Building Equity-Mindedness in Math Faculty

How CUE supported math faculty along a multi-year journey toward equity-mindedness and improved student outcomes for minoritized students

IN 2017, CUE EMBARKED ON a two-year project that involved six Colorado community colleges and over 27 math faculty. Funded by the Teagle Foundation, CUE set out to see how instructors might foster equity-mindedness via race-conscious inquiry. A companion grant from the Bill & Melinda Gates Foundation supported the reformatting of CUE's tools and the development of new tools and assessments based on the learnings in Colorado, accessible now at https://cue-tools.usc.edu/.

Supporting the faculty's journey toward equity-mindedness were two CUE "equity coaches" who developed cross-campus training workshops using CUE's Racial Equity tools to support practitioner inquiry, coordinated monthly debriefs, and provided feedback and support after observing how each faculty member taught and ran their class. Throughout the project, the coaches helped faculty use CUE's Racial Equity tools to develop and reflect on inquiry findings in order to rethink course and classroom structures and build relational practices with racially minoritized students in mind.

What is CUE?

The Center for Urban Education (CUE), part of the University of Southern California's Rossier School of Education, helps individuals learn to use data, inquiry, and self-reflection to see institutional racism and dismantle it, one practice at a time.

To do this, CUE has developed an inquiry process that empowers faculty and staff to become equity-minded practitioners with the critical consciousness, will, and ability to combat institutionalized racism. A core piece of this process are CUE's Racial Equity tools, which have been tested and developed over years of field research at 678 two- and four-year institutions across the country.

Learn more at
https://cue.usc.edu/

THE IMPACT ON FACULTY

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At the beginning of the project, most participants claimed to be "color blind," or hold a race-neutral standard, noting that they did not see how race factored into math as a discipline or in how math is taught, and sought to "treat all students the same." As one faculty member noted: "Many of us go to 'Equality is like being color blind … I don't notice, I treat everybody the same.'"

Using the tools helped faculty see their practice in critically race-conscious ways—that same faculty member stated: "The tools gave us permission to view our class through a racial lens. And that's important … I've been given permission to notice differences."

The CUE tools help practitioners build an awareness of how entrenched racism affects students and their outcomes, and how those with the best intentions might not be supporting their minoritized students in ways that lead to equitable outcomes. Participating faculty also began to reflect on their own racial identities and privilege, and how math in particular has been and continues to be perceived and experienced as White.

One participant described his view at the beginning of the project as "You know, math is math, numbers are numbers," but noted that as a result of the project, he was able to see how both the perception of math and the teaching of it were impacted by race, and how he could take steps to address that and change it, including by discussing race more openly in his classroom. Learning to see and understand the racialized realities of the classroom—and, more broadly, the discipline and the system—is critical to making change.

Disaggregated Data

Data also serves a key role in this process: it spotlights where equity gaps exist, offers a sense of the magnitude of those gaps, and provides a baseline from which progress (or lack thereof) can be measured. Prior to the project, most of the participating faculty did not regularly see their course success rates disaggregated by race and ethnicity, but as a result of CUE's work they started to regularly use disaggregated data and CUE's Data Tools to monitor course enrollment, retention, and success by race/ethnicity, monitor grades and attendance, and use all of this information to set goals, target interventions, and improve their practices.

THE IMPACT ON FACULTY

> *"I didn't realize that there was this problem until I ran my data, and then I could see that there is an equity gap in my classes. And then as soon as I saw [that], I wanted to fix it right away."*
>
> **Participating Instructor**

In addition to this project, the CUE team also worked closely with the vice president of the Colorado Community College System to help design a system-wide dashboard that leverages CUE's course-level equity analysis. This enables faculty across the state to access disaggregated course-level success data, promoting ongoing race-conscious and equity-minded data sense-making.

Perceptions of Students

Along with the information uncovered by looking at disaggregated data, other CUE tools helped faculty's perceptions of students become increasingly race-conscious, in an affirmative sense. Much like the Data Tools, the Observation Tools provide structure, and rather than working from hunches or assumptions, faculty had guardrails to guide the inquiry and discussion that began to shape their perceptions.

CUE's approach to observation can help build the habit of more open discussions about the racial consequences of actions, and build a pattern of observing, reflecting, and adjusting. Multiple instructors noted that observing their peers gave them new awareness of the racialized realities of the classroom, insight about their own classrooms, and ideas for how they might make students feel more welcome and comfortable. Across the duration of the project, faculty became more aware of White privilege dynamics and how they manifested in their classrooms, and saw how students' past racialized experiences informed the way they interacted.

