First Year Experience Course:
problem solving, inquiry, integration
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"What I realized was that the problem solving part of this class could not only be used for papers, but to put together ideas in every other class. At its core, the methods we were taught are just ways to fully realize the thoughts that are already in your head. This can be used to preparing from group discussion in English or planning a solution to a specific math problem." - J.P.

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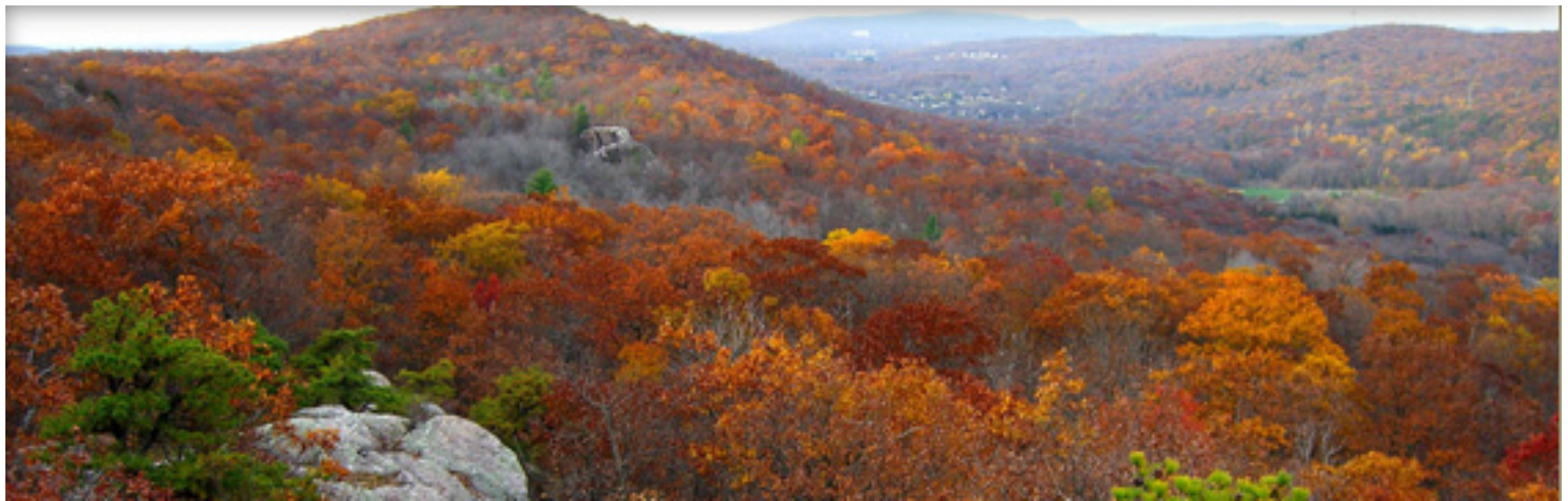
College of Natural Resources and Environment

