

Active Learning 2.0:

Being Intentionally Inclusive

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@dyong

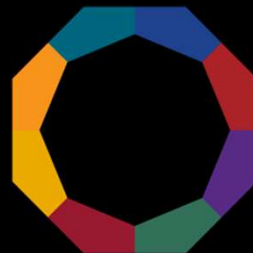
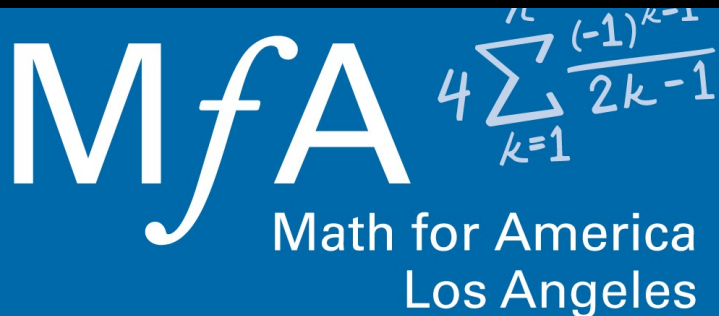


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Active learning is wonderful, but let's think critically to be more intentionally inclusive because its benefits may not automatically apply to all students.

Let's ask ourselves:

1. Who is likely to benefit? Who might not?
2. Who might feel included or excluded?
3. How would I know if I need to intervene?



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Active learning increases student performance in science, engineering, and mathematics

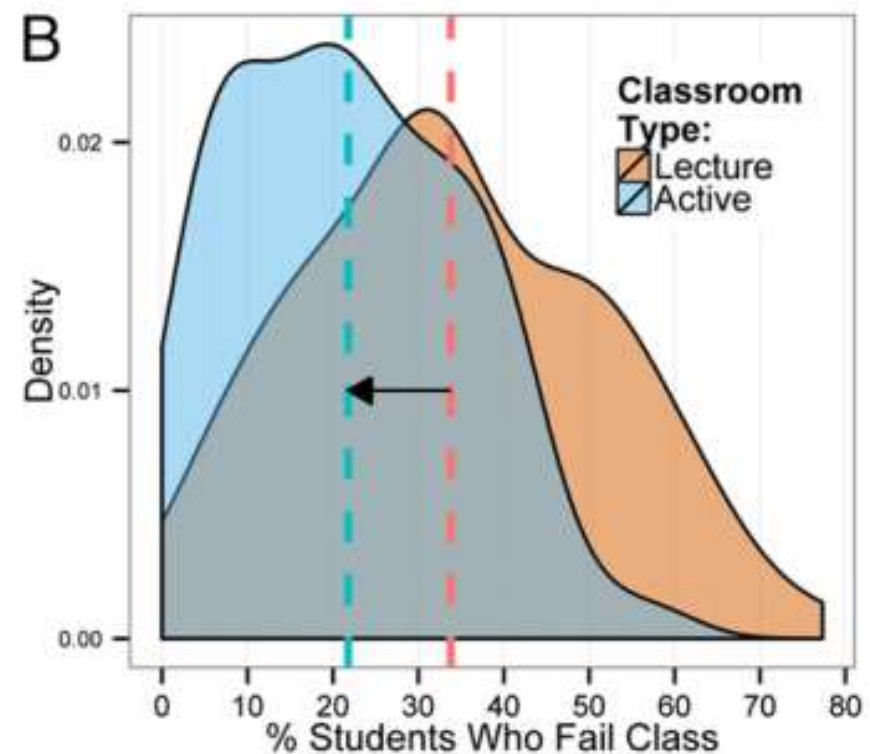
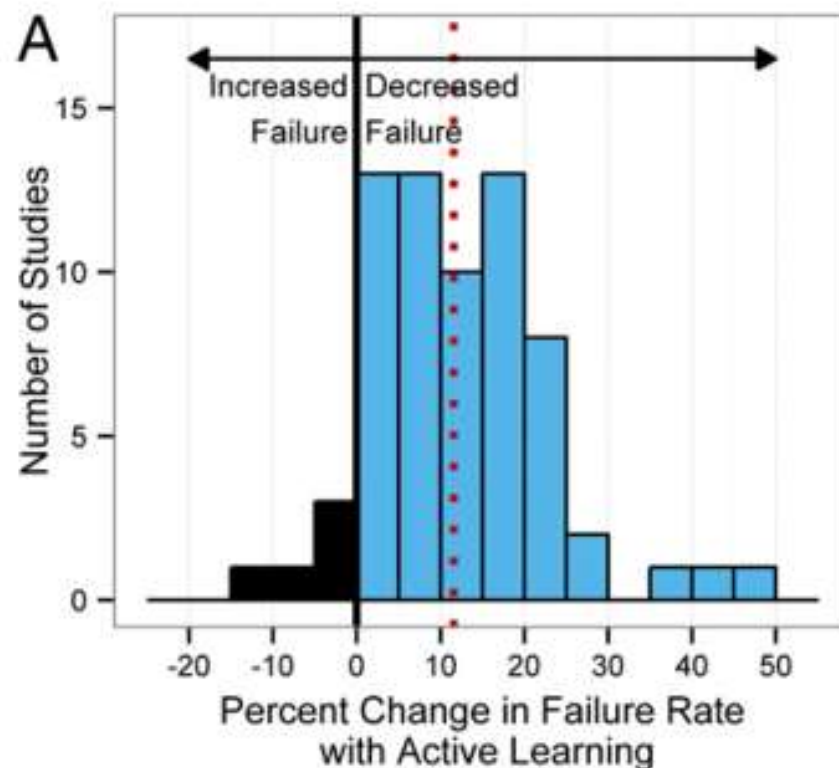
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To test the hypothesis that lecturing maximizes learning and course performance, we metaanalyzed 225 studies that reported data on examination scores or failure rates when comparing student