Responsibility & Agency

With this awareness came responsibility. As faculty renounced the deficit-minded framing that holds students solely responsible for their outcomes, they held themselves increasingly responsible for equitable student success. They began to question patterns in outcomes, reflect on past interactions with minoritized students, and, critically, see themselves as capable of empowering students from minoritized groups by demonstrating care, building relationships, and communicating a belief that their students can be successful.

THE IMPACT ON FACULTY

Changes in Practice

This transition from mindset to action is key. CUE is always oriented toward action—looking toward how to move from rhetoric to change, so it was exciting to see faculty keep going and use their agency and institutional knowledge to benefit minoritized students.

Based on their observations and inquiry findings, faculty changed their instructional approaches, including course content, structures, and facilitation. Rather than solely lecturing, faculty invited students into knowledge creation, and adopted facilitation strategies that elicit more participation and ensure all voices are heard. They changed classroom structures, like offering more in-class time to work on homework, and intervened with White students who dominated class discussions so that students from minoritized groups also had the opportunity to be "knowers" and "doers." By using the Syllabus Review tool, they changed syllabi and reworked the first day of class to focus more on building relationships and demonstrating care.

Beyond their own practices, faculty also noted that they felt empowered to share what they'd learned, and in some cases, champion equity work on their campuses more broadly.

The CUE tools and the action-inquiry process they support provide structure to these necessary but often subverted or avoided conversations about race and racism. They offer something concrete that practitioners can both rely on as they grapple with their own self-change and share with their teams and peers.

> *"When we got the classroom observations done … that changed our conversations dramatically, in the sense that we're really looking at very specific … things that we might be able to change in the classroom."*
>
> **Participating Instructor**
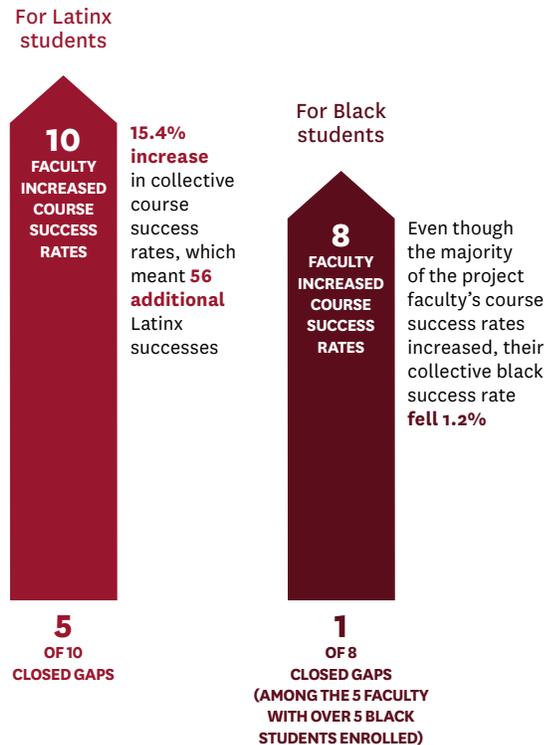
THE IMPACT ON STUDENTS

THE IMPACT ON STUDENTS

In tandem with this faculty impact was the impact on students. Over the course of the project, faculty saw improved outcomes for racially minoritized students. Of course, faculty share the goal of closing any and all equity gaps among students, and the majority of participating faculty made progress toward that goal, with a number completely closing gaps for Latinx and Black students. The visual below represents changes in student outcomes at the close of this work. Courses in the project included Developmental Math, Career Math, Calculus, and Statistics.

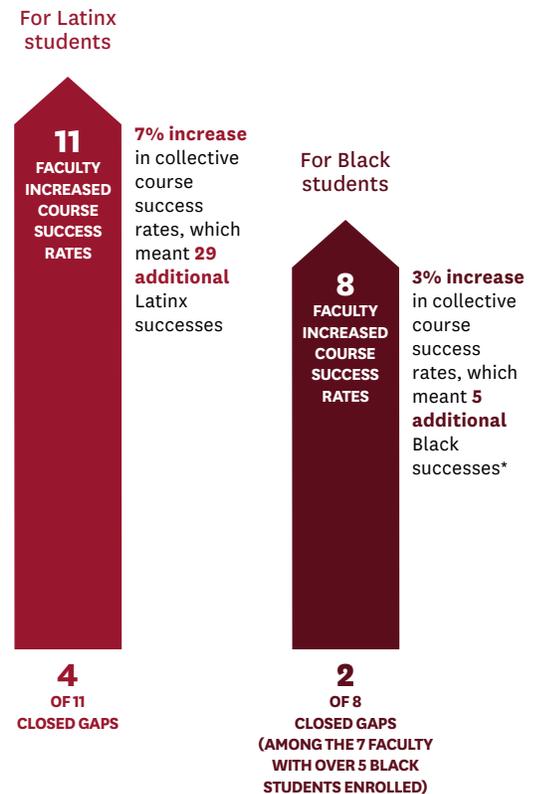## Changes in Latinx and Black Course Success Rates, by Faculty

