

Learning Assistants in Mathematics Courses

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A dream result

1. Work with someone in your own discipline that you normally do not work with.
2. Decide on a learning outcome that you really want your students to get. Write it down in the form of “Students will be able to do.....” or, better, “Students will (action verb)”
3. What kind of action/work best assess someone’s expertise in the learning outcome that you wrote in 2?
4. What could you do in class to ensure success on the assessment in 3?

Elements of course (re)design for effective LAs use

Backward design principles

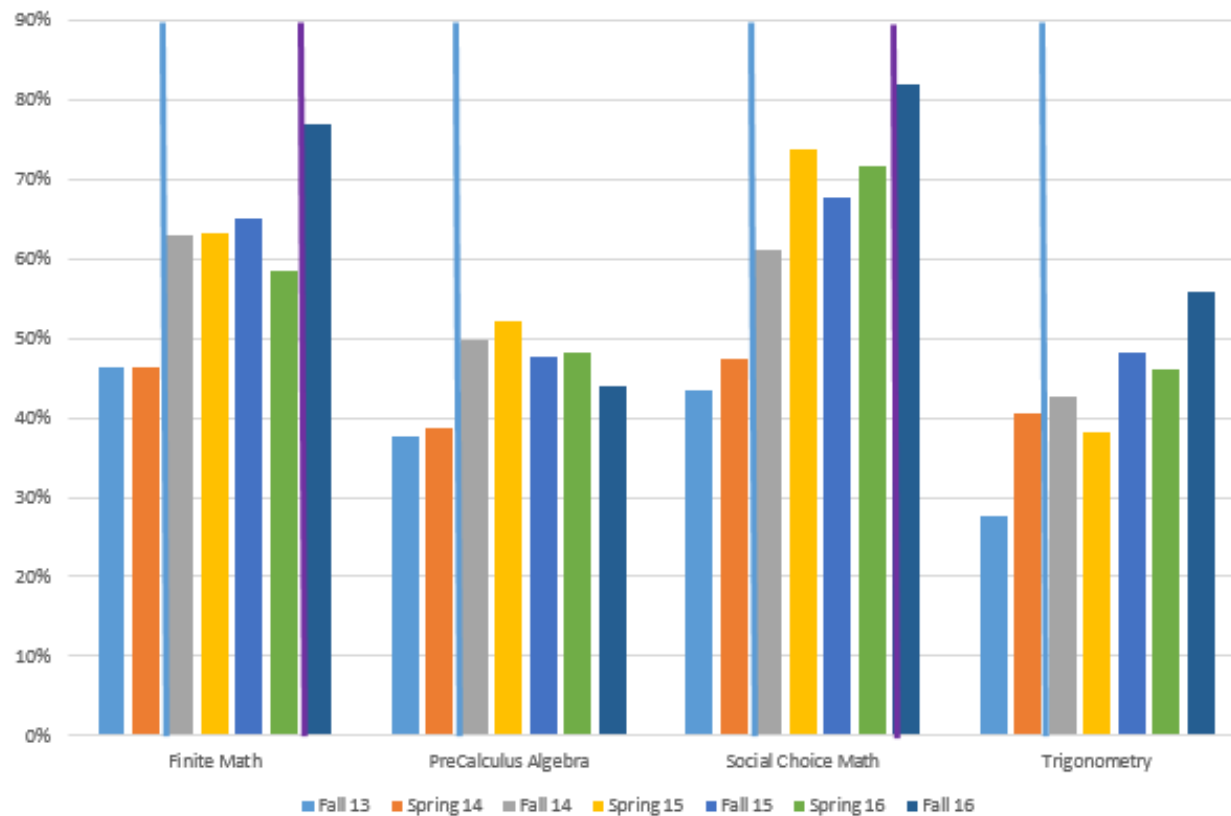
Sage on the stage and why it does not work

Amount of work that students are engaged in (ie doing enough math to have the possibility of learning it)

Modeling effective behaviors

Collaborative course design

Lower Division Math
Passing Rates in F2F MMC Sections



Start of faculty working groups.

Start of Lab 2 requirement for all MMC sections

	Fall 13	Spring 14	Fall 14	Spring 15	Fall 15	Spring 16	Fall 16
Finite Math	46%	46%	63%	63%	65%	58%	77%
PreCalculus Algebra	38%	39%	50%	52%	48%	48%	44%
Social Choice Math	44%	47%	61%	74%	68%	72%	82%
Trigonometry	28%	41%	43%	38%	48%	46%	56%

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Lesson Design

Giving Examples vs Lesson Planning

Plan for:

managing the groups

reluctant students

expected student errors and how to address them

differentiated instruction

preclass assignments that are connected to inclass work

How to Manage Classwork with LAs

Work that requires group effort

LAs armed with responses and leading questions

Modeling behavior

Time management

Giving LAs guidance

LA Preparation

Learning Assistant Pedagogy course

- Scholarship of Teaching & Learning
- LA beliefs
- Co-teaching

Weekly prep

- Why
- What to do
- LA feedback

Selection of LAs

What do you need to consider when nominating/interviewing/selecting LAs?

Resources

Folks already doing cool stuff:

The Association of Public and Land Grant Universities

<http://www.aplu.org/projects-and-initiatives/stem-education/>

Carnegie Math Pathways

<https://www.carnegiefoundation.org/in-action/carnegie-math-pathways/>

Dana Center

<http://www.utdanacenter.org/>

Complete College America

<http://completecollege.org/>

Books:

Cheating Lessons by James Lang

Learner-Centered Teaching by Terry Doyle

Effective Instruction for STEM Disciplines by Mastascusa, Snyder & Hoyt