

Brief agenda for 12 Apr 2019; 3-4 pm; Corbett Conference Room
HSI STEM Steering Committee

1. Welcome & Outline for today (3-3:05)
2. Other brief updates (3:05-3:15)
 - a. Staff update
 - b. PBLCs – Matt/Amy/Bori
 - c. Teach Excl. Symp./Escala/Matsui's visit -- Amy
 - d. Student groups CCAEs – Anh
 - e. Transfer pathways – Sarah (sick)
3. Focus on Developmental Math Reform (3:15-3:45) – Bori & Dale
 - a. Overview
 - b. Initial assessment evidence
 - c. PBLC & math content connections
 - d. ALEKs
 - e. Steering Input (suggestions)**
4. Announcements (3:40-3:45)
 - a. AHSIE attendees
 - b. Gina Garcia's visit
 - c. Next meeting

Meeting students where they are...



Separate and Unequal: The Real Education Scandal Is America's Affirmative Action Program for White People

By Michael Harriot



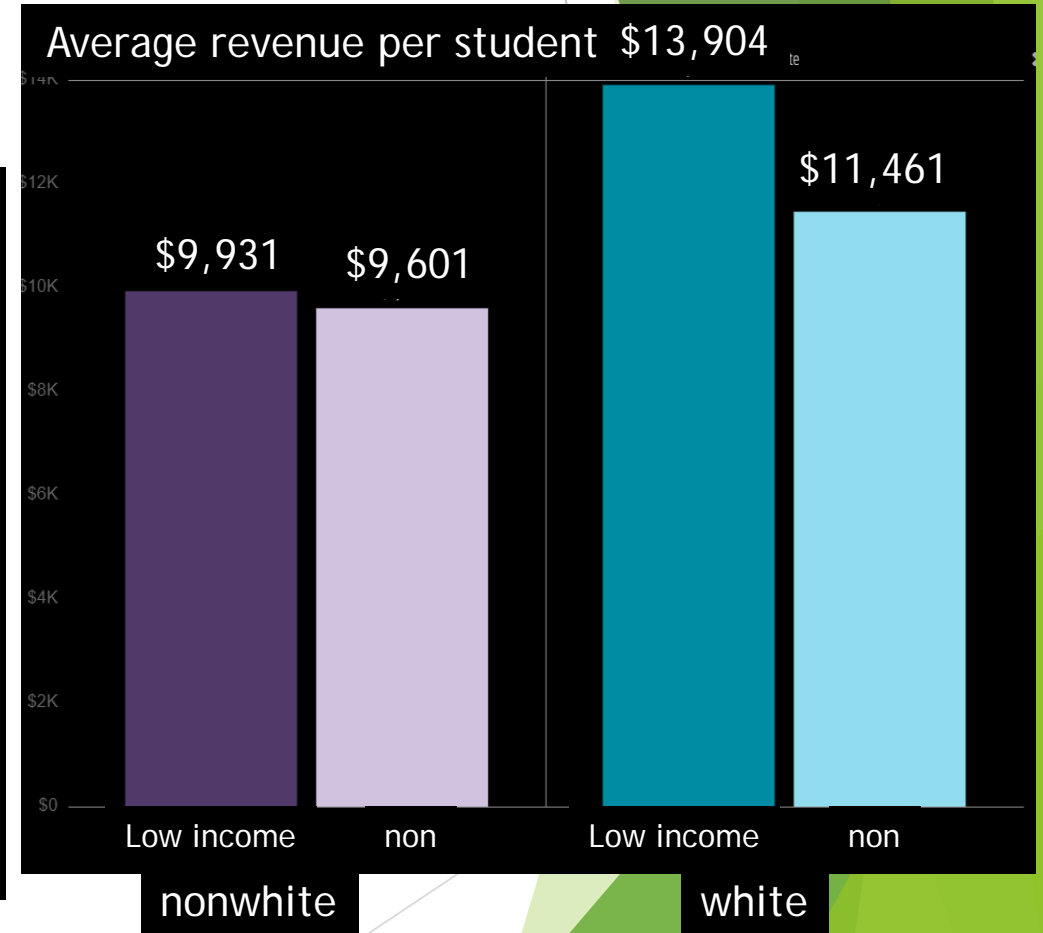
THE ROOT

NONWHITE SCHOOL DISTRICTS GET

\$23 BILLION

LESS THAN WHITE DISTRICTS

DESPITE SERVING THE SAME NUMBER OF STUDENTS



<https://edbuild.org/content/23-billion>

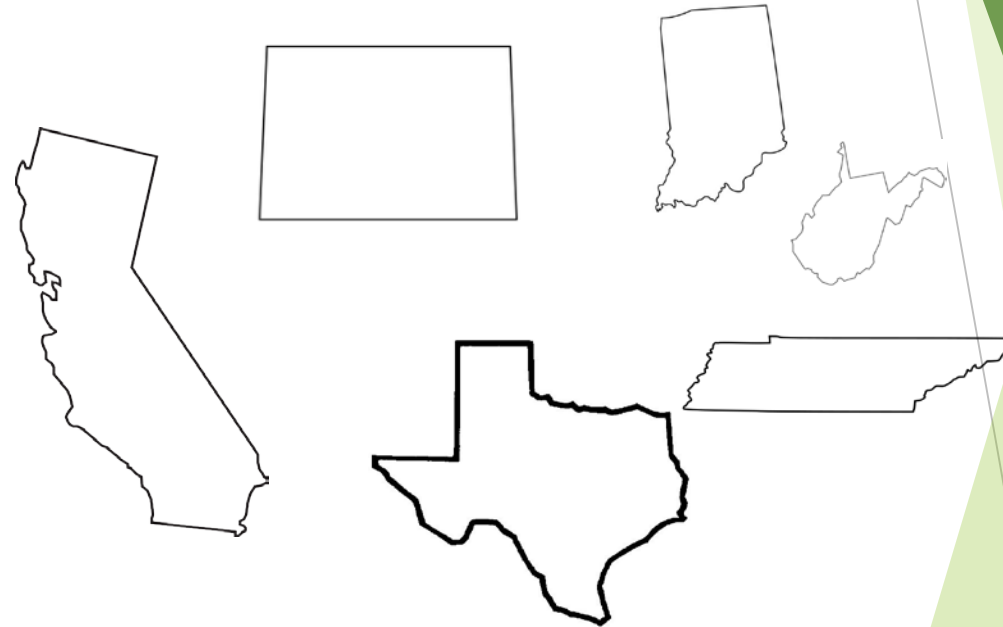
Meeting students where they are...

- ▶ Overall, 27% of HSU incoming freshmen declaring STEM majors arrive needing developmental math education & support. This figure is higher for students from underrepresented groups (42%) and low-income students (38%).
- ▶ The HSI STEM grant & EO 1110 coincided to replace the old “remediation model” with a new “corequisite model” at HSU, a growing national trend...