COHORT 1 worked with CUE for two years.

The majority of the 13 faculty in this cohort saw improved outcomes:

For Latinx students

10 FACULTY INCREASED COURSE SUCCESS RATES

15.4% increase in collective course success rates, which meant **56 additional** Latinx successes

For Black students

8 FACULTY INCREASED COURSE SUCCESS RATES

Even though the majority of the project faculty's course success rates increased, their collective black success rate **fell 1.2%**

5 OF 10 CLOSED GAPS

1 OF 8 CLOSED GAPS (AMONG THE 5 FACULTY WITH OVER 5 BLACK STUDENTS ENROLLED)

COHORT 2 worked with CUE for one year.

The majority of the 14 faculty in this cohort saw improved outcomes:

For Latinx students

11 FACULTY INCREASED COURSE SUCCESS RATES

7% increase in collective course success rates, which meant **29 additional** Latinx successes

For Black students

8 FACULTY INCREASED COURSE SUCCESS RATES

3% increase in collective course success rates, which meant **5 additional** Black successes*

4 OF 11 CLOSED GAPS

2 OF 8 CLOSED GAPS (AMONG THE 7 FACULTY WITH OVER 5 BLACK STUDENTS ENROLLED)

*This is in contrast to all other non-project faculty in their respective departments seeing a combined 4.5% decrease that translated to 34 fewer Black student successes over the same time period

FINAL TAKEAWAYS

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In addition to the project's most valuable takeaway—faculty championing racial equity in their classrooms and improved student outcomes—the project had another valuable takeaway: CUE's ongoing understanding and categorization of the ways instructors have control over and can influence the state of equity in their classrooms. By observing how engagement with the tools resulted in change, CUE is able to show future participants the possibilities of engaging with this work. Spotlighting the impact that an individual can make fosters greater willingness to act—it moves the onus for change from an abstract level of strategy and rhetoric to individual action and commitment.

The CUE tools and the action-inquiry process they support provide critical structure to help faculty see entrenched race and racism, and become anti-racist, equity-minded practitioners who are empowered to make change.

> *"What I've learned through this work is that I am capable of taking a stand … If I don't say anything, if I don't interject this idea of race and ethnicity into these … conversations … it's not going to come up. [And] if it doesn't come up, then these structural inequities that occur are not going to be addressed, and it will continue."*
>
> **Participating Instructor**

THANK YOU

CUE would like to thank the Teagle Foundation and our program officer Loni Bordoloi Pazich as well as the Bill & Melinda Gates Foundation and our program officers Kelly DeForrest, Rebecca Hartzler, and Mandee Eckersley.

Special thanks go to the Colorado Community College System Office, and especially Chancellor Joe Garcia and Vice President for Academic and Student Affairs Landon Pirius. CUE also thanks the presidents and math faculty teams from the six participating Colorado community colleges: Aims Community College, Colorado Community College of Denver, Front Range Community College, Pikes Peak Community Colleges, Pueblo Community College, and Red Rocks Community College.

Lastly, immense thanks to the on-the-ground facilitators of this work, Debbie Hanson and James Gray, who crafted this project and led its implementation, as well as Cheryl D. Ching of the University of Massachusetts Boston, Maxine Roberts of the Education Commission of the States, and D-L Stewart of Colorado State University, who conducted the research for the case study.

Want to learn more about CUE or this work?
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Interested in learning more about and using CUE's Racial Equity Tools?
Access them here: https://cue-tools.usc.edu/

How to cite this document: Center for Urban Education. (2020). *Building Equity-Mindedness in Math Faculty: How CUE supported math faculty along a multi-year journey toward equity-mindedness and improved student outcomes for minoritized students.* Los Angeles, CA: Rossier School of Education, University of Southern California.