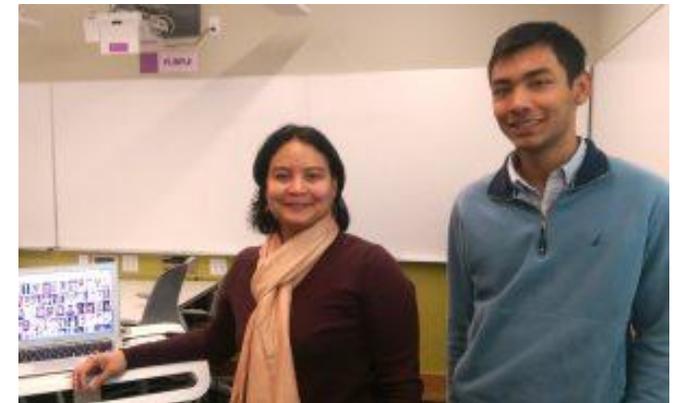
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Faculty reflections

“Learning Fellows have a different way of interacting. I think they’re the best change we’ve implemented in the course.”

“We just couldn’t do these courses without Learning Fellows.”

Developing a student-centered learning community

Trends for better academic performance

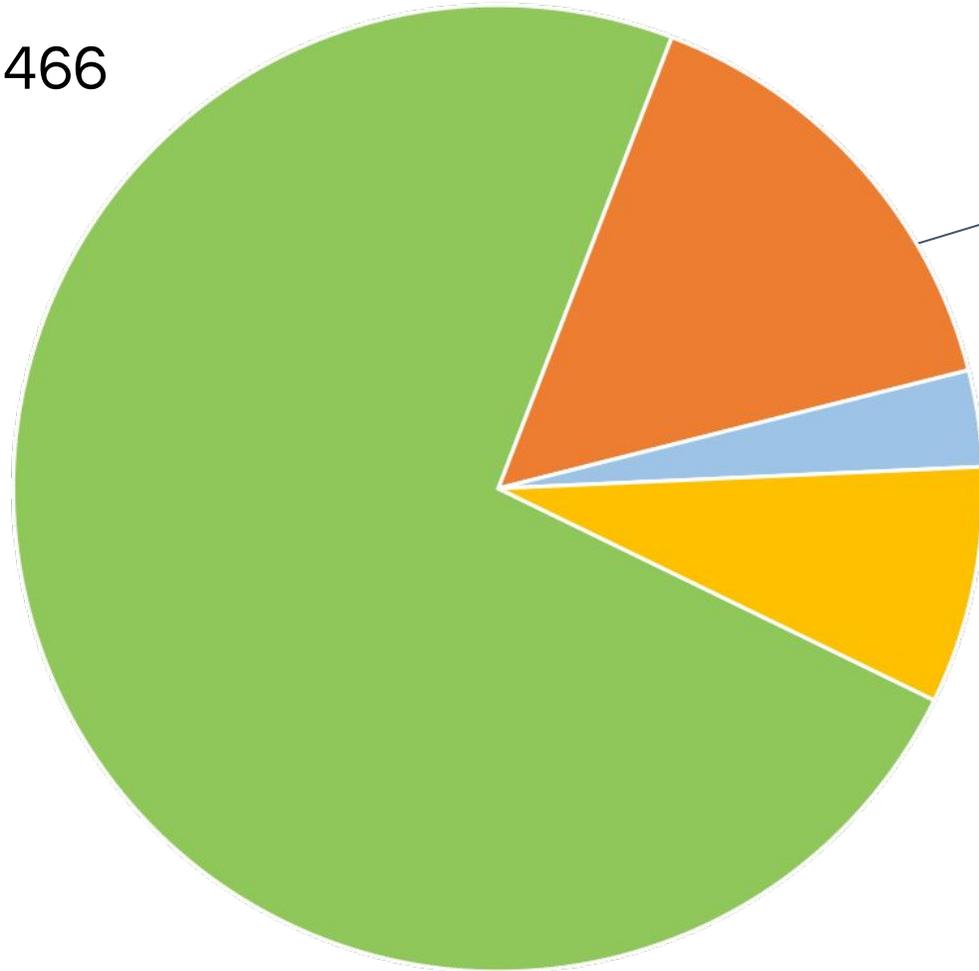
- UC Boulder found that student grades improved in physics and chemistry courses that employed learning assistants (Pollock 2009, Landon & Cech 2013).
- The Rochester Institute of Technology and Boston University have both found lower DFW (drop/fail/withdraw) rates in courses with learning assistants (unpublished data).