Fish and Wildlife Conservation

Forest Resources and Environmental Conservation

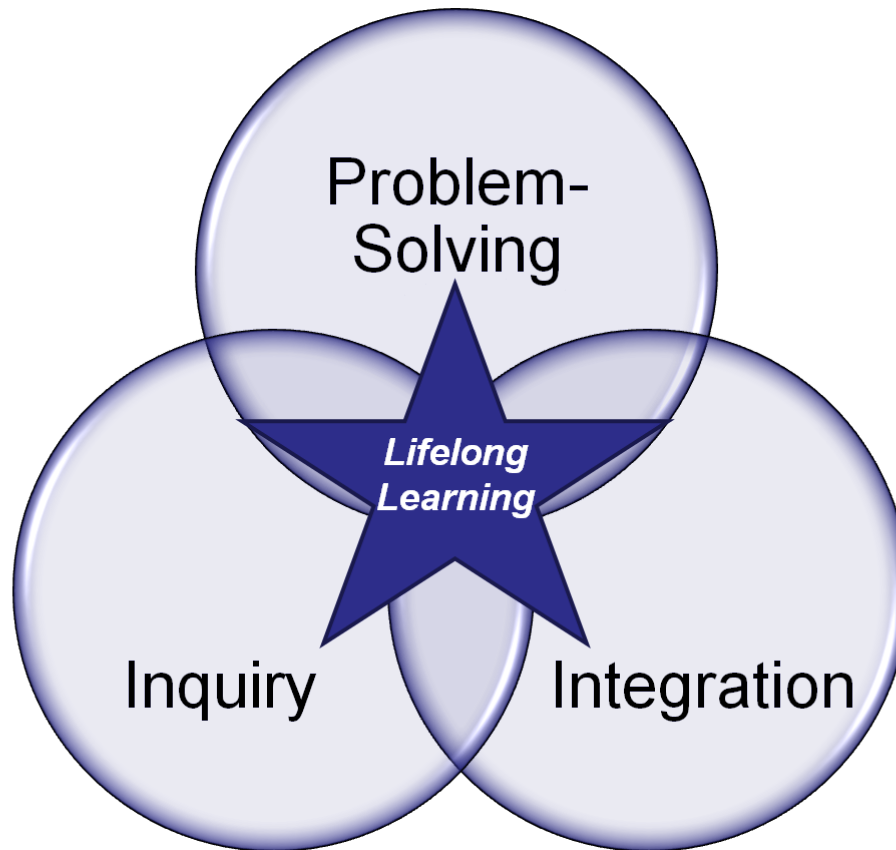# Geography

Sustainable Biomaterials

VT's First Year Experience (FYE) Program

- 12 programs across University
- Response to studies, *Academically Adrift* (Arum and Roksa)
- Assistance
  - training
  - campus-wide partners

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Learning Outcomes for FYE

CNRE's FYE

- Readjustment of previous course
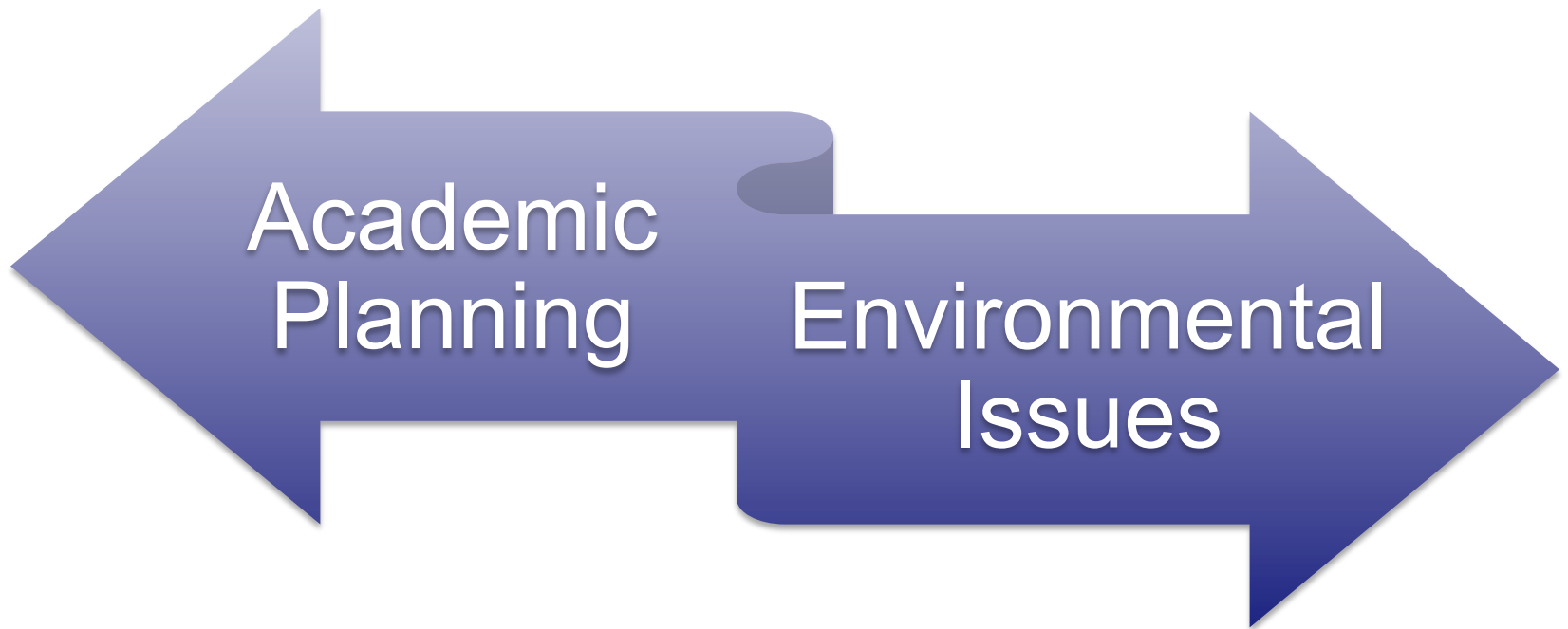- Renewed support from faculty and administration
- Addition of peer mentors