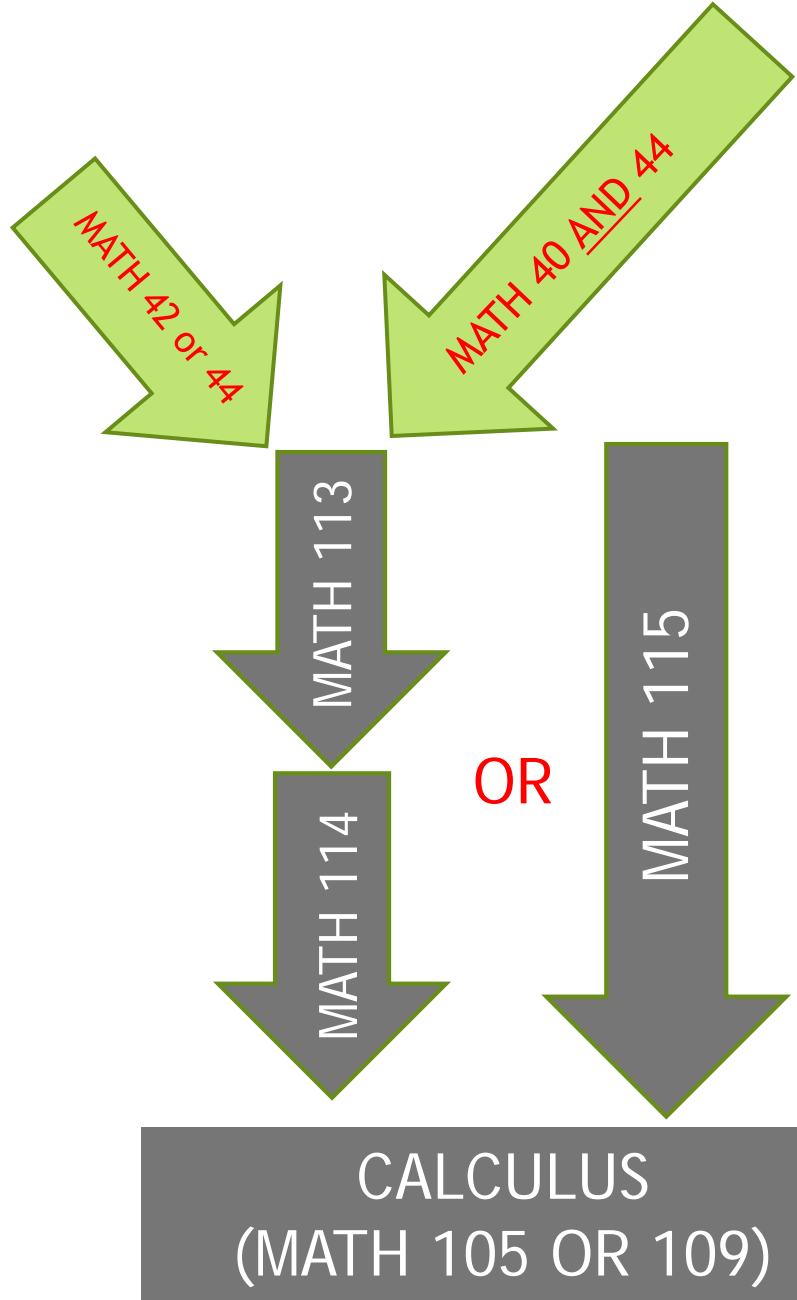
Meeting students where they are...

Corequisite models are the most powerful strategy for increasing completion of transfer-level math and English for students designated “not college ready.”

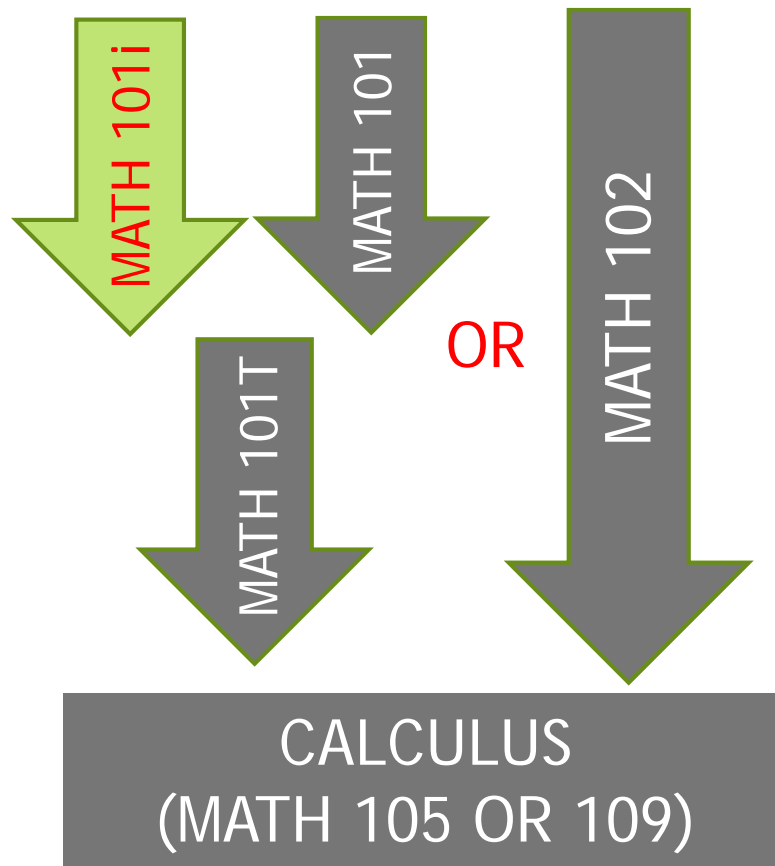
In states that have replaced traditional remediation with corequisite models, such as Tennessee, Colorado, Indiana, and West Virginia, students are completing transfer requirements in math and English at nearly three times the national average, and in half the time.