Academic performance at Dartmouth

- Outcomes, so far, are the same for courses with/without learning assistants.
- In mathematics, students perform better in higher-level classes after having a course with a learning assistant (data forthcoming).

Student responses to Learning Fellows

N=466



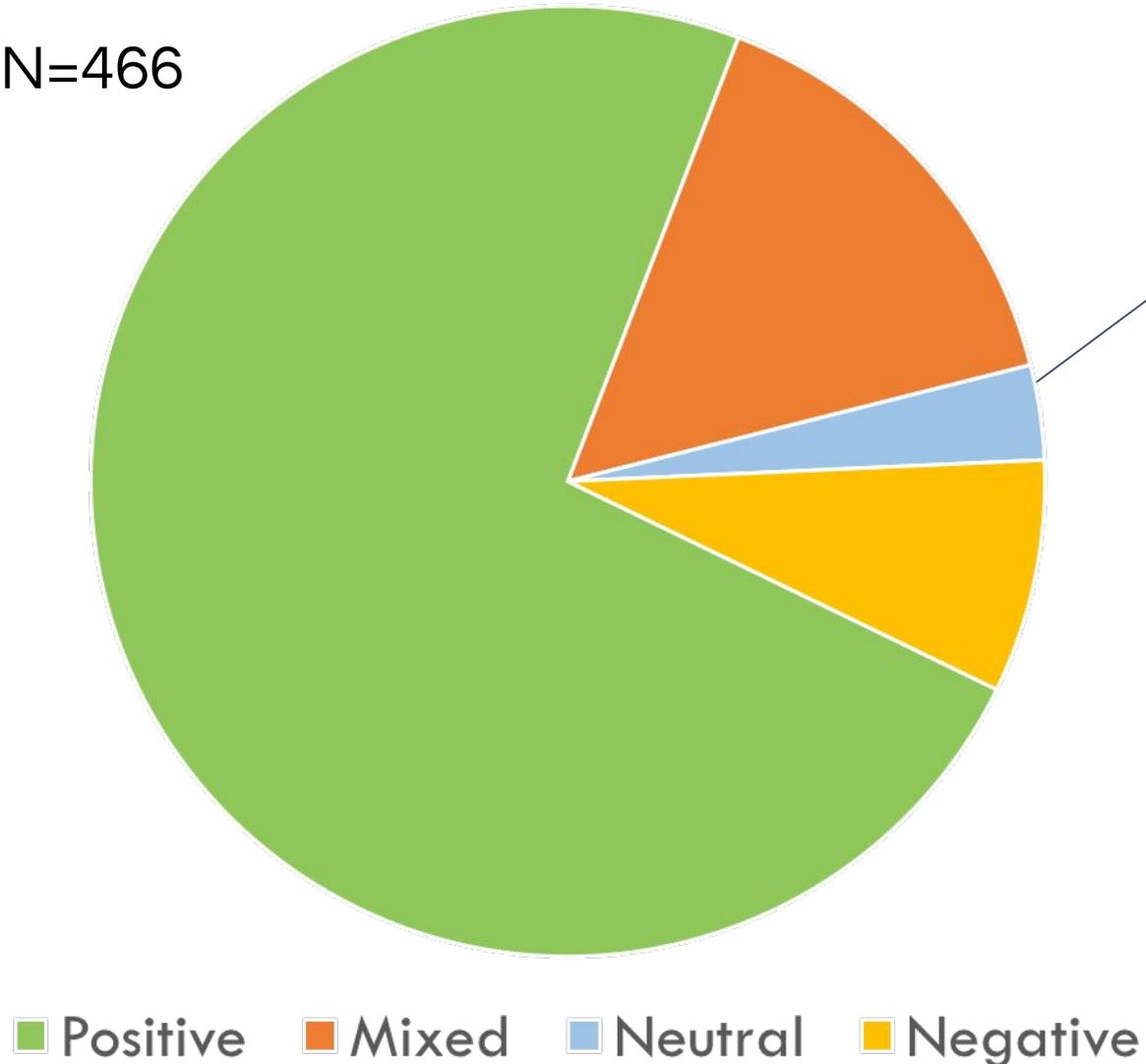
Example of mixed responses:

"The Learning fellows, they are very helpful, but please don't try and control the groups and their progress. There must be a struggle in order to efficiently learn, so let us struggle a bit and try not to micromanage what is going on in the group."