Problem Solving

define
problem → identify
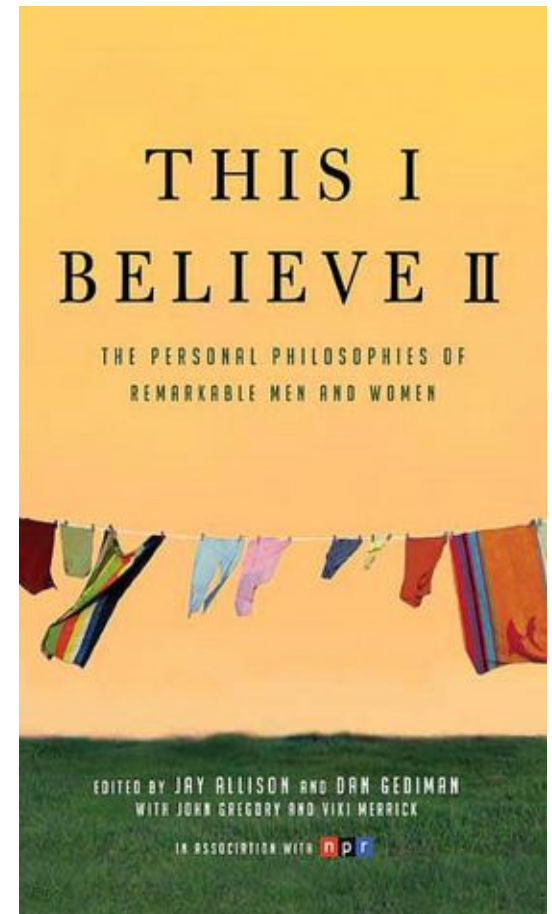strategies → propose
solutions

Problem Solving

Academic Planning

Environmental Issues

Inquiry

Semester-long research project

selecting topic → accessing information → evaluating information → honing information

Integration

- Faculty/career panels
- Faculty interviews
- MyPlan assessment
- Reflective essays
  - This I Believe II

THIS I BELIEVE II

THE PERSONAL PHILOSOPHIES OF
REMARKABLE MEN AND WOMEN

EDITED BY JAY ALLISON AND DAN GEDIMAN
WITH JOHN GREGORY AND VIKI MERRICK

IN ASSOCIATION WITH npr

Learning Outcome Evaluation

- Motivated Strategies for Learning Questionnaire (MSLQ)
  - pre/post
- Information Literacy Test
  - pre/post
  - developed on VT campus
- Student essays, reflections

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MSLQ

- Pintrich, Smith, Garcia (Duncan), McKeachie
- 81-item, self-report
- Course-level evaluation
- 7-pt Likert-type scales
- 6 motivation scales
- 9 learning strategies scales