Acceleration Project



OLD remediation model



NEW corequisite model

NEW: Introductory GE courses (Fall '18)

STEM

MATH 101i

MATH 101

OR

MATH 102

MATH 101T

CALCULUS
(MATH 105 OR 109)

Social Sciences

STAT 108i

STAT 108

GE & major
requirement satisfied

Arts & Humanities

MATH 103i

MATH 103

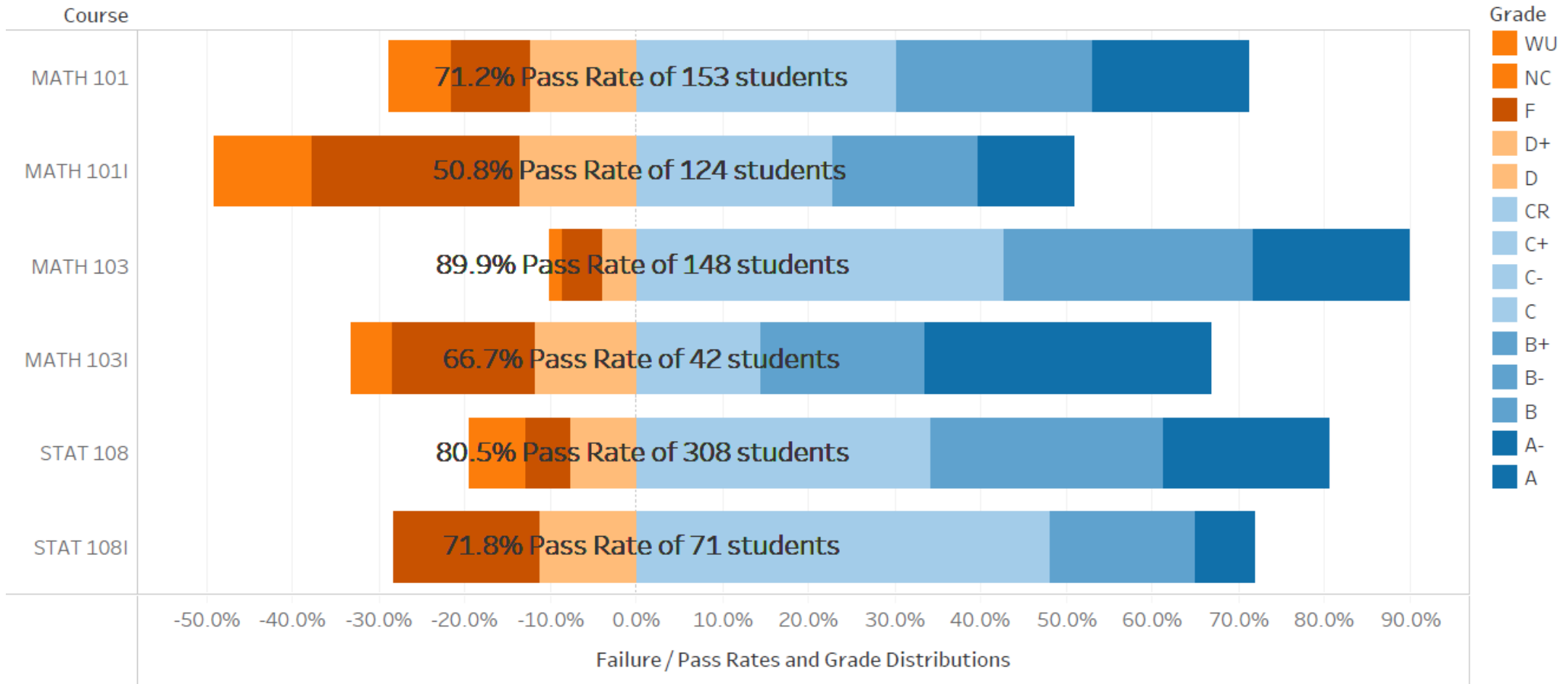
GE requirement
satisfied

Overview of the new curricular structure

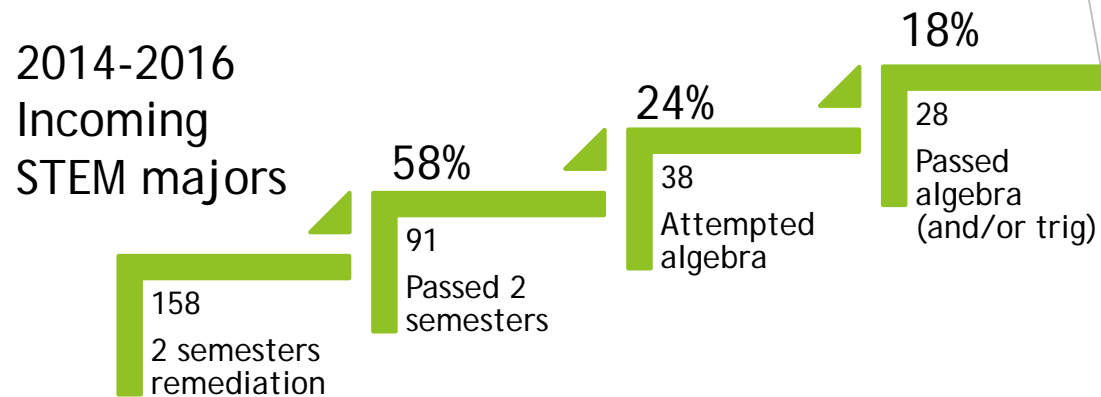
- ▶ ALL STUDENTS can start in a GE-level Math course their first semester, regardless of their background. The course may be “regular” or “supported”
- ▶ Supported (or “i”) courses follow a cohorted co-requisite model: same instructor for GE & co-requisite portion; all students are in both
- ▶ Supported courses meet 5 days a week. They are 4 units, with 3 of which count toward graduation (3 bacc + 1 pre-bacc units); sections capped at 25.