■ Positive ■ Mixed ■ Neutral ■ Negative

Student responses to Learning Fellows

N=466



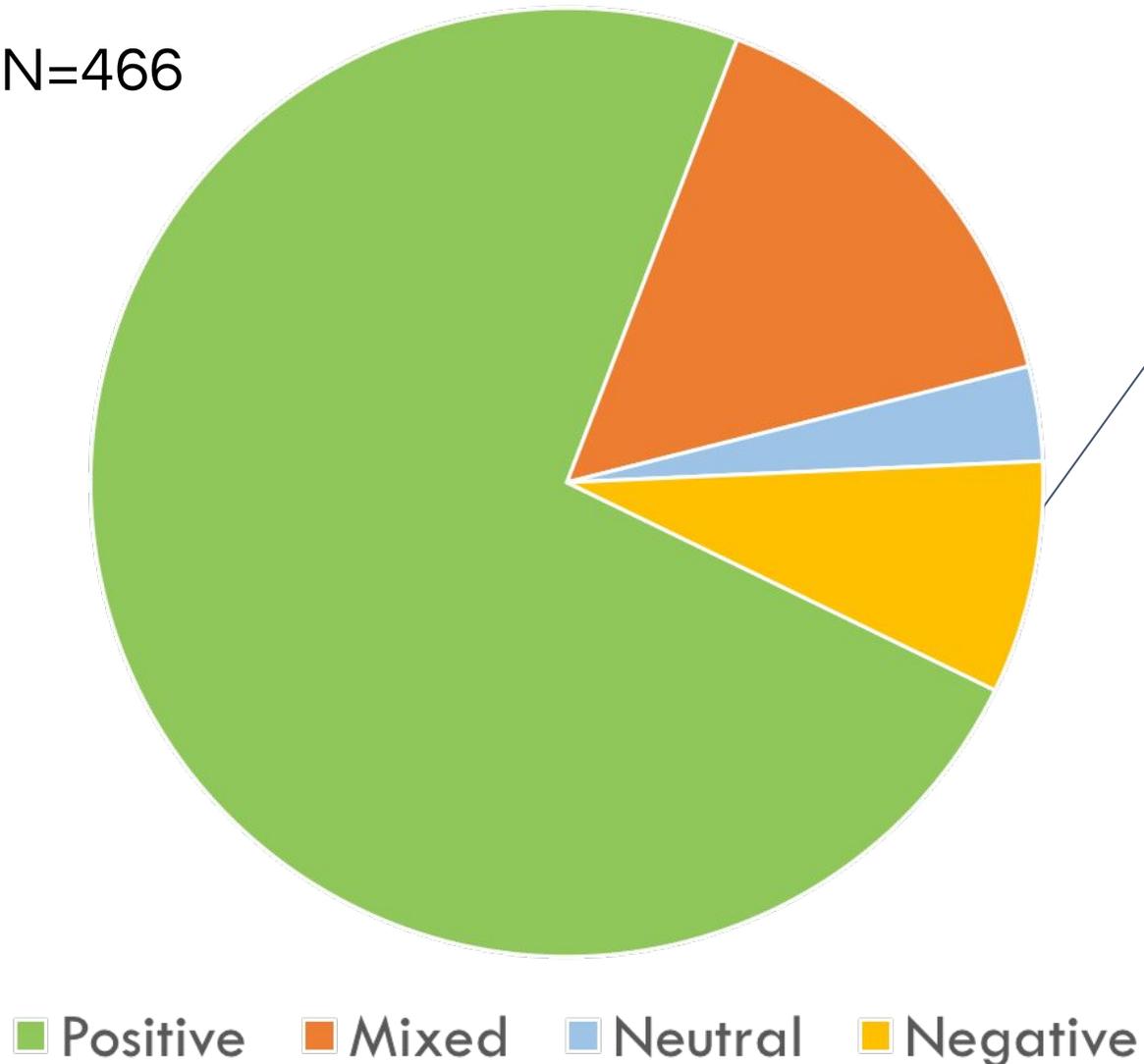
Example of neutral responses:

"I don't speak to them that much."

"I am indifferent."

