

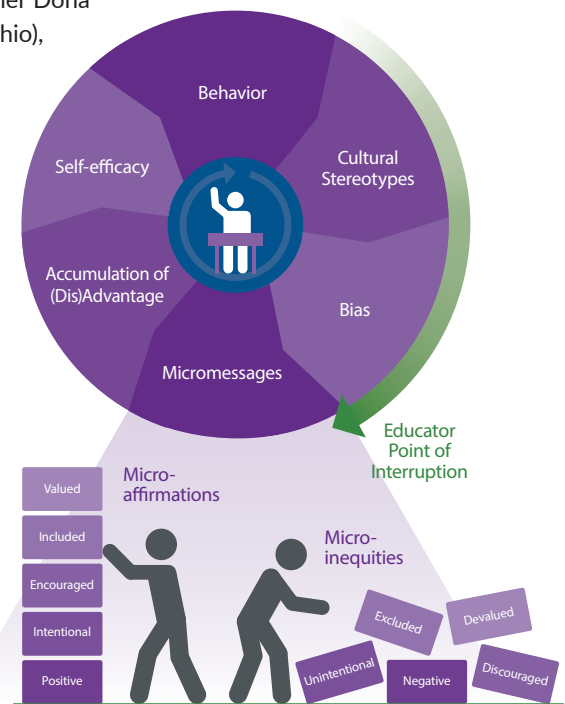
Educators' Equity in STEM (EESTEM) II

Team: PI: Ben Williams, PhD, NAPE CEO; Co-PIs: Natalee Hilt, PhD, Stark State College, OH and Fred Owensby, PhD/Robert Mitchell, Dona Ana Community College, NM; Gregory Jackson, NAPE Program Manager

The goal of the Educators' Equity in STEM Academy (EESTEM) II is to develop an effective model for delivering a high-quality professional growth opportunity nationally with fidelity for 200 community college science, technology, engineering, and mathematics (STEM) technician education faculty and their colleagues teaching college and secondary gateway courses to enhance their teaching skills and practices leading to improved academic outcomes for students, especially those underrepresented by gender, race and ethnicity, and disability.

The National Alliance for Partnership in Equity (NAPE) Education Foundation together with Doña Ana Community College, New Mexico and Stark State College, Ohio has created the EESTEM Academy Phase II to deliver a rigorous professional development program for educators using NAPE's Micromessaging to Reach and Teach Every Student™ curriculum (Micromessaging). Micromessaging includes four components (28 hours total): (1) a 4-day Summer Institute in a central location (either Dona Ana Community College in Las Cruces, New Mexico or Stark State College in Canton, Ohio), (2) eight structured and facilitated monthly Professional Learning Communities (PLCs) hosted in the academic year, (3) Tools and Resources that are easily available to the participants and support and enhance the work begun at the Institute, and (4) a virtual Capstone Presentation at the conclusion of the academic year for educators to present their selected strategies and their impact on student outcomes to colleagues, administrators, and the Leadership Team. In addition, each team is expected to reach out to at least 10 other instructors and administrators at their colleges in order to expand understanding, commitment, and sustainability of efforts.

The Micromessaging program was developed to serve technician education faculty and high school career technical education teachers and was piloted through an NSF ATE grant (DUE # 1104163) from 2011-2014 to create an equitable and inclusive student experience. Through multiple implementations around the country since, Micromessaging has demonstrated significant success in improving faculty attitudes, intentions, and behaviors that have transformed their teaching practices and had a demonstrated impact on student outcomes in multiple class settings. Over three years, EESTEM II will develop a model to implement NAPE's highly effective Micromessaging program which can be feasibly and easily implemented at multiple diverse community college sites and conducted with fidelity nationally.



September 2018 marked the end of Year 2 of the grant, at which point the project had implemented the full Micromessaging Academy with its first cohort and the Micromessaging Institute with its second cohort. 92 STEM community and technical college faculty and some of their counterparts from feeder secondary programs participated in the two cohorts of Micromessaging Training, 46 in each. 15 colleges from 11 states participated (see below):

Micromessaging Cohort 1 FY18

- Austin Community College, TX
- Bainbridge State College, GA
- Baltimore City Community College, MD
- Delgado Community College, LA
- Northwest State Community College, OH
- River Parishes Community College, LA

Micromessaging Cohort 2 FY19

- Dona Ana Community College, NM
- Georgia Northwestern Technical College, GA
- Indian Hills Community College, IA
- National Technical Institute for the Deaf: RIT, NY
- North Idaho College, ID
- Owensboro Community & Technical College, KY
- Santa Fe Community College, NM
- Stark State College, OH
- Utah Valley University, UT

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Evaluation and Results

For this project, the evaluation team comprised of the PI, Allison Group, and Southern Methodist University (SMU) Center on Research and Evaluation (CORE) co-developed a new set up evaluation instruments, which include a pre-/post-/delayed-post survey for the Institute and Academy, and an interview protocol for the Professional Learning Community leads. Results from the first cohort of Micromessaging reveal the following:

- Pre- and post-institute surveys established that participants found the Summer Institutes to be of high quality; meeting their expectations, providing new information, and worthy of recommendation to colleagues.
- All participants reported that they were likely or extremely likely to use their learning and the materials from the Summer Institutes in their classrooms, and approximately 25% provided descriptions of their plans to make changes to their instructional practice.
- Nearly all participants (95.7%) believed their actions in the classroom would have some impact on their students, with 52.2% believing the impact would be high.
- In addition, participant self-ratings of their level of knowledge with respect to equity concepts before vs. after the training increased by 183%. Participants strongly attributed their learning to their participation in the Summer Institutes.

Following the completion of the second cohort of training the delayed post surveys will be analyzed, along with the interview protocol from cohort 2. Quotes from the cohort 1 interviews reveal exciting and encouraging outcomes from the project:

"I think for me personally like what was most beneficial with this experience was looking at the focused curriculum-based activities that we could do to take that deeper dive. You know like the critical self-reflection that was involved in looking at multicultural competence and you know understanding the culture wheel and looking at the different components involved in that and being able to utilize the classroom observation because it wasn't until this cohort I had ever even been observed in the classroom which is a shortcoming of our organization by far, but using the model has been so powerful in looking at how do we create this professional learning community that includes the action research but also deepens the understanding and builds metacognition around these different topics and then also looking at that accountability and towards the Capstone. I just feel like the model is just phenomenal for you know making sure that there is that continuity in that ongoing rather than just like a four-day training and then you just don't ever come back to it."

"I think that through this all, we gained an awareness of all the micro messages that occur in our daily lives and by becoming aware of those, we can now with the strategies that were provided to us at the academy, we can go ahead, and we can address those micromessages—micro inequities—in a way that we would have never been able to do before."

"I feel confident in my ability to teach. I feel confident in my ability to change the climate in any direction that I need to. I can uplift. I can discipline. Anything and everything that I need to, I can do it through Micromessaging. And, one of the reasons why I'm so confident now, is because I'm cognizant of the nonverbal messages. It's almost like my eyes have been opened, and I have an incredible ability to de-escalate confrontational situations. And I think it's because of the training that I got from Micromessaging."