MSLQ – motivation scales

- Intrinsic Goal Orientation

- Extrinsic Goal Orientation

- Task Value*

- Control of Learning Beliefs

- Self-Efficacy for Learning*

- Test Anxiety

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MSLQ – Learning Strategies Scales

- Rehearsal
- Elaboration*
- Organization
- Critical thinking
- Metacognitive self-recognition
- Time/study management
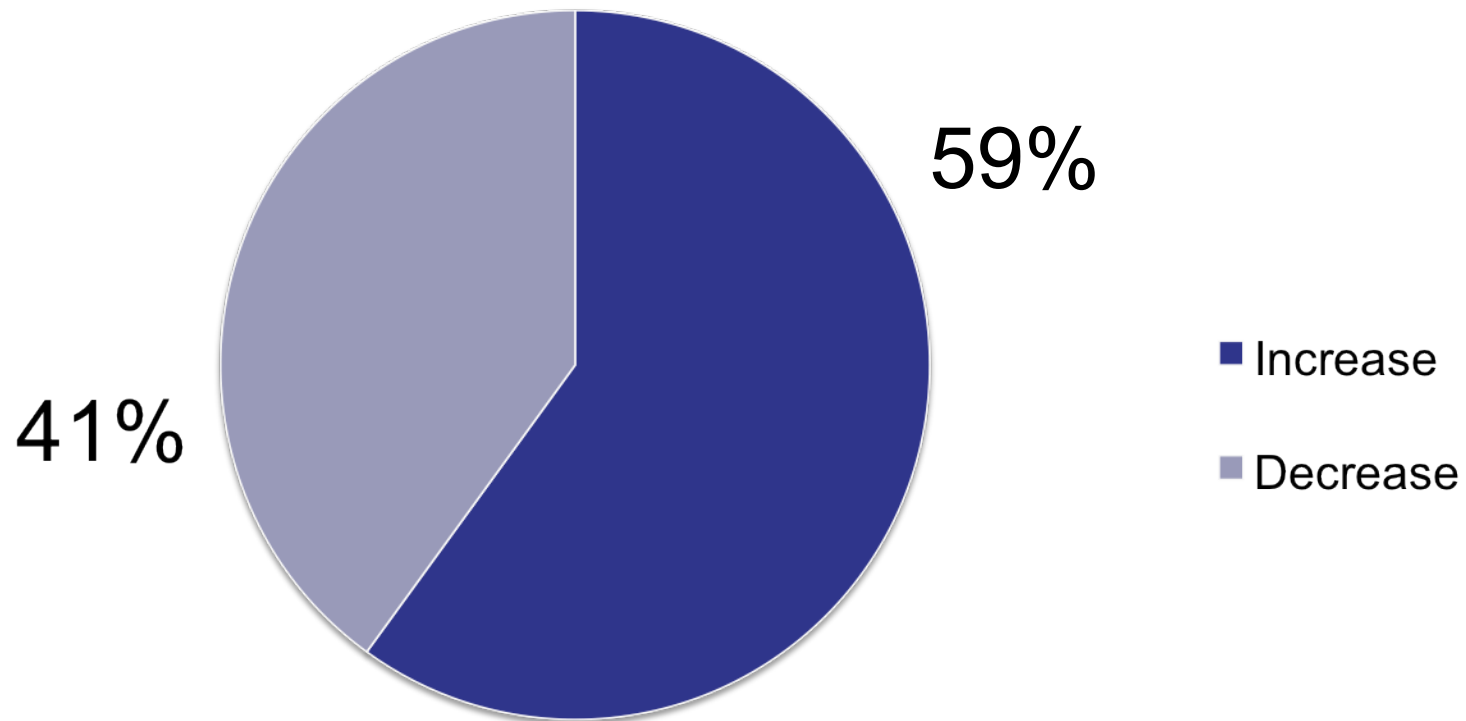- Effort regulation
- Peer learning
- Help seeking*