- ▶ Supported courses are for Categories III and IV & they cover the same material as the regular courses but are slower paced and offer more instructor support and review.
- ▶ Instructors receive 5 WTU for supported courses (including 0.7 WTU for faculty development by participation in a faculty learning community)
- ▶ Fall '18 fac. dev: in-house; led by Math Edu faculty; 3 Math fac also completed summer ESCALA workshop

Course outcomes

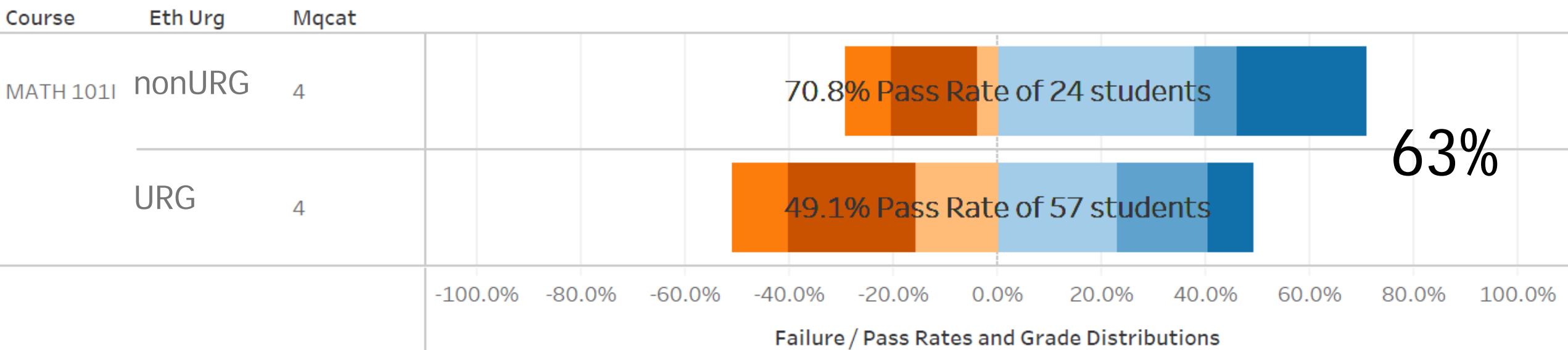
Supported/Non-Supported Math Fall 2018



Course outcomes, old-new comparison, disaggregated



Supported/Non-Supported Math Fall 2018
by URG status (same as URM) and Math / Quantitative Reasoning category



Student learning assessment

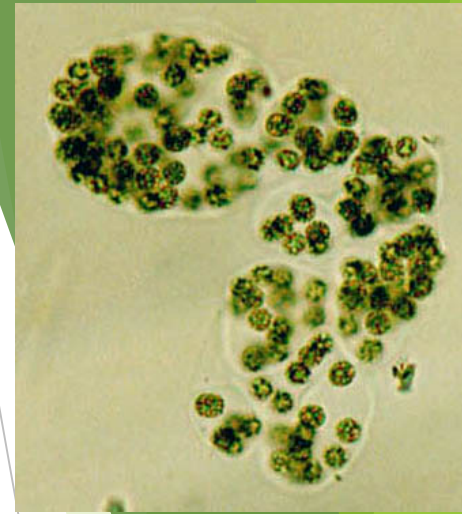
Preliminary findings:

- ▶ variation between sections in how much students learn (i.e., instructor dependence)
- ▶ overall, the students demonstrated lower levels of learning in the supported courses, however, there were exceptions
- ▶ the course outcomes didn't entirely correlate with student learning as measured by this particular method

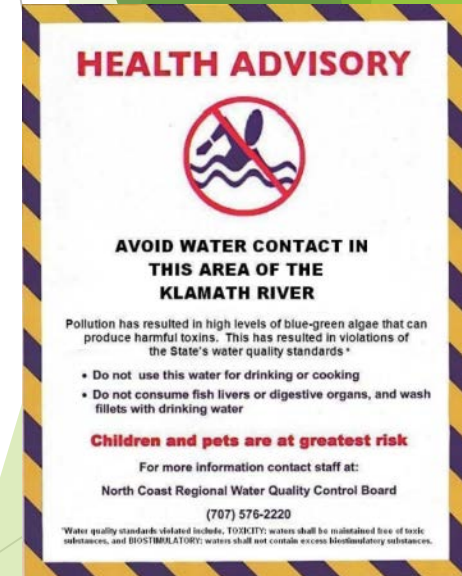
Take-aways:

- ▶ Pilot; will revise data collection for fall 2019
- ▶ Instructor-dependence highlights the importance of faculty development and training

