Station 3: What do you think are solutions to potential drawbacks of active learning?

Instructions: Double-click anywhere on the yellow background below to contribute your response.

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**Student resistance**

Students need to be provided opportunities to speak and practice interaction starting with topics that help them build trust and acceptance.

- Social dynamics can be challenging - provide structure such as roles and negotiate ground rules.

**Helpful training from campus teaching center leaders. Encouragement and sharing from colleagues who have tried it before.**

**Preparation**

Have a plan for how you will randomize calling on folks. Guide discussion.

**Practice**

This is a solution to:
- Instructor discomfort
- Difficulty with timing

**Students who are well prepared resent the difference in pedagogical approach**

**Demands more time & thought on the part of the instructor, both in designing the active learning and in following up.**

**Lecturing inertia**

Need to consistently use active learning all the time so students are familiar with expectations.

**Can take more time than a presentation - carefully articulate learning objectives, think carefully about the number of examples presented.**

**Students feeling lost**

Sometimes my students give up before they really start because their neighbor is also confused. I've started preparing partial solutions to pass around a few minutes in so they don't get hung up on an early step in the problem.

**Pay attention to students' responses and being patient with them.**

**Getting faculty comfortable with not being the only source of knowledge.**

**Time consuming**

Takes a lot of time to do effectively and faculty are not always rewarded for this time. Also hard to overhaul courses when trying to juggle all the competing demands on our time.

**Unfamiliar to faculty**

Many faculty have not experienced much active learning as students and may have little or no training in developing and facilitating it. So professional development and practical experience, including workshops like this, are essential.
Time!

Having enough time to allow students to fully experience and get the full impact of active learning

Introverts left behind

Students who do not work well in group settings may be left behind. It is important to understand the group dynamics before large scale implementation in the class

Attention to anxiety associated with active learning is important for buy in and equity.

More effort

More effort is worth it for better student outcomes

Suggestions for how to integrate it into our classes bit by bit, so that it isn't a daunting overhaul of the course

time intensive for instructors and thus need to balance with content coverage

time consuming...

AND needs more planning
AND students need baseline knowledge to do exercises

if you are time constrained to address a certain amount of content, active learning can take more time than just delivering content...a solution could be about activity design so that more content can be addressed??

Focus on learning objectives, not content coverage

Well designed activities may help keep students engaged in the activity.

Getting practice in workshops like this!

There needs to be a LOT of PD for college faculty!

Flipped learning allows students to get background outside of class and benefit from discussing and clarifying what they got from material.

No drawbacks! Time is spent students truly understanding the concepts, making connections with other content. Learning to learn!!!!

may be disadvantageous to those with learning disabilities or difficulty focusing; group work may be uncomfortable for some students

Drawback: Depends on student willingness to learn

Solution: Problem-based learning and other highly motivating methods

I've heard that some students dislike new teaching methods. But this can be partly (mostly?) mitigated by explaining why the class is structured in this new way--perhaps even talking about the research behind it. And that it's fairly important to do that.

Narrow focus of each course

One drawback noted is the amount of time it takes. We need to stop having a laundry list of topics for each course to cover, and instead choose a few key concepts to focus on.

Time

Make the time
Adjust the content coverage
Value student learning over content coverage
If not well designed and executed, students can get confused, frustrated, lost.

**Drawback: Time**

Solution: flipped classroom

We live in a society with strong master narratives about who is capable of doing mathematics; these can shape how students interact with peers in small groups in ways that are unsupportive of students from minoritized groups (as well as how instructors uptake active learning and interact with student ideas). How to manage this? Equity of active learning is uneven across implementations (Theobald et al 2020)

**Requires a lot of time**

**better methods of teacher evaluation that do not disadvantage those who takes risks and experiment with active learning in their classes**

**Students dislike strategies**

some students note the benefits of some strategies (e.g., working in groups) but would still prefer to be lectured.

**Showase**

Showcase successful active learning classes to faculty.

**create and develop a culture of active learning**

**Educate STEM faculty**

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