Crossing Signals: What College Websites Tell Students About Taking Mathematics

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WHO WE ARE

Presenters:

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Panelists:

Mónica Henestroza, Higher Education Advisor, *Assembly Speaker Anthony Rendon*

Toros Berberyan, Math Instructor, *Citrus College*

Michael O'Sullivan, Professor & Chair, Department of Mathematics and Statistics *and* Chair of CSU Math Council, *San Diego State University*

PARTICIPANT INSTRUCTIONS

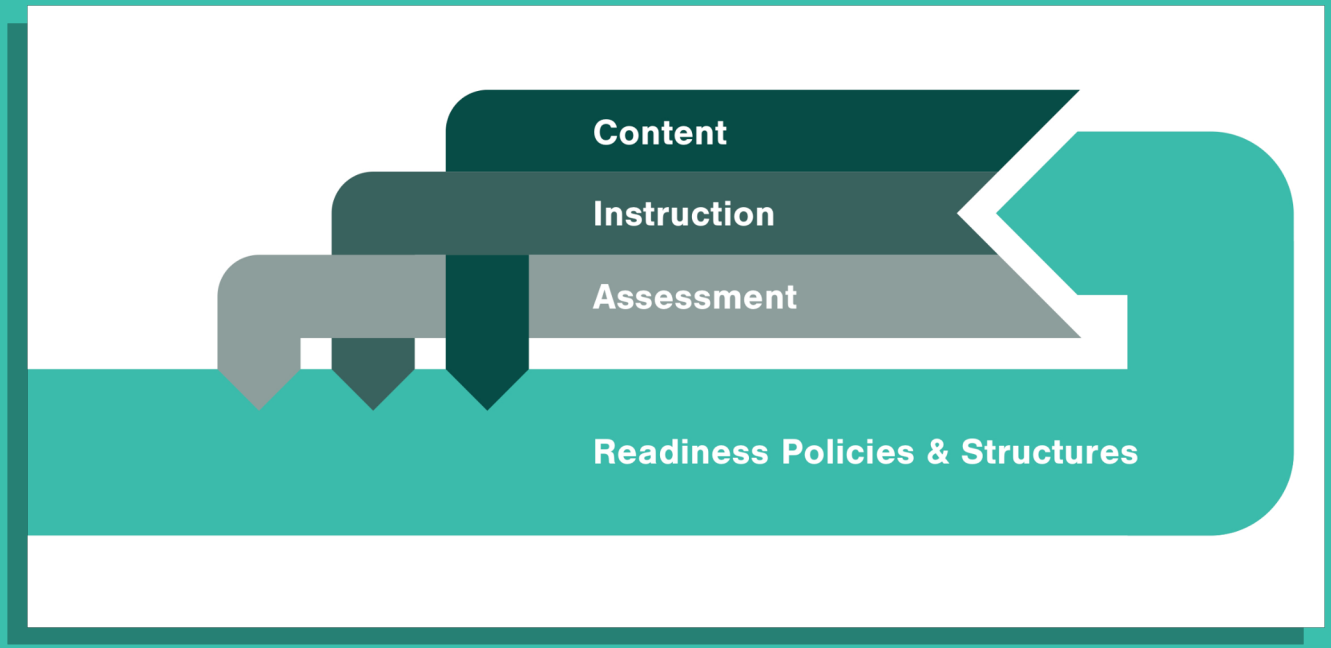
- When you'd like to ask a question, please use the chat box.
- Feel free to submit your questions throughout the webinar – we will get to as many as we can.
- Please share your experiences and challenges in the chat or write us after the webinar at info@justequations.org.

JUST EQUATIONS

Re-conceptualizing the role of math in ensuring educational equity

PREVAILING ARCHITECTURE OF MATH OPPORTUNITY

EQUITY DIMENSIONS OF MATH EDUCATION



MATH OPPORTUNITY POLICIES:

- Redesigning high school math pathways
- Rethinking postsecondary admissions policies
- Redesigning postsecondary math pathways/placement

THE CURRENT STUDY

- Builds on our recent report, *Go Figure—Exploring Equity in Students' Postsecondary Math Pathway Choices* (2020)
- Examines the messages about math course-taking provided to college students
- Focuses on California Community Colleges (CCC) and California State University (CSU) campuses' websites

CONTEXT: CSU & CCC MATH REFORMS

- Emphasize **placing students in college-level courses** and providing various forms of support.
- Use **multiple measures from students' high school records** to determine initial math placement level.
- Offer **diversified pathways** aligned with students' fields of study.
  - STEM
  - Statistics
  - Quantitative Reasoning or Liberal Arts

REFLECTIONS: POLICY

Mónica Henestroza, Higher Education Advisor to Assembly Speaker Anthony Rendon

What were your expectations for these reforms?

