Teaching practices for equitable math student success

2019 AMATYC Conference S009
Ralf Youtz
Portland Community College
ronald.youtz@pcc.edu
Land Acknowledgement

We acknowledge in Milwaukee that we are on traditional Potawatomi, Ho-Chunk & Menominee homeland along the southwest shores of Michigami, North America’s largest system of freshwater lakes, where the Milwaukee, Menominee & Kinnickinnic rivers meet & the people of Wisconsin’s sovereign Anishinaabe, Ho-Chunk, Menominee, Oneida & Mohican nations remain present.

(courtesy of the Electa Quinney Institute, University of Wisconsin Milwaukee)
Welcome!

Race & gender are challenging topics. Some guidelines for today's work:

- Assume good intentions
- Step up & step back
- Speak from experience
- When possible, make assumptions clear
- Don't expect closure
- Confidentiality (share ideas, protect participants' privacy)
Today's workshop

*I am not an expert* (I'm learning with you!)

I assume that *you* are working to be a better instructor for *every* student. Research shows that practices we'll discuss today benefit *every* student, & they are *critical* for men of color!

Workshop adapted from *Teaching Men of Color in Community College*, Dr. Frank Harrison III & Dr. J. Luke Wood, CORA Learning
Objectives

- Connect with fellow instructors committed to this work
- Generate ideas for implementing promising teaching & learning practices
Teaching & learning practices

three ~10-minute "mini-workshops" give us (a little) time to brainstorm & discuss ideas to implement

Mini-workshops

● Culturally relevant teaching
● Critical reflection
● Collaborative learning

Brief discussion

● Proactive teaching practices
● Early alerts
Culturally relevant teaching

- Connects course content to students' lives
  - Individual
  - Community
  - Society
- Improves student engagement & focus
- Increases student confidence & interest
Culturally relevant teaching

- Critically engages with different views on math & stats
- Highlights intellectual contributions from men of color & other groups to math & stats

Students should never need to ask "When am I going to use this?"
Applying culturally relevant teaching

- Projects using stats to analyze and critique issues of social concern
  - Portland's current crisis
  - Police killings in USA

Is culturally relevant teaching a good "fit" for math & stats? Ask yourself: "How is this technique used in the real world?" Connect your students to that work!
Culturally relevant teaching mini-workshop

Think (1 min.)

"I could make [my course] more culturally relevant by ___________.

- Write down *the first idea(s)* that come to mind
- *Don't worry* about challenges of enacting idea(s) now
Culturally relevant teaching mini-workshop

Pair (3 min.)

To a partner, describe at least one idea

- Discuss ideas, consider
  - Possibilities
  - Challenges
- Choose (at least) one idea to share out
Culturally relevant teaching mini-workshop

Share (5 min.)

Ideas for making our courses more culturally relevant

● One idea from each table (to start)
● As we share, consider
  ○ Questions, observations, connections
Critical reflection

- Encourages deep reflection on
  - Core values
  - Assumptions
  - Actions of self & others

- Provides space to consider connections between course topics and each student's
  - Major & field of study
  - Career & professional goals
Critical reflection

- Reveals misconceptions of social stereotypes
- Empowers students to work for justice in
  - Their lives
  - Communities
  - Wider society
Applying critical reflection

Ideally, reflection should encourage both personal & critical engagement with math/stats

- Values writing
- Learning journal
- Embed reflective writing in
  - projects & presentations
  - homework & problem sets
  - quizzes & exams
Critical reflection mini-workshop

Think ( 1 min.)

"I could provide a new opportunity for critical reflection in [my course] by __________"

- Again, write down your first idea(s)
- Again, don't worry about any challenges yet
Critical reflection mini-workshop

**Pair** (3 min.)

Share at least one idea with a partner

- Discuss ideas, considering
  - Possibilities & challenges
  - Cultural relevance
- Choose (at least) one idea to share with the group
Critical reflection mini-workshop

Share (5 min.)

Your ideas for more critical reflection in our courses

- Consider
  - Questions, observations, & connections
Collaborative learning

● Increases belonging & sense of mattering
● Generates both in- & out-of-class group
  ○ Discussions
  ○ Assignments
  ○ Projects
  ○ Presentations
● Encourages effective teamwork
  ○ Students can use rubrics to score selves & one another
Applying collaborative learning

- Balance individual work & collaboration (multiple modalities) on
  - Assignments
  - Projects
  - Presentations
- Think-pair-share structure

Lecture-only format generally fails with marginalized students since it devalues student perspectives
Collaborative learning mini-workshop

Think (1 min.)

"I could incorporate collaborative learning about [course topic] by ________________"

- Write first idea(s)
- Ignore possible challenges
Collaborative learning mini-workshop

Pair (3 min.)

Share with a partner

- Discuss
  - Possibilities & challenges
  - Connections to culturally relevant teaching & critical reflection
Collaborative learning mini-workshop

Share (5 min.)

Your ideas for more collaborative learning

- Consider
  - Questions, observations, & connections
Proactive teaching practices

● Connect students to academic resources
● Require students to use resources
  ○ Office hours
  ○ Before- or after-class brief check-ins
  ○ Student resource centers (SLC, MC, WRC, VRC, QRC, etc.)
  ○ Career center, advising, counseling, etc.
● Give authentic, public praise for success
● "If it's important for student success—make it mandatory!"
An early alert system

- Monitors
  - Attendance, lateness, leaving early
  - Coursework scores
  - Incomplete/missing work
  - Disengagement during class work

- Addresses concerns quickly so students have an opportunity to succeed—half-way through the term is often too late!
Make a change!

Apply one idea from today's workshop to your practice!

That's a step toward more equitable outcomes for every two-year college math student

AMATYC Equity Committee

- Fri 2:00 101AB panel: key equity issues
- Fri 4:15, 102AB committee meeting
Thank you for participating today!

And thank you to this far from complete list of people & organizations who've supported this work these past five years...

Michael Alcobendas, Jimena Alvarado, Miguel Arellano-Sanchez, Tanya Batazhan, Linda Fergusson-Kolmes, Max Macias, Michele Marden, Clifford Meeks, Karen Paez, Dorothy Payton, Amara Perez, Terrie Quinteros, PCC Teaching & Learning Centers, PCC Sylvania Multicultural Center, PCC Office of Professional & Organizational Development, Whiteness History Month organizing committee, AMATYC, ORMATYC, & too many PCC students, instructors, academic professionals & staff to list!