Relevance, civic engagement

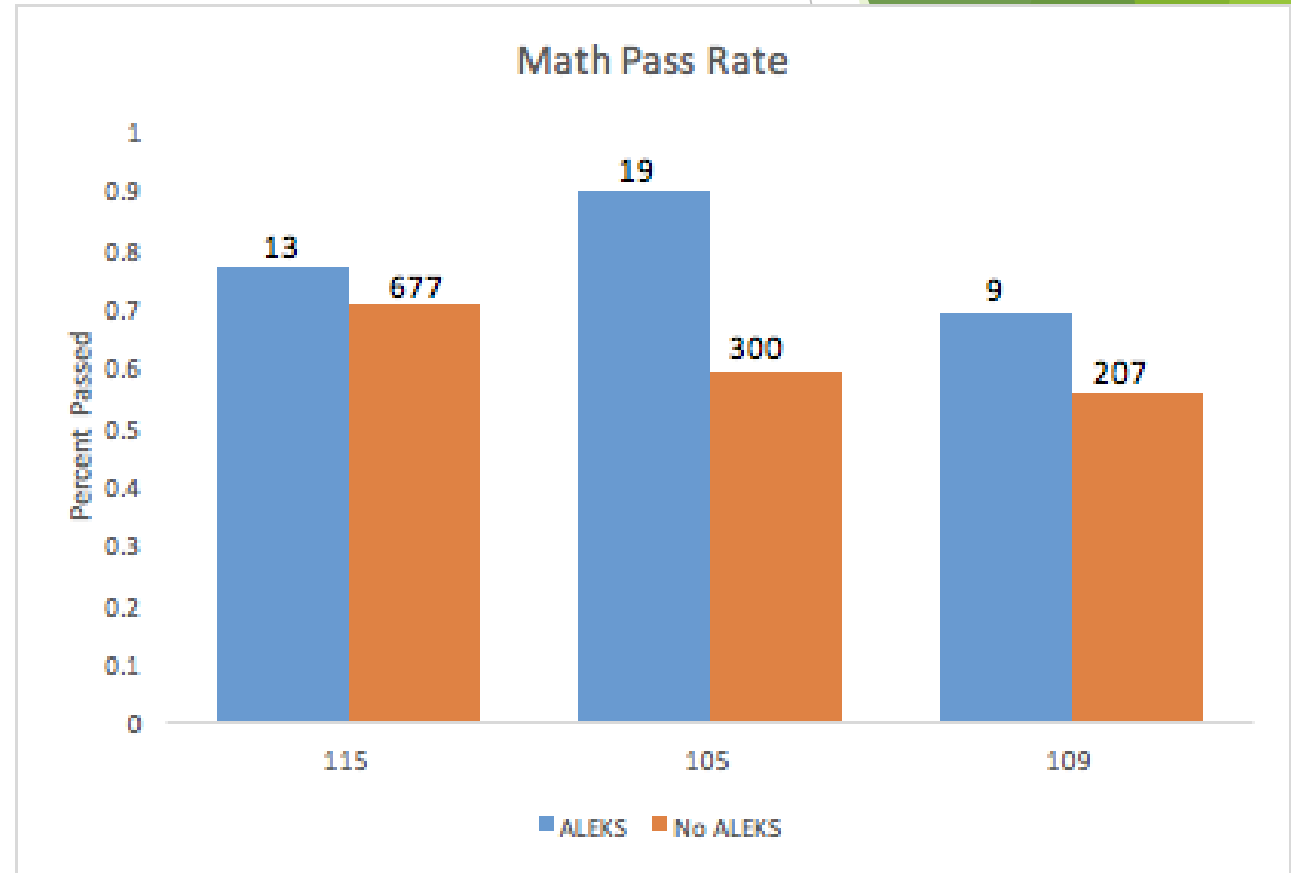


- ▶ Develop “modules” for use 1st year Math courses that link PBLC themes to mathematical topics in the course. *Each PBLC student will have some linked content in their math course.*
- ▶ PBLC design enables us to connect the thematic content to social and environmental and/or justice, with this thread often picked up in other courses (e.g., Botany, Chemistry, Science 100, Native American studies).
 - ▶ Klamath Connection: Blue-green algae, harmful algal blooms, environmental impacts, impact to Yurok, Hupa, and Karuk ceremony
 - ▶ Stars to Rocks: accumulation of atmospheric carbon dioxide
 - ▶ Rising Tides: sea level rise
 - ▶ Among Giants: under development
 - ▶ [Math & CS]: Basket design (under development)



ALEKS

- ▶ Online course (content up to Calculus) with built-in assessment to allow students to brush up on Math before entering HSU and test into more advanced courses