“

Students need online resources that proactively and transparently support their academic progress.

-Crossing Signals

CROSSING SIGNALS: GOAL

- To further understand the information students receive and how college websites can support equitable outcomes
  - Significance of websites has increased due to the pandemic.
  - Available information can affect students' ability to select appropriate math course/pathway.
  - Online information offers bird's-eye view of institutional responses to systemwide policies.

EQUITY BARRIERS

- "Shapeless river" inhibits optimal decision-making
- History of tracking in mathematics
- STEM majors "stand apart in their relative exclusion" of students of color
- Assumptions by students and advisors/counselors

CROSSING SIGNALS: METHODOLOGY

Reviewed 23 websites in April and May 2020 (18 CCC and 5 CSU)

Focused on the following:

Information on math placement

Explanation of math pathway options

Location of information on math

Availability of math-specific supportive services

Guidance for undecided students

SUMMARY OF FINDINGS: VITAL SIGNS

Four interconnected themes that are reminiscent of Judith Scott-Clayton's (2015) "shapeless river" analogy

Obscure signposts:

- Navigating the websites and locating reliable information was not always obvious or intuitive.
- Encountered unwieldy search functions and outdated links.
- Limited information about available math pathways on their websites.

SUMMARY OF FINDINGS
(continued)

False starts:

- Few sites offered resources for students to explore and make connections between their interests and aspirations and programs and majors.
- Little information to assist students who had not yet settled on a major, or who were thinking of changing to/from STEM to SLAM or SLAM to STEM.

SUMMARY OF FINDINGS
(continued)

Wrong turns:

- References to current policies not always consistent, clear, or up-to-date.

SUMMARY OF FINDINGS
(continued)

Unexpected obstacles:

- Vestiges of prior remedial math policies and deficit-oriented language could lead students to make suboptimal decisions and delay their progress to completion.
- Contain messages that appear to discourage students from pursuing college-level courses and/or STEM math pathways.

REFLECTIONS: MATH REFORM IMPLEMENTATION & COVID-19

Toros Berberyan, Citrus College
Michael O'Sullivan, San Diego State University

CONTEXT

- How has your department responded to new math reform policies?
- What have been challenges pre- and post-COVID-19?
- How can your college's website support your efforts?

Recommendations

Information on math placement

Location of information on math

Guidance for undecided students

Explanation of math pathway options

Availability of math-specific supportive services

INFORMATION ON MATH PLACEMENT

- Use asset-based language and positive messaging that highlight the benefits of enrolling in college-level or transfer-level courses
- Eliminate mentions of assessments or tests

LOCATION OF INFORMATION ON MATH

- Outline general education math options consistently across various webpages
- Research accessibility of information through focus groups, surveys, or beta-testing

GUIDANCE FOR UNDECIDED STUDENTS

- Offer opportunities to explore career interests and the skills and knowledge needed, and their connection to available programs or areas of study
- Outline complete descriptions of various STEM, statistics, and liberal arts math pathway options

EXPLANATION OF MATH PATHWAY OPTIONS

- Offer clear descriptions or program maps illustrating various math pathways and their alignment with majors
- Eliminate or limit remedial prerequisite courses and present college-level courses as default options for the majority of students

AVAILABILITY OF MATH-SUPPORTIVE SERVICES

- Offer corequisites and other just-in-time approaches to support students' success in college-level courses
- Offer course- or pathway-specific tutoring
- Ensure that academic support services, such as tutoring, math labs, and other resources, are clearly listed on websites with information on how to access them

REFLECTIONS: POLICY

Mónica Henestroza, Higher Education Advisor to Assembly Speaker Anthony Rendon

POLICY

- What is most important for colleges to understand about how policies are made?
- In what ways can colleges inform statewide education policy?
- Are there lessons and recommendations that you would share with policymakers based on this research?

Questions

THANK YOU

JustEquations.org

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