Musings on SEMINAL at Loyola Chicago.

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Loyola University Chicago

AMS meeting, Virtual Omaha, Oct 8, 2021

Outline

Setting

What we've done

A revisionist interpretation of our philosophy

Mechanics

Our standard "training" activity

Environment

- The department:
  - A department of 38 full time faculty, about half tenure track, plus some part timers.
  - Wide variety of opinions on teaching, in particular lecture vs. active learning, but some appetite for experimentation.

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- Our classes:
  - Capped at 40 students.
  - Meet MWF for 50 minutes, or TTh for 75 minutes.
  - P2C2 classes have common textbook, syllabus, core homework problems, and some common exam problems. (Recently added common finals in P2C1).
  - Many sections have an undergraduate "supplemental instructor" available during class.

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- Increased course support and common elements (PC1,PC2, C1,AC1 now have common finals). Note: we don't use the term coordination.
- Students don't hate our active learning classes, perhaps on balance slightly prefer them (there are exceptions). Most people seem agreed that students are learning more.

Participation

- Participation is fully voluntary.
- Pre-seminal: About half a dozen active learning sections a semester (4 or 5 instructors involved, but teaching other classes as well).
- Fall 2018: 12 sections.
- Spring 2019: 16 sections.
- Fall 2019: 16 sections
- Spring 2020: 19 sections
- Fall 2020: Online, very unclear who should count.
- Spring 2021: Online, very unclear who should count.
- Fall 2021: Approx. 30 (out of 48 possible).

Around half of our faculty has taught a class meeting our criteria, and more have done at least some active learning.

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- Groundwork was there: several of us were already having success teaching this way. Perhaps importantly, we were using active learning in 200 and 300 level math classes, and students spread the word that they were good classes.
- I fight ferociously against any claim that active learning trades quantity for quality - I can teach more with active learning, as well as teach it better, and will show anyone who argues my exams.

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- We support instructors and provide material, but leave as much freedom as possible. Support is a half day before the year, and some meetings throughout the year, plus some observations and individual feedback where it seems appropriate.
- Created about 20 “investigations” per course. Instructors are free to deviate. Experienced instructors are encouraged to deviate, our materials are entry-level. Materials were created with input from many people.

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- Worksheets depend on some prior knowledge, we leave decisions on that to individual instructors.
- Designed for small group work, with instructor constantly circulating, answering questions, and **initiating discussion.**

Discussion and reflection activity

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In small groups, review sample worksheets, keeping the following discussion questions in mind:

- What prior knowledge should students have? How might that be supported in an initial lecture?
- What ideas could the students develop themselves - i.e. what doesn't have to be lectured on?
- What are some key ideas students should take away? How might you highlight these?
- Where might students get stuck, and what might be good hints/supports?

Share out.