225 studies in the published and unpublished literature. The active learning interventions varied widely in intensity and implementation, and included approaches as diverse as occasional group



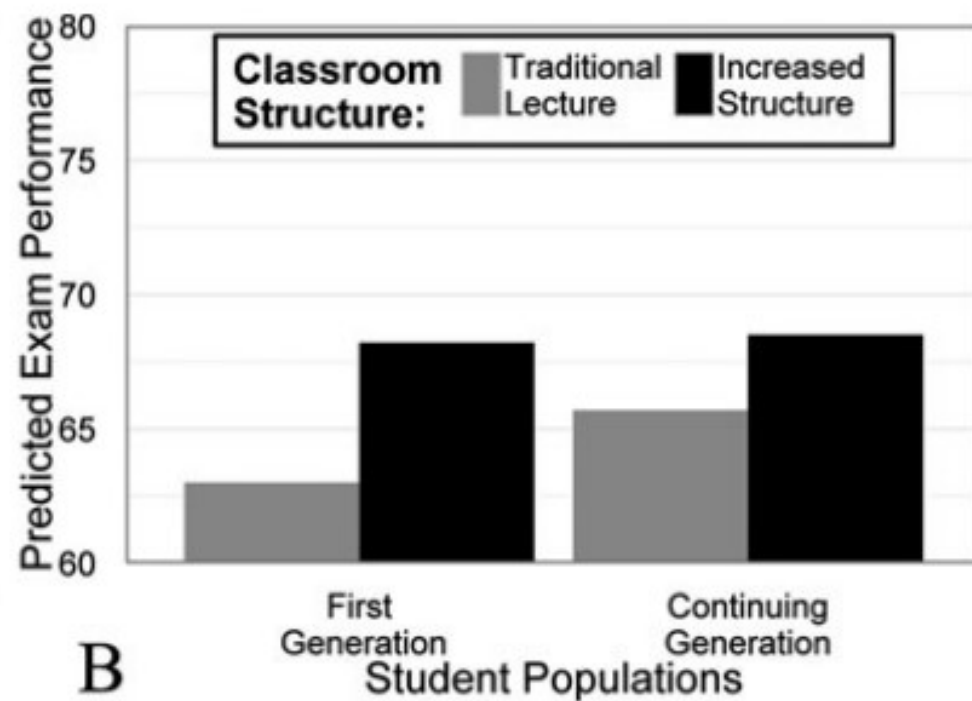
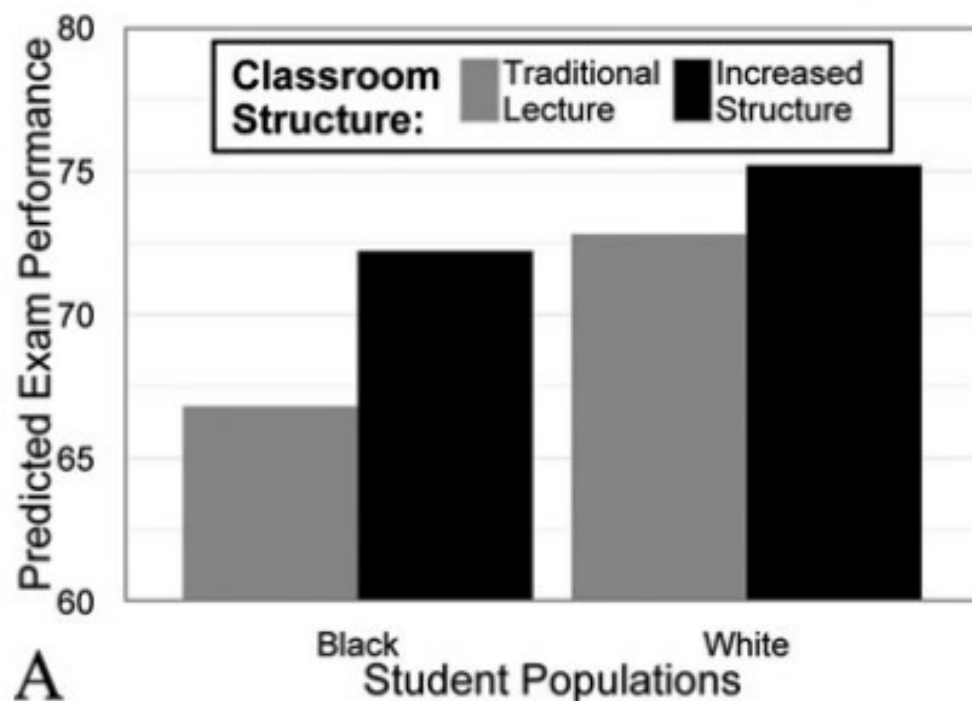
Article

