

Implementing Active Assessment: Stories from an Instructor Learning Community

Mikahl Banwarth-Kuhn
CSU East Bay

Tu Hoang
CSU East Bay

Ryan Moruzzi Jr.
CSU East Bay

Jesús Oliver
CSU East Bay

Simone Sisneros-Thiry
CSU East Bay

Keywords: Active Assessment, Community of Practice, Active Learning

Recently, there has been a surge in interest in developing more flexible assessment structures, with a great deal of momentum for this movement from COVID-19 pandemic equity considerations (Kadakia & Bradshaw, 2020; Kim, 2020). Active-learning-based instructional practices are now established in undergraduate education (Laursen & Rasmussen, 2019). Yet, how to align assessment with those practices is still developing. The ideas presented are part of a larger project that explores instructor and student perspectives on *active assessment*, assessment strategies grounded in the values and practices of active learning, including attention to equity. The authors are participants in the project. This poster will focus on challenges and benefits that have appeared in the first year for the authors, as a community of practice (CoP), designing and implementing active assessment.

Members of the CoP are mathematics instructors in a variety of career stages and positions, teaching courses from introductory-level courses with co-requisite support, through upper division electives for math majors. This work takes place at an institution with a variety of supports available, and individual instructors' consideration and implementation of *active assessment* occurs within the ongoing process of CoP professional and pedagogical growth.

This poster will share stories about our motivation as well as initial and in-progress thoughts on implementation. It will include details on class sizes and examples of active assessments as well as notes on how they are administered. The stories generated some questions related to equity and the challenges and benefits of *active assessment*:

- We have noticed a challenge in structuring projects as a form of active assessment. Thus, a focal question for the group is: How do we balance promoting group projects and offering individual options for projects in response to the needs and preferences of students?
- Using assessments involving short- and long-answer responses, we noticed students gave short, surface-level responses. This led to another question for the CoP to address: How can we leverage assessment strategies and give qualitative feedback that supports students in engaging with written assignments in a meaningful way?
- Peer feedback on assessments can help students plan their learning and identify strengths and areas for growth. How can we evoke critical peer feedback that encourages students to reflect more deeply on the quality of their work?

In all of these questions, we aim to center equity and access to rich mathematical experiences. A goal of this poster is to generate critical conversations that will inform our ongoing research and practice.

Acknowledgement

This work is supported by NSF ECR: BCSER #2225295.

References

- Kadakia, P. C., & Bradshaw, A. (2020, May 6). Equitable exams during Covid-19. *Inside Higher Ed*.
<https://www.insidehighered.com/advice/2020/05/06/changes-instructors-should-consider-administering-and-grading-exams-during-covid>
- Kim, J. (2020, April). 5 Reasons to Stop Doing Timed Online Exams During COVID-19. *Inside Higher Ed*.
<https://www.insidehighered.com/blogs/learning-innovation/5-reasons-stop-doing-timed-online-exams-during-covid-19>
- Laursen, S. L., & Rasmussen, C. (2019). I on the prize: Inquiry approaches in undergraduate mathematics. *International Journal of Research in Undergraduate Mathematics Education*, 5, 129-146. <https://doi.org/10.1007/s40753-019-00085-6>

Mikahl Banwarth-Kuhn
Tu Hoang
Ryan Moruzzi Jr.
Simone Sisneros-Thiry

2023-2024 Assessment Community of Practice

- Includes lecturer, pre-tenure, and tenured faculty.
- Wide range of courses and assessment strategies represented.
- Focus on **active assessment** across different contexts.

Projects:

Finite Math for Business Business Majors, 35 students
Students chose to either use real data from a company that produces and sells items or to estimate data from an imaginary future business. Groups built models of business functions and used platforms such as Desmos to make a presentation that explains important points in the model and provide the best consulting solution for the business by mathematics.