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MSLQ Findings

- quantitative

- compared with qualitative responses to end-of-year reflection questions

Motivation: Task Value
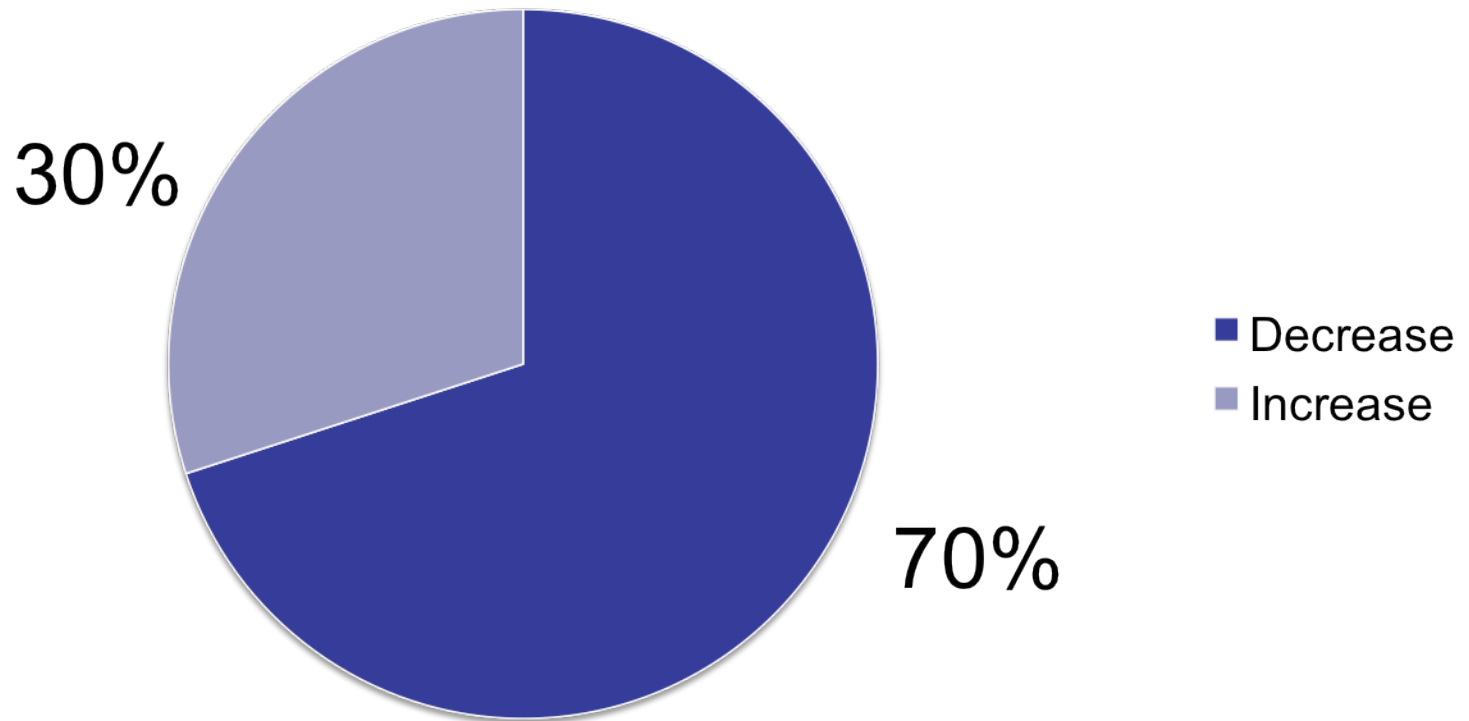

59% Increase
41% Decrease

Motivation: Task Value

"The path that I am on in my education is guided by that beautiful outlook on science. That interweaving, constantly growing and changing creation that is science made me want to be a part of it. Someone in Africa can discover something, and then it is built upon by someone in New Zealand, then forms a new theory in France. It is something that I want to contribute to, and I want to learn as much as I can in my education to add my discoveries to science." – J.M.