Student responses to Learning Fellows

N=466



Example of negative responses:

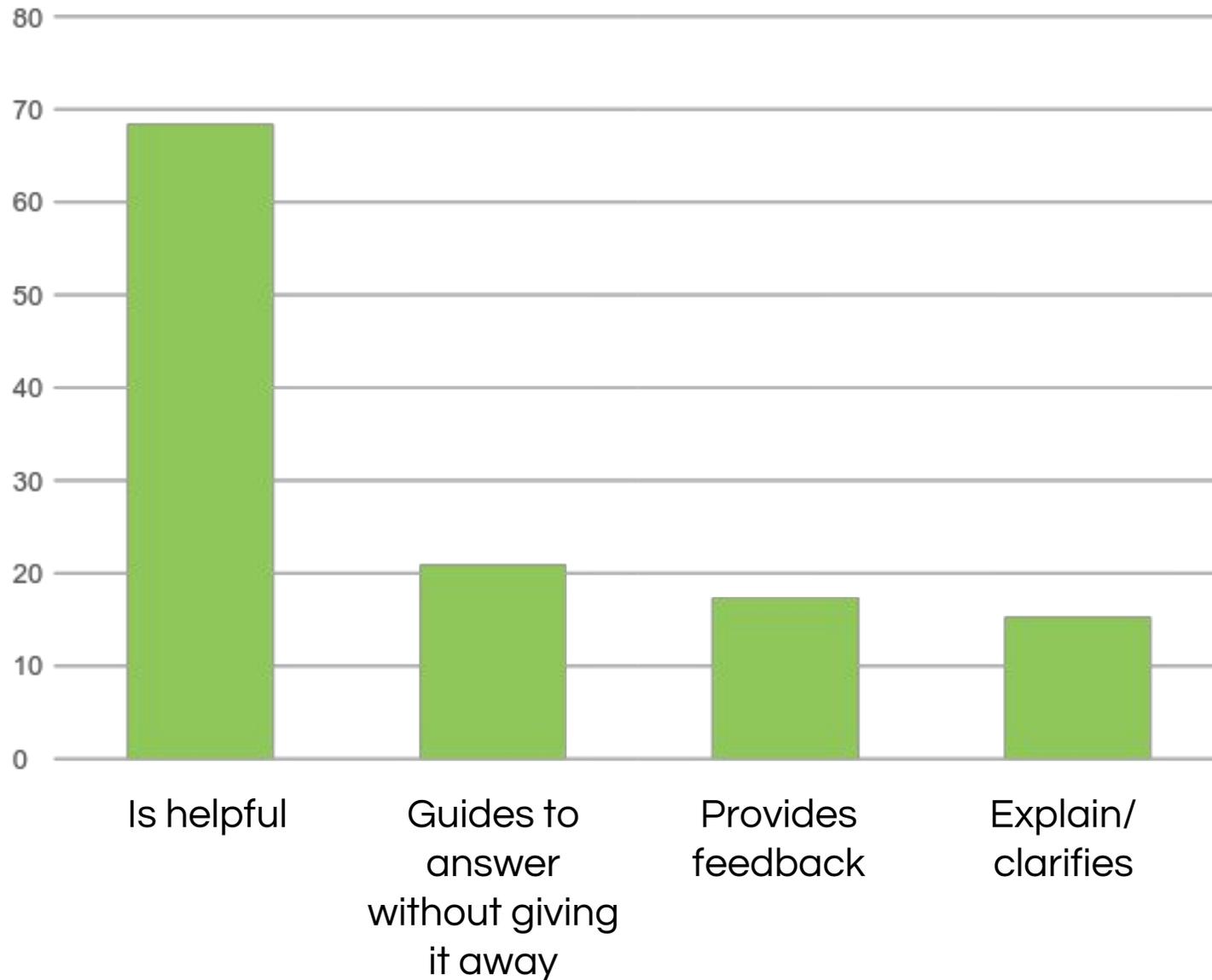
"I haven't learned much from them."

"I fail to see the value of the Learning Fellows in what should be a large lecture class."

"I think our group has barely interacted with the Learning Fellows because we are in the middle of the auditorium."

"He gives us non-answer answers and actually makes us think and reason through the problem. Very annoying."

Most commonly cited Learning Fellow behaviors:



Other behaviors (less than 5% of students reporting):

- Asks questions
- Clarifies course or professor's expectations
- Ensures everyone in the group understands the material
- Offers a new perspective
- Outlines the process to solve a problem
- Supports group dynamics & group discussions

Examples of positive responses

“My Learning Fellow is FANTASTIC!! I love her! She is so smart and knowledgeable but not in a way that is standoffish or intimidating. She is friendly and easy to talk to and brings a positive attitude with her to class and recitation. She is also not afraid to admit when something is difficult for her or she isn't sure of something which I really respect.”

“Every time my group has asked a Learning Fellow or Grad TA for assistance with a problem, I have found them to be helpful in just the right way. They help guide us towards coming to our own conclusions, rather than telling us the answers outright, which is very helpful for our overall comprehension.”