- ▶ In 2016, 32% of KC students took ALEKS placement exam in the summer, of those 39% “moved up” at least 1 course
- ▶ In 2017, 56% of KC students took ALEKS placement exam, of those 44% “moved up”
- ▶ Sample sizes are small, but data suggest those that ‘moved up’ did at least as well as though who entered a course without ALEKS



Possible steering input...

- ▶ Faculty training/professional development specifically for intro math faculty
- ▶ Future of ALEKS. What do we need to ascertain whether it's worth campus resources?
- ▶ Disentangling impact of inequity in pre-college access to math training and inequitable environment at HSU
- ▶ Need to track students' quantitative success after 101i (& their readiness for subsequent courses)

THANK YOU!

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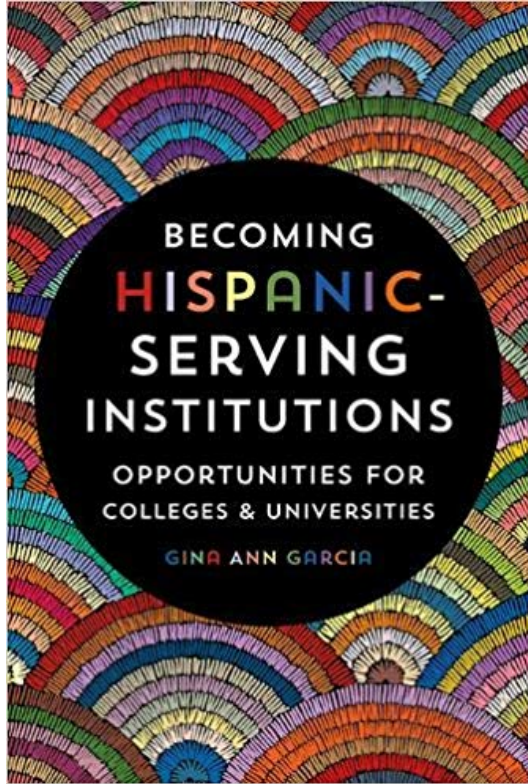
707-826-4952

Thanks: S. Margell

Office of Inst. Effectiveness &

HSI STEM Grant

Thursday May 2nd



Dr. Gina Garcia
Univ. Pittsburgh School of Ed.