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Motivation: Self-Efficacy

30%

70%

- Decrease
- Increase

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Motivation: Self-Efficacy

"College has been a lot more work then I figured. Being a student in high school that did not need to study to get good grades, college classes were a bit of a shock. My work ethic has increased since coming to tech as well as my studying amount. Next semester I plan on working even harder."- W.C.

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Learning Strategies: Elaboration
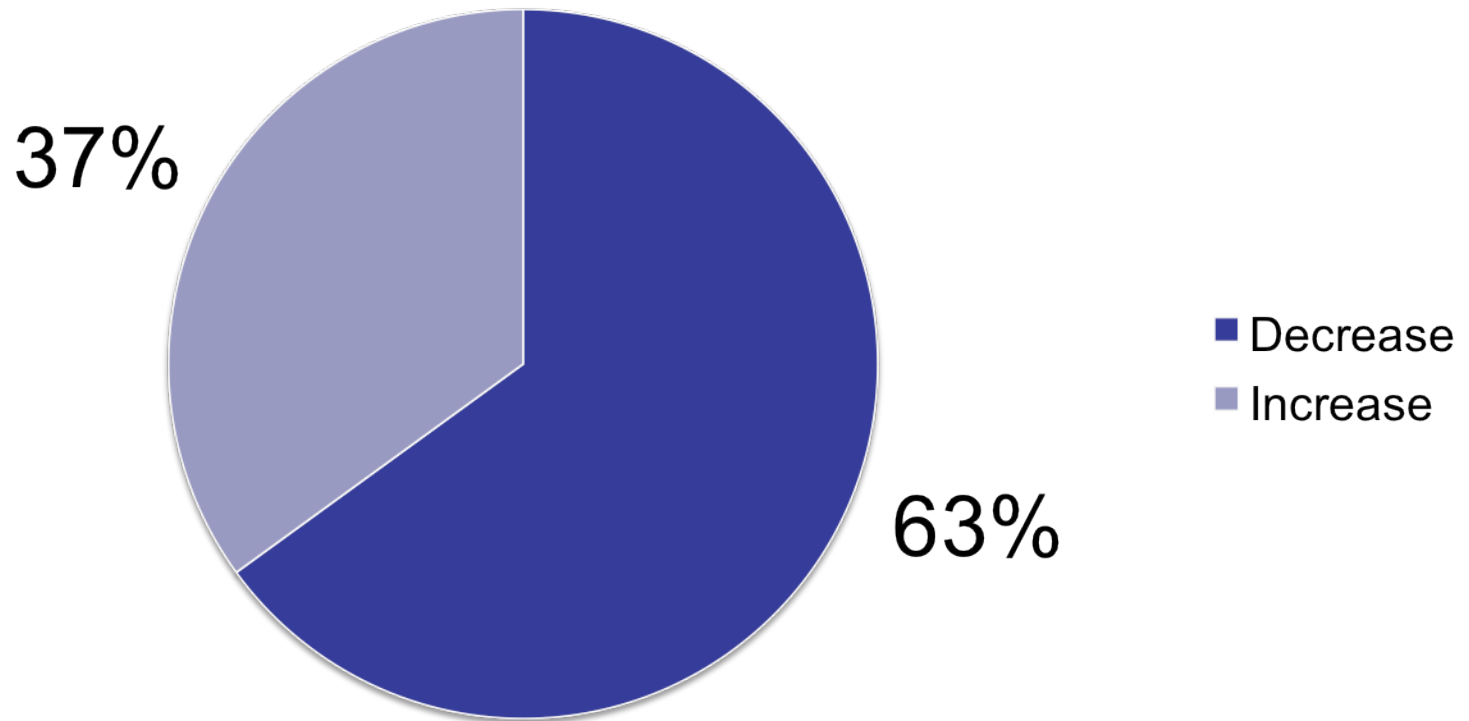