Papers & presentations

• Presentations:

- Learning Assistants Alliance – Boulder, October 2016
- ELI Educause – Houston, February 2017
- NEFDC – Fitchburg, June 2017
- POD Network – Montreal, October 2017
- ASHE – November 2017 (with paper, pending)

• Papers

- *Innovative Higher Education* (drafting)
- *Journal of College Teaching* (drafting)

TIMELINE OF OUR PROGRAM

- SPRING 2015:** These members of Dartmouth's Educational Technology Center for the Advancement of Learning joined the Dartmouth Regional Learning Fellows initiative.
- SUMMER 2015:** Learning Fellows are added to Biology 101 "Open Laboratories," a course where students are highly motivated and engaged in learning. Learning Fellows are added to assist in the course.
- FALL 2015:** Learning Fellows are added to assist in the course.
- WINTER 2016:** Identify teaching faculty members in Biology 101. Teaching Fellows are added to assist in the course.
- SPRING 2016:** Biology 101 continues to expand Learning Fellows. The Learning Fellows initiative, a pilot program of Learning Fellows, is being expanded to other courses.
- SUMMER 2016:** Analyze Learning Fellow data. Learning Fellows are added to assist in the course.
- FALL 2016:** The Learning Fellows program is being expanded to other courses. Learning Fellows are added to assist in the course.

SCALING UP YOUR LEARNING ASSISTANTS PROGRAM: A ROAD FORWARD

FACTORS FOR SUCCESS

- Followed national model by beginning with large, science courses
- Worked within an existing campus program (Gateway Initiative)
- Iterated within the same course & staged our growth
- Worked with tenured faculty (7 of 10 lead instructors)
- Selected strong first-round students that bolstered our reputation

CHALLENGE: SCALING

Number of Learning Fellows per term:

Term	Number of Learning Fellows
Summer 2015	3
Fall 2015	4
Winter 2016	5
Spring 2016	3
Summer 2016	7
Fall 2016	18

SOLUTION 1: APPLICATION PIPELINE

- Weeks 1 & 2: Ask faculty to request fellows based on active & experiential learning potential for their courses next term.
- Week 3: Select courses to request fellows based on active & experiential learning potential.
- Week 4: Using our LFA, recruit students who have taken course before.
- Week 5-6: Ask students to submit application describing small group experience.
- Week 7: Conduct short interviews with selected candidates.
- Week 8: Make offers to begin training program.

SOLUTION 2: TRAINING PROGRAM

- Pre-term meetings with faculty.
- Orientation, first week of classes.
- Weekly teaching huddles.
- Midterm assessments.
- Reflection.
- Stay in touch with faculty & student alumni.

Learning Warriors: Undergraduate Students as Learning Fellows

Need

Learning Fellows are talented Dartmouth undergraduates interested in teaching and education. Learning Fellows work directly with Dartmouth professors to enhance and streamline classroom learning environments. In classes, Learning Fellows help facilitate group problem solving sessions, lead small group dialogues, provide academic support to their peers during lectures and labs, and promote deeper engagement with course material. There are several "types" of Learning Fellows on campus, each trained to address specific needs of faculty and students.

- Learning Fellows serve in 15 and 200 courses.
- They help facilitate small group activities in class as part of the teaching team.
- Social Media Learning Fellows work with faculty through the Center for Service and the Center for Learning Innovation to create and curate content for our social media.
- Media Production Group Educational Technologists and help faculty produce content with digital and online media.

Scope

Once the need at Dartmouth was identified, the program began by examining the Learning Assistant model proposed by UC Boulder. The LA model focuses on promoting pedagogical innovation and providing faculty with resources to support active learning. According to the Dartmouth Learning Assistant 2.0 report, "The Learning Assistant 2.0 model is a high performing undergraduate student who is trained to help with teaching a course they have successfully completed, learning strategies used to transform the class to focus on active and collaborative learning." The LA model primarily focuses on STEM disciplines.

Dartmouth assessed campus needs and decided to adapt the LA model for a "Learning Fellows Program" that supports student learning and engagement in the arts, humanities, and social sciences as well as STEM fields.

Staff and faculty at Dartmouth determined that there was opportunity to connect undergraduates with faculty who had been willing to incorporate more active learning opportunities into their courses. Some departments had existing undergraduate LA programs, others had trained non-student Learning Fellows. This work, a support structure was established.

