

PROOF Meeting Minutes

September 27, 2025

Event Summary:

Twenty math faculty colleagues gathered for the inaugural meeting of PROOF (Practices for Research-based Outcomes in Open and Flexible Teaching), a new Community of Practice (CoP) in our department. Over lunch, participants joined small-group discussion tables on topics such as pedagogy, assessment, curriculum, student success, and AI in math education, each facilitated by volunteer moderators. Following these conversations, moderators reported back to the larger group, sharing key discussion points along with ideas and suggestions for strengthening teaching practices across the department. As part of a retrieval-practice activity grounded in the learning sciences, two colleagues won surprise gifts. After the lunch discussions, a group of participants enjoyed a self-guided tour to the Zimmerli Art Museum, including the exhibit Consciously Conscious Numbers by Lorenzo Clayton, among other highlights. This retreat marked the first gathering of PROOF, and we look forward to hosting more events that bring our community together around teaching, learning, and shared professional growth.

Curriculum:

- There was a discussion of how many of these classes have a lot of material and how some of the courses have started to address these issues.
- For example, MATH130 has been recently redesigned, and among part of the changes the structure of the meetings has changed: now typically the first hour is “lecture” and the last twenty minutes is “recitation”. Another thing that was changed in 130 was the inclusion of the topic of partial derivatives at the request of RBS.
- It was mentioned that the Department will soon call start referring to “lecture” as “plenary” to not bias the instructors ideas on what should happen during that time.

Pedagogy:

- We discussed the use of Geogebra/Desmos to illustrate certain ideas in Calc 2. For example, the difference between the shell and washer method has become more clear to students.
- The use of Polls during class time was discussed as well as their different variations: canvas polls versus clicker polls for example. Five instructors had said that they use polls in a systematic way.

Assessment:

- We discussed how some instructors ask their students to take pictures of their quizzes, so that they can grade them by themselves and then compare them with how the TA/instructor graded them.
- It was also suggested that the student could also upload the quiz to Chat-GPT/Gemini/etc to compare their own grading of the quiz with how the LLM would grade it.

AI Integration in Math Education:

- Use AI to create in a more efficient way different versions of the same exam/quiz.
- There are new AI tools in math software: for example, Matlab has copilot built into it.
- There are other AI tools like Gamma that help create power point presentations, or videos out of slides.
- We discussed more futuristic AI tools, like having the AI type a document for you as you voice record your class, or how the uses of smart-glasses may make it easier to cheat during exams.

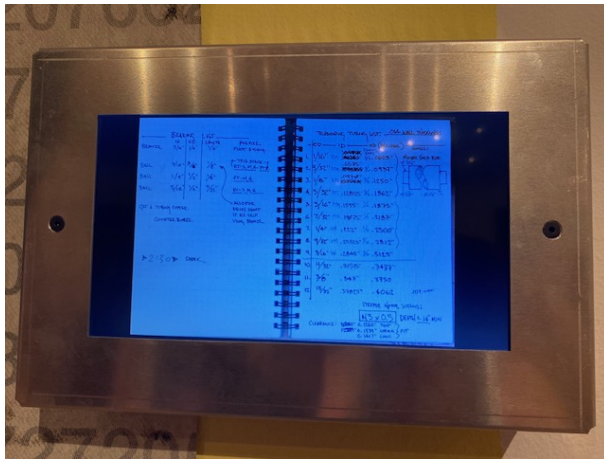
Student Success

- The instructor needs to help student recognizing their own needs and help set the right expectations in terms of how much they should study for the course.
- Freshman seminars can be useful for this as well.
- In recent years students have become more stressed, and have more issues meeting deadlines.
- Having group work has become more important since it allows them to connect and alleviate some of their anxiety.

Event Pictures







Lorenzo CLAYTON

Navajo (b. 1950)

**Consciously Conscious Numbers
2024**

Mixed media

Consciously Conscious Numbers: A collaboration between
Lorenzo Clayton, George Sidebotham and Timothy Corbett

"Consciously Conscious Numbers is a collaborative piece between George Sidebotham, an artist and professor of Mechanical Engineering at The Cooper Union's School of Engineering, Timothy Corbett, an artist and designer for manufacturing and production, and me. Central to the piece is the idea that at the very core of the base numbers 0-9 are individual, conscious entities. Divine-like attributes are qualities I've always attributed to the field of mathematics, so thoughts of numbers possessing consciousness during a Gestalt-like experience I had some years ago seemed to make absolute, instinctive sense. I can say that what I experienced was culturally based. People like my ancestors have been acknowledging the consciousness of the natural world and that of the cosmos for millennia." -L.C.

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