Getting Under the Hood: How and for Whom Does Increasing Course Structure Work?

Sarah L. Eddy* and Kelly A. Hogan[†]

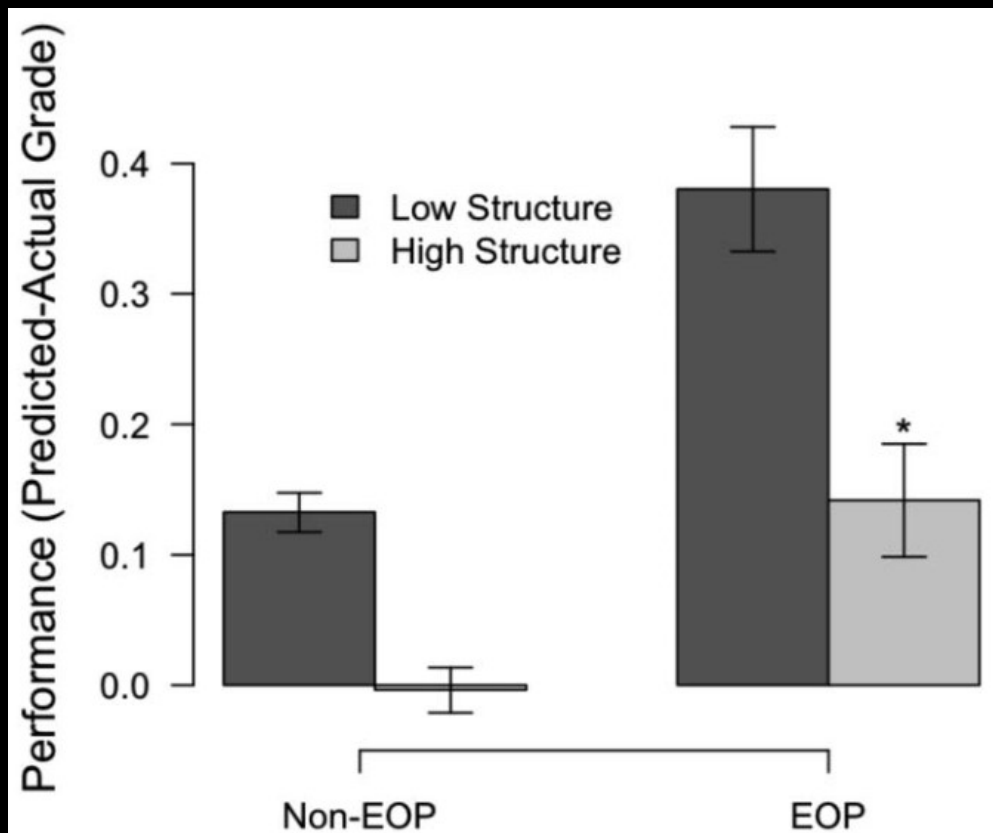
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Increased Structure and Active Learning Reduce the Achievement Gap in Introductory Biology

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Benefits for Women and Men of Inquiry-Based Learning in College Mathematics: A Multi-Institution Study

