BEEC Share and Learn Report: May 2025

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Topic: ASEE Education Showcase Deep Dive: Teamwork Time

Resources:

- Center for Research on Learning and Teaching CRLT Players – Classroom Climate Module – Group Work Case Study: https://crlt.umich.edu/crltplayers
- Inclusive STEM Teaching Project: https://www.inclusivestemteaching.org/
- CATME: https://catme.org/
- Peerceptiv: https://peerceptiv.com/
- Google Doc for Teamwork Time Questions to Use in Classroom: https://docs.google.com/document/d/1ZJ9x_GN3rtpglsh3UseK7IoKgO1k5YZO8FIgYw0Ofi8/edit?tab=t.0

Discussion and Lecture Notes:

Lecture Notes:

- Came from video on Classroom Climate Module – Group Work Case Study portrayed by the Center for Research on Learning and Teaching (CRLT) Players
- When to implement Teamwork Time:
    - Senior Capstone Design – hard to motivate change in behavior
    - Junior Design – modeling and "canned" projects while introducing them to design process – more receptive to teamwork and could perform intervention
    - Sophomore Level – labs, early enough because they've formed teams but not late enough that they've developed by teamwork habits
    - Something quick and easy to implement
- Sophomore level labs – 3 core courses with lecture and lab component on Biomechanics, Biochemistry/Thermodynamics, and Circuits
    - Lab has cohesion between 3 courses with training modules, lab notebooks and archives, and segment on teamwork strategies with team charter/CATME peer evaluation software
        - 0 credit labs that doesn't meet weekly but rather 3-4 times throughout semester with 3 hours per lab – 12 total in person lab hours per course
        - Assignments per lab – prelab, lab notebook, post-lab or lab report (team grade), CATME peer evaluation – each team moment is not worth many points as total lab component is 15% of grade
- How to Implement Teamwork Time:
    - 5-10 minutes of lab – teamwork time group discussion of prelab questions on self-reflection of teamwork questions, strategy for team post lab (communication, meet-up, etc),
    - Post-lab CATME peer evaluations and constructive feedback using conflict management strategies
- Pre-lab Questions:
    - Personal goals, lab experience, one obstacle during time in group that may encounter, how to divide work among team, things to incorporate or avoid based on past team experiences, preferred format (email/groupme/etc) for team communication
    - Instead of "the team divide work", but "how to complete all tasks" to avoid divide and conquer strategy
- Lab Opening Slide:
    - Make sure they have table matching with group number, perform 5-10 minutes on teamwork questions, then get PPE when done
- Third Lab Opening Slide:

    - Helpful optional thing is to look at CATME peer evaluations and what constructive feedback to give to whole class for general themes and strategies to recommend
    - Slide Questions:
        - What OUTCOMES do you want to avoid this time? – Avoid blaming people, what YOU do to help achieve the desired outcome?
        - What worked well last time? – Try it again, improve upon it
        - What did NOT work last time? – Try something else

Discussion:

- Is it enough time for team to know each other if it's not a weekly meeting? Examples of struggles they typically face and when do issues start to arise?
    - Usually after lab report writing – If you are going to procrastinate on large assignment you will – some procrastinate and some want to get it done early
    - Some teams had conflict early in conflict, but mostly during lab report portion not lab itself and lab report is worth more points as well
- Some student take self reflections really seriously while others feel it out as if it's just for points, how do you get around this?
    - They don't get points if it isn't unique or constructive (like you did a great job), will ask them to see what kind of outcomes you want to see in the future
    - Needs to be unique comment for each team member and
- How big is class?
    - Lab is 24 students max, and classes are 75-96 students with max year at 124
    - CATME has to be quick if it's too many students and have to rely more with graduate instructor
- Other resources beyond CATME? Tandem is another system that is developed by University of Michigan
    - Others have used CATME for lots of years
    - Other peer review tool that was useful (but many already on CATME): Peerceptiv: https://peerceptiv.com/
        - Also paid but good
- Early in the curriculum is important to start good teaming strategies
- Google doc for teamwork questions: https://docs.google.com/document/d/1ZJ9x_GN3rtpglsh3UseK7IoKgO1k5YZO8FIgYw0Ofi8/edit?tab=t.0
- Observations of implementing this and then seeing them senior capstone program – helped anecdotally
- Future studies could see how well teams did longitudinally across the years compared to groups who had the training vs not (older teams)
- How to reword question on "how to divide work" to avoid priming them on how to divide and conquer
    - How do you propose to complete the work together?
    - How you assign responsibilities amongst yourselves?
    - Team Contract: For responsibilities, feed them some thoughts or ideas on roles and tell them to think about static and dynamic roles throughout the year
    - Depends on Nature of Assignment: show them roles to expect and give sample work breakdown structure or how many should work on each part
    - Sample gantt charts and show sequential vs pipeline responsibilities to show dependencies and overlaps between tasks
- Junior year describes project management tasks – Agile, etc.