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NEWS RELEASE

NCTM Calls for Major Changes to High School Mathematics *Group Calls for End to Student and Teacher Tracking*

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Reston, Va. — Today the [National Council of Teachers of Mathematics](#) (NCTM) is calling on every individual that influences high school mathematics education to acknowledge and support significant changes needed in high school. NCTM’s new publication, [Catalyzing Change in High School Mathematics: Initiating Critical Conversations](#), developed by high school teachers, district leaders, university faculty, and mathematicians, identifies the vexing issues that have long plagued high school mathematics education.

The focus on high school mathematics education stems from flat high school mathematics achievement over the last 30 years compared to progress made at the elementary and middle levels. The mathematical learning opportunities students have — the content, the learning experiences, and the support they receive — need to be examined and changed.

“The mathematics education that students experience today is part of a complex system of policies, traditions, and societal expectations. It is the system and its structures — school and district policies, practices, and conditions that either support or impede student learning of mathematics — that need to be critically examined and improved,” said NCTM President Matt Larson. “Change to high school mathematics will necessitate the engagement of all stakeholders.”

NCTM’s new publication examines the impact of student and teacher tracking and calls for eliminating these practices from high schools. Student tracking in mathematics places some students in terminal or dead-end pathways that are not meaningful and don’t prepare them for future success. Teacher tracking places teachers with the most experience, or those perceived as the most effective, in upper-level math courses and the teachers with the least experience in entry-level courses or with students with the highest need. Teacher tracking increases isolation and burnout for early career teachers, and it reduces the professional collaboration necessary to improve teaching.

“Too often, student and teacher tracking practices are passed down year after year without wondering who it will affect and how it will affect students. NCTM’s *Catalyzing Change* reveals that tracking harms the most marginalized students and teachers by limiting opportunities to see themselves and each other as powerful thinkers and learners of mathematics. For all who are committed to learning for each and every student, *Catalyzing Change* compels us to reexamine tracking, begin conversations, and take action,” said Chris Nho, High School Math Specialist, Chicago Public Schools.

Catalyzing Change identifies and addresses critical challenges in high school math to ensure all students have access to a high-quality mathematics education. NCTM makes four key recommendations in order to begin the critical conversations:



- Eliminate student and teacher tracking
- Teach all Essential Concepts in mathematics
- Provide engaging and empowering mathematics instruction for every student
- Offer high school students continuous and meaningful four-year mathematics instruction

As part of *Catalyzing Change*, NCTM identifies Essential Concepts that all students should learn in order to expand professional opportunities, understand and critique the world, and experience the joy, wonder, and beauty of mathematics. The Essential Concepts are offered to bring greater focus and relevancy to high school mathematics. The Essential Concepts are not a set of standards, but rather represent a distillation of the critical concepts and skills that each and every student should acquire. The Essential Concepts complement, support, and provide instