Solid and Hazardous Waste Management (#4)

[Please sit with your project group]

Mindfulness

Website Updates

Last class and lectures

- Can't say enough how happy and excited I am that you all were providing feedback and actively participating in shaping your learning experience. That was a big goal I had for this class.
- I thought long and hard about lecturing on Solid and Hazardous Waste Management, but still can not get onboard, because I feel it would get away from evidence-based active learning, and also run the risk of biasing the learning with my own filters and views.
- This reflection also made me realize I might not be scaffolding and justifying active, project based learning enough.

Active learning

- Active learning is "a suite of pedagogical approaches that engage students in the construction of knowledge through activities and discussion in class, as opposed to passively listening to an expert." - Theobald and Freeman in "Active Learning: Hands on Meets Minds On"

Active learning improves learning outcomes

- "The results raise questions about the continued use of traditional lecturing as a control in research studies, and support active learning as the preferred, empirically validated teaching practice in regular classrooms." - Freeman et al. in "Active Learning Increases Student Performance in Science, Engineering, and Mathematics."

While students learn more with active learning, they perceive they learn more in lectures!

- "Students learned significantly more with active learning (as expected), and they also felt that they learned from it—but their feeling of learning was more pronounced with the well-presented traditional lectures." - Deslauriers et al in "Active Learning: Hands on Meets Minds On"

Counterintuitively, it might be good sign folks are feeling daunted, confused, frustrated, or doubtful

- It's okay and normal to feel confused, frustrated, etc. (Cavanagh)
- It's normal to resist new forms of teaching/learning (hooks)
- These feelings can be a part of a rewarding learning process (hooks, Cavanagh)
- **Important**: discomfort or mild anxiety can help or be a part of the learning process, but high anxiety is detrimental; so please please communicate if you are feeling really anxious about anything in this class.
- Mindfulness can help (Cavanagh, Nhat Hanh)

I'm asking for your trust

- That this more active, project based learning can work
- Please please keep giving me feedback and contributing learning ideas; the fact that I won't lecture on Solid and Hazardous Waste Management does not mean I didn't hear and really think hard about your feedback (I feel like Tuesday could be a breakthrough). Within active learning, there are so many knobs to tune (for example structure), and these can be tailored to each group and individual .
- Let's try this! There's tons of opportunity and what is the worst that can happen?

. . . and I also want to advertise what we've accomplished in two days of class with tons of logistical challenges

- This long list of project ideas that exceeds the breadth of any of the course syllabus I've seen (past 4160, MIT courses)
- These learning objectives:
  1. Define solid waste.
  2. Define hazardous waste.
  3. Identify and define solid and/or hazardous waste streams in different project areas.
  4. Generate exploratory intervention ideas related to different project areas.
- Discussion on perspective taking (earthworms, bacteria) and reciprocity in waste management.
- Discussion on interdependence and coupling between consumption, waste management systems, and behavior.

Return to Class Structure Brainstorm

Group meet!

- Introduce yourselves if you have not (names and preferred pronouns)
  - Also introduce something non academic you've been into lately (song, book, TV show, food spot, local park, movie, stretch of street or trail, museum, sport, etc.)
- Brainstorm a group project idea; brainstorming doc is available from the website and in your Group's Google folder.
- Brainstorm a group name or mascot?
- If you would like to do more background research before picking a group topic that is fine; I recommend pair research (e.g. 2-3 people per a computer/device). Possible tools include the MIT courses linked on the website, Thanos's slides, Wikipedia, Google Scholar, CLIO, Web of Science.

How did the group meeting go?

Next activities: choose our own adventure

- Research approach (google scholar, CLIO, web of science, nypl)
- Introduce my project idea
  - Building scale NYC compost, possibly implemented city-wide.
- Return to Groups for more project discussion
- Return to Groups for image hunt

What would be helpful for next class?

- Anything specific you want me to prepare for Tuesday?
- More or less, or about right, structure to group work?

Last logistical things

- Edit of community agreement to be more explicit
- Names recordings on Courseworks?

Thank you! and plan for Tuesday

- Each group will introduce themselves and their initial project ideas (or questions and issues they ran into while trying to converge on a project idea).
  - Goal: informal, conversational and low stress