BEEC Share and Learn Report: May 2024

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Topic: Teaching Design and Innovation? Learn about BME-IDEA and How to Get Involved

Resources:

- BME-IDEA Meeting 2024: October 22-23 in Baltimore (registration and link will be posted in June) - https://venturewell.org/bmeidea/bme-idea-meeting/
- BME-IDEA Slack Channel: https://big-ideaworkspace.slack.com/
- Stanford BioDesign Online Textbook: https://biodesignguide.stanford.edu/
- CATME for team formation: https://catme.org/login/index
- Kanban Boards/AGILE Method for Project Management: https://trello.com/

Panel Discussion and Lecture:

Notes on Lecture Portion:

- What is BME IDEA? Biomedical Engineering Innovation Design and Entrepreneurship Alliance, started 2003
- >100 faculty and staff from universities teaching experiential training programs on medical device and health technology innovation
- Community comes together every year or other year to brainstorm new directions in BME innovation education, the day or two before BMES annual conference
- Did a survey on BME-IDEA – community is made up of public and private universities, most on both research/teaching tracks, strengths are in innovating and prototyping and documentation, weaknesses are DEI teaching in design and IP/commercialization/etc. once students leave
- Community is interested in course logistics (what to do with old design projects, scope projects, teach documentation, manage teams in large courses, teamwork, project assessment), ability to commercialize projects, global health, DEI and generative AI in design projects
- Historical Summary: unmet need at Whitaker meeting showed that design instructors' needs not met by society meetings, early value of meetings by community led to website, DEBUT challenge…
- White Paper Topics: course logistics, commercialization and entrepreneurship, DEI, and Global Health all described with advice on how to incorporate them in your classroom
    - Includes roundtable discussion summaries of each of these topics
    - Includes brainstorming summaries of each topic to share ideas on each topic
- BME-IDEA Meeting 2024: October 22-23, registration opens Jun e2024
    - Want to get help from colleagues on course or program? Submit a brief descriptive title and 3-4 sentence summary on topic of interest that you want to include in the BME-IDEA meeting alongside registration. Topic if chosen will be included in meeting.

Discussion:

- Have Latin America and UK BME-IDEAs present along with other US design instructors present
- Mental health awareness and resources – will be discussed at BME-IDEA especially since these students are now the ones who had their beginning years of college/end high school during COVID
- How do you pick teams, how many students in a teams and what happens when they drop out?
    - Had one team of 6, other teams of 4 or 5. So second year made larger teams of 6 and that worked better
    - Let them pick own teams
    - Use CATME: https://catme.org/login/index - does team formation and peer evaluation
    - Uses IPAC – Individual Peer Assessed Contribution for the evaluation

- Other have done teams of 2 or 3 because larger ones will have one student who hides, but others like large teams with subgroups of 2-3
- Tried answer a question about when they like to get homework submitted to make sure that those who like start work day of get sorted with similar groups
- Aptitude heterogeneity has been a struggle and using a homogeneous GPA group has helped reduce group discord
- Others have tried to do teams of 5-6 and to make sure they assess them one on one via interviews where you do a 5 minute oral assessment
- Standards Based Assessment: Others are trying this year to have each student demonstrate a minimum competency in several key design skills to be able to pass the course, hoping it will allow us to fail the students that deserve to fail and retake the design courses
- At graduate level (business/clinical engineering) have done 8-12 member teams and run it around prospective project management instead of back end peer evaluations and give gantt charts/tools to make it a learning process instead of backend accountability. Project management tools can help them become more successful.
- Kanban boards – AGILE methodology, Trello.com is a free service and can use it for project management