At Dartmouth, the Learning Fellows program is supported by Educational Technologies and the Dartmouth Center for the Advancement of Learning (DCAF).

Support

Dartmouth Learning Fellows (LFA) are supported by ongoing opportunities for reflection on the class and conversation about teaching and learning, including orientation and weekly teaching huddles, which include LFA, faculty, and instructional designers or educational developers.

Learning Fellows are in and out of class for up to 10 hours per week that includes preparation, attending class and teaching, huddles, and time interacting with students.

Impact

Initial program evaluation results have demonstrated evidence for the following impact statements:

- ...student group function better through improved communication and collaboration.
- ...students receive earlier and more frequent feedback.
- ...instructors receive more frequent and thorough assessment of student knowledge.
- ...students are engaged in class.

Thinking about this for your campus?

Will your Learning Fellows be STEM only, liberal arts only, interdisciplinary, or co-curricular? What unique opportunities for students are present in your campus or geographic community? Which courses are most well-suited for Learning Fellows to be successful?

What perks, both monetary and non-monetary, will your faculty and students experience by having a Learning Fellows program? Do existing student-teacher models exist on your campus that can be tweaked or highlighted?

How might social media impact institutional awareness of Learning Fellows and their role in student learning on campus? What stories might Learning Fellows generate and where can these stories be showcased? What opportunities might be available for " alumni " of a Learning Fellows Program to build a legacy?

Showcases & stories

Dartmouth News



SHARE



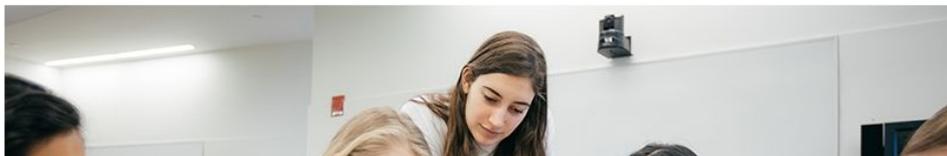
Learning Fellows Are Transforming the Classroom Experience

March 21, 2017 by Hannah Silverstein

In a growing number of courses, undergraduate learning fellows provide "near-peer" mentorship.



VISIT THE



Jason Laackman, Fellow, recognized as "Outstanding Graduate Student Teacher"

The Dartmouth

AMERICA'S OLDEST COLLEGE NEWSPAPER. FOUNDED 1799.

Latest Issue | May 21, 2017 | 68° F

Dartmouth Green Key 2017

Media fellows partner with professors

by Anthony Robles | 4/11/17 2:05am  

This past winter, the College initiated a media fellows program designed to facilitate classroom projects that will allow fellows to develop media integral to the course and serve as technical advisors.

Dartmouth Center for the Advancement of Learning



The Fundamental Laws of Physics Class

Posted on April 14, 2017 by Elli Goudzwaard

The introductory college physics class is governed by a few fundamental principles. Among them:



Research Questions

- What is the impact of the Learning Fellow program on faculty and instructional designers?
- When a course is redesigned to include LF's, what is the impact on retention in the course and major among traditionally underrepresented groups of students?
- What are the best methods for evaluating the success of courses with LFs?

Huddle up!

PROJECT MANAGEMENT GRID ACTIVITY

Overview:

Many LFs are supporting teams of students with projects. This exercise was designed to allow the LFs to think through strategies for supporting students at various stages of their project.

Learning Objectives:

- Develop strategies to support students through various stages of a project.

Activity: Ask the Learning Fellows:

- What are the skills, tasks, deliverables, and obstacles in this project?
 - Write these on post-its
- How do they fit into the planning, implementation, and final submission?
 - Create a grid on the board as shown below and place post its
- What is the LF role in moving the teams through these projects?
 - LFs mark the topics they want to discuss
- What are some strategies for helping with these?
 - Discuss as a group

Time:

20-30 minutes

Audience:

Learning Fellows
supporting projects

	Planning	Implementation	Final Submission
Skills (Hard and Soft)			
Tasks			
Deliverables			
Obstacles			

Learning Fellows video



<https://www.youtube.com/watch?v=vyyHwQEumd4>

What's next?

- Faculty have bought in, but have departments?
- LFs are bought in, but is the student body?
- Staff are bought in, but is administration?
- How can we educate administration, students, and alumni in the value of peer mentorship?
- How can we frame the mission of our program?
- How can we gather feedback on the way this program is changing campus in the long term?

Thank you.

Further resources:

www.sites.dartmouth.edu/learningfellows

<https://laprogram.colorado.edu/>