

Inclusive Learning and Teaching in Undergraduate STEM Instruction

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Current and future faculty who participate in our professional development will learn and implement inclusive teaching methods in their STEM classes which will reduce gender and traditionally underrepresented minority disparities in performance and improve students' sense of belonging, self-efficacy and STEM identity. This project will positively impact URM retention and degree attainment in STEM fields over time, and ultimately diversify our national STEM workforce.

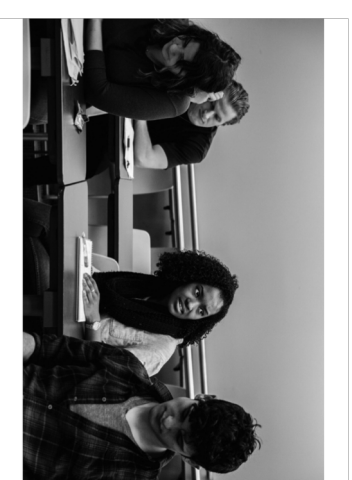
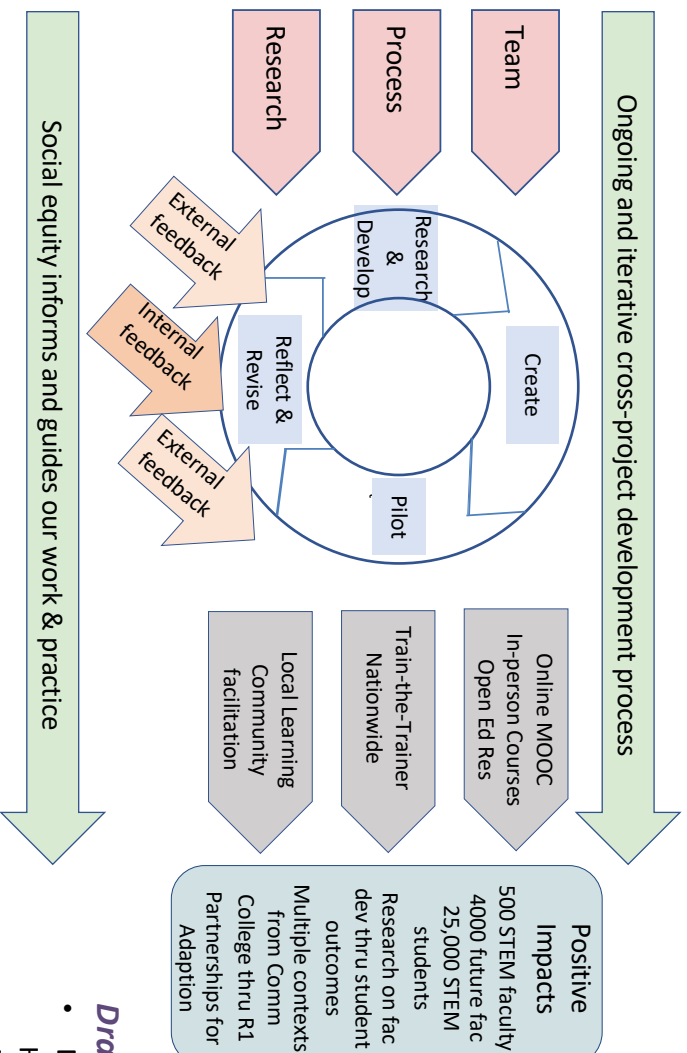
Project Goals

Advance understanding of effective ways to create inclusive learning environments through infusing knowledge, embedding research, and ongoing assessment and evaluation to advance our understanding.

Develop content that demonstrably improves the awareness, confidence, and ability of PhDs, postdocs, and faculty to create inclusive STEM learning environments.

Build a network that connects diverse partners through communities of local facilitators.

Develop ourselves as individuals and teams as an equity-based collaborative that practices inclusion.



University of Michigan's Center for Research on Learning and Teaching Players from the skit *Conflict in the Classroom*. Students respond to a heated moment that arises during a review of their problem sets. Actors are Emily Bice, Kevin Corbett, Kourtney Bell, and Sam Bell-Gurwitz. CRLT Players' embodied case studies will be included in several course modules.

Draft Learning Modules

- DEI in Learning & Teaching in STEM Higher Education
- Instructor Identities & Classroom Authority
- Student Identities and Learning Experiences
- Creating an Inclusive STEM Course
- Classroom Climate
- Inclusive Mentoring
- Leadership for Change

Project Team:

Help us make connections & answer questions:

- To what extent should our materials be intentionally delivered and released so we can monitor participant learning versus more open dissemination? Concern over 'Do No Harm'?
- Our project engages contexts from community colleges to R1 institutions, and we seek input on navigating such complexity.
- We seek the guidance of potential additional partners at ASCN on how our content can best serve their needs.

Project Partners:



This work was supported by the National Science Foundation under grant numbers DUE-1821684, 1821571, 1821528, 1821510, 1821574. Any opinions, findings and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect those of the National Science Foundation.



Inclusive Teaching Course Learning Objectives:

- **examine** issues of diversity, equity and inclusion, especially around power and positionality, at various levels
- **reflect** on their own and their (current or future) students' identities, the intersectionality of identities, and the impact on learning
- **question** their assumptions about all aspects of instruction, as well as conceptions of diversity, equity and inclusion, and what those assumptions might mean for their (current or future) practice and student learning
- **identify** and **implement** learner-centered structures and strategies that remove common barriers to learning in STEM courses and enhance learning for all students
- **apply** principles of evidence-based inclusive teaching to their course design and learning environments
- **use** your student learning data and feedback to inform pedagogical and curricular choices in higher education
- **examine** evidence-based inclusive teaching and mentoring approaches and skills to support the development of (current and future) undergraduates in their professional and personal growth
- **develop** skills to advocate for improvement in STEM education by identifying equity-related issues *and create* a plan to address one or more of them