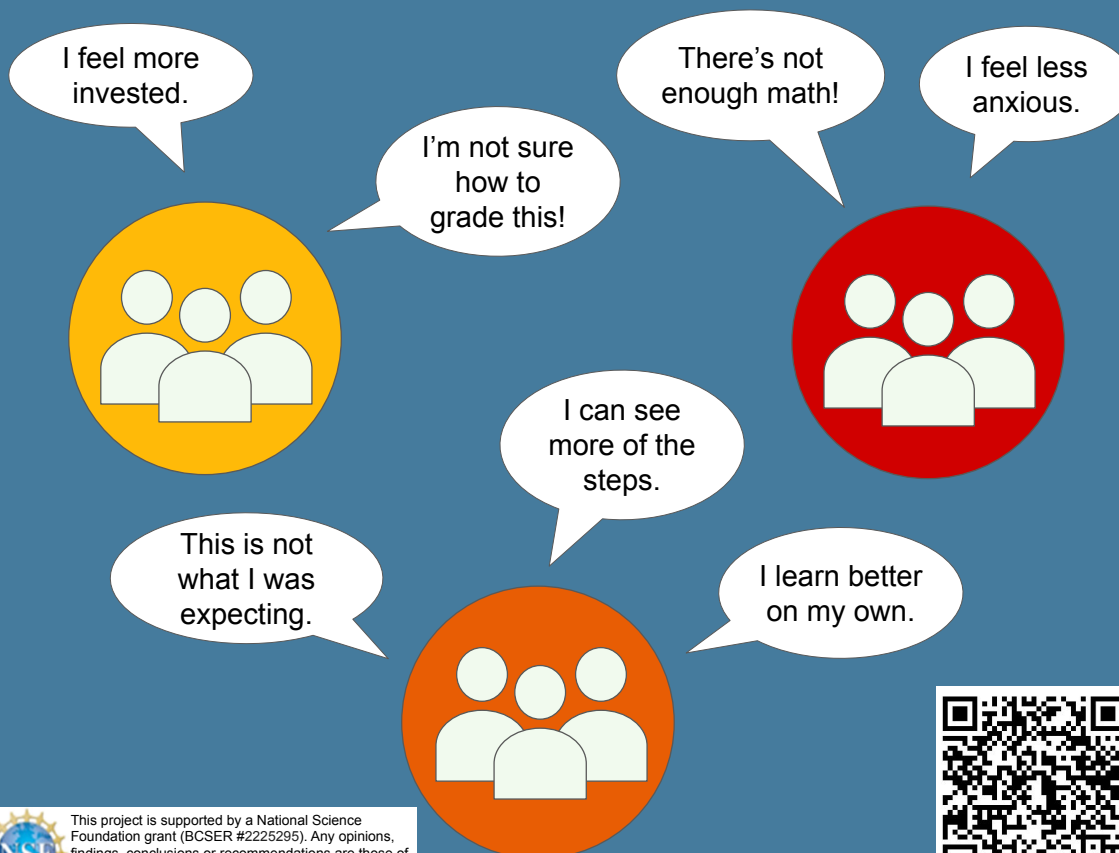
- Reducing stress compared to a traditional test.
- Challenging if students cannot work in groups for any reason.
- How flexible we can be if students can't work in project for any reason?



CAL STATE
EAST BAY

Implementing Active Assessment: Stories from an Instructor Learning Community

By using **assessment strategies** aligned with **active learning**, we uncover more about **students' learning process**.



This project is supported by a National Science Foundation grant (BCSER #2225295). Any opinions, findings, conclusions or recommendations are those of the authors and do not necessarily reflect the views of the Federal Government.

NSF Award Number: 2225295



Written Responses:

Math for the Arts and Humanities Non-STEM majors, 35 students
Students compiled portfolios of their work. As part of the portfolio, students had to write summaries of mathematical content from topics covered in class.

- Writing summaries helps students reinforce content and encourages students to write mathematical ideas in their own words.
- Students typically gave surface level responses and had a difficult time synthesizing material.
- How can we prepare students in a math class to engage in writing at a deeper level?

Peer Feedback:

Intro to differential Equations STEM Majors, 20 students
Students created mini lessons to teach each other techniques for solving ODEs. They were required to give feedback on their classmates' mini lessons, and use feedback they received to revise their work.

- Student presentations provided insight into their thinking and how they approached each problem.
- Peer feedback did not promote deeper reflection or increase progress toward the learning objectives for either learner.
- How can we evoke critical peer feedback that encourages students to reflect more deeply on the quality of their work?