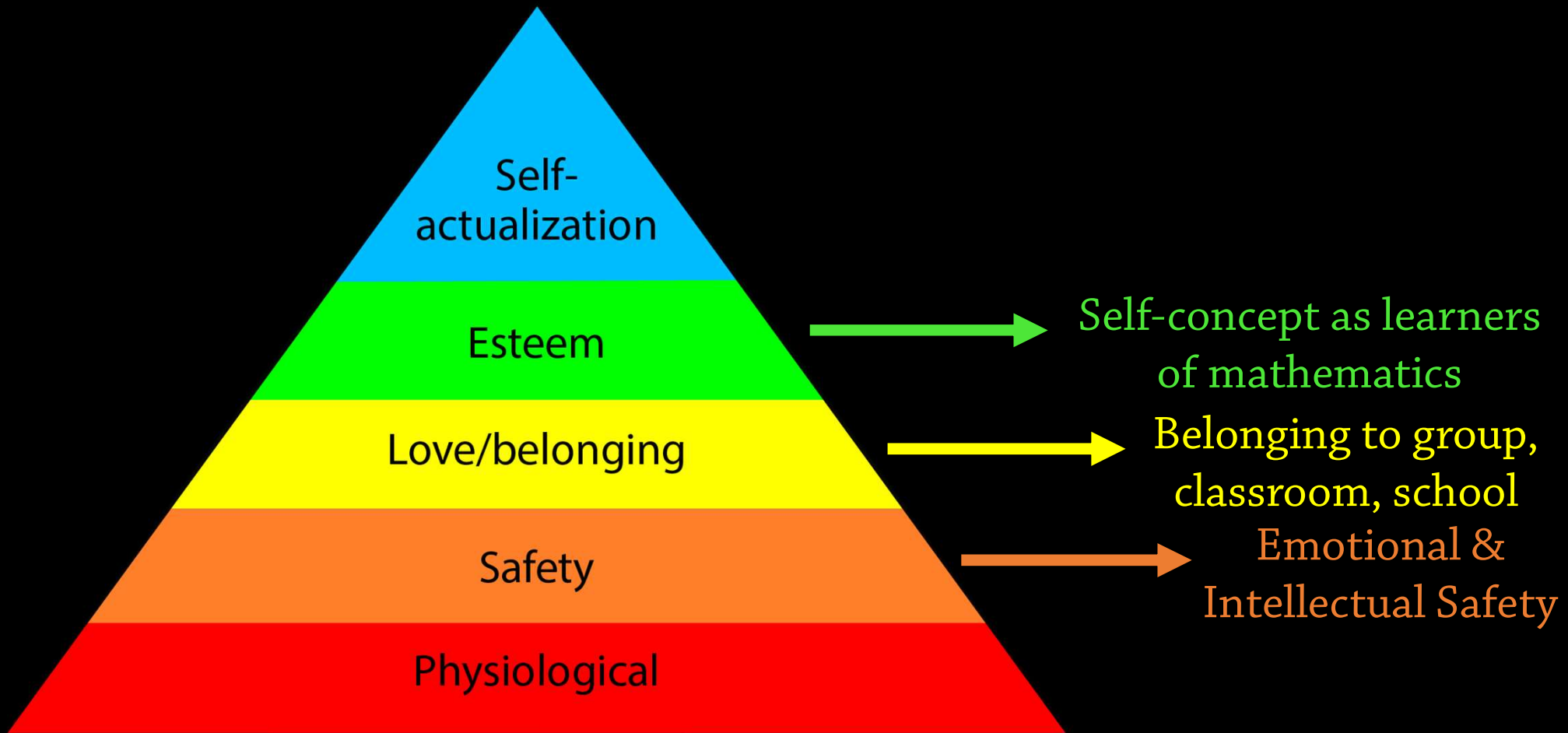
Sandra L. Laursen, Marja-Liisa Hassi, Marina Kogan, and Timothy J. Weston
University of Colorado Boulder

women in non-IBL classes reported statistically much lower gains than their male classmates in several important domains: understanding concepts, thinking and problem-solving, confidence, and positive attitude toward mathematics. In fact, both men and women reported higher learning gains from IBL courses than from non-IBL courses, but traditional teaching approaches did substantial disservice to women in particular, inhibiting their learning and reducing their confidence. These differences for women were independent of their prior mathematics achievement. Women's spontaneous write-in comments echoed this finding: IBL women wrote

Overall, it appeared that non-IBL courses tended to reinforce prior achievement patterns, helping the "rich" to get "richer." In contrast, IBL courses seemed to offer an extra boost to lower-achieving students, especially among pre-service teachers. Yet there was no evidence of harm done to the strongest students. Indeed, high-achieving students may be encouraged by an IBL



Maslow's Hierarchy of Needs (1943)



Source: <https://commons.wikimedia.org/wiki/File:MaslowsHierarchyOfNeeds.svg>

General Strategies to ↑ Inclusivity

1. Establish and maintain norms for participation
2. Attend to classroom climate
3. Be transparent about instructional choices





Group-Worthy Tasks

1. are open-ended and require complex problem solving
2. have multiple entry points and ways to show competence
3. involve intellectually important content
4. require positive interdependence and individual accountability
5. have clear criteria for the evaluation of the group's product

How to Form Groups?

- Group size
- Durability of group assignments
- Process used for group composition
 - Student selected
 - Instructor selected (e.g. homogeneous or heterogeneous ability)
 - Random assignment (visibly random or not)