40%

60%

- Increase
- Decrease
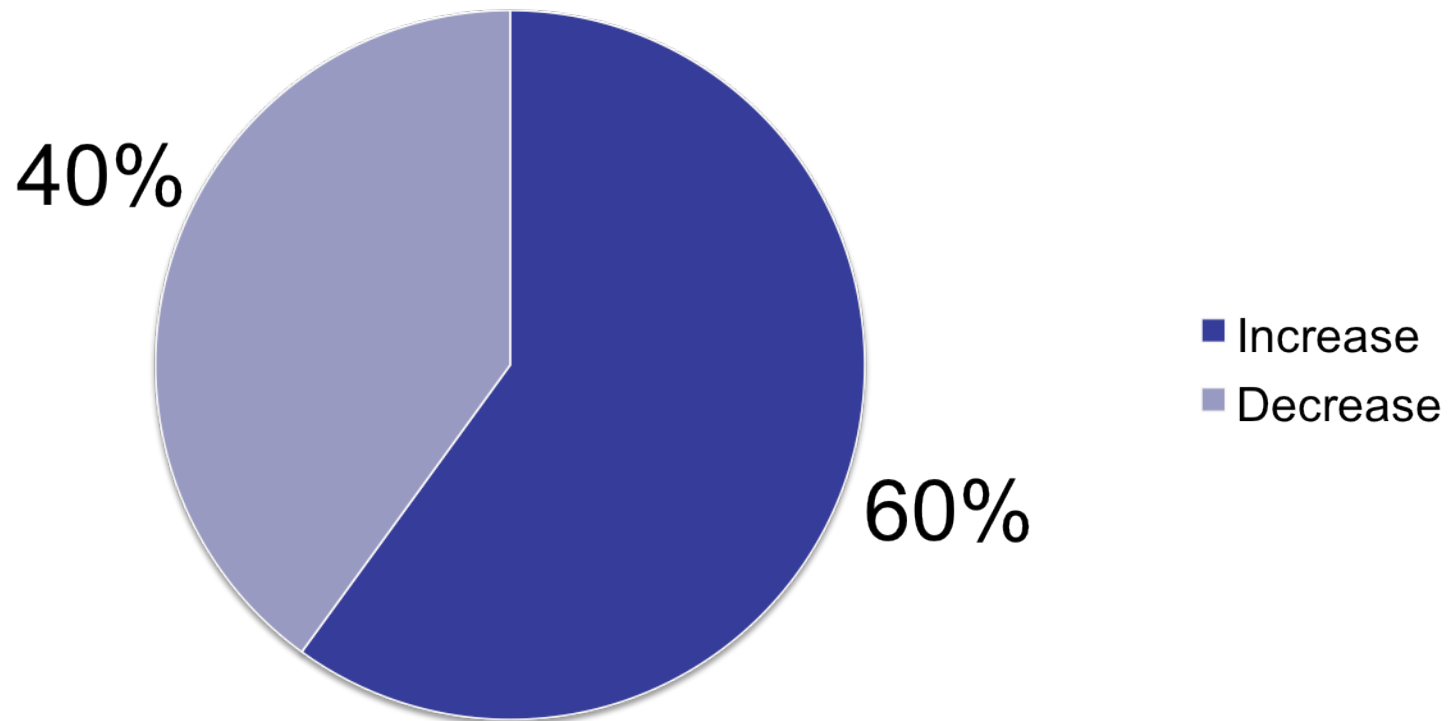
Learning Strategies: Elaboration

"Knowledge can be extracted from every subject and can be fused together in order to advance in a subject where different classes interact. For a personal example, I was able to draw the teaching of public speaking and effective writing from English class in order to write about the dangers of mountaintop removal in my Natural Resources lab." – C.H.

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Learning Strategies: Seek Help

37%

63%

- Decrease
- Increase

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Learning Strategies: Seek Help

"I probably should have taken the initiative to talk to my professors about my confusion." – V.A.

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Other Qualitative Findings

- Significant difference from high school
- First-time connections to "real world"
- Intrinsic motivations most common
- Extrinsic – career oriented, not grades
- In control of own success

Path Forward

- Additions to teaching team
- Critical examination of required projects
- Comparisons to other FYE programs
- Additional analysis
- Follow-up with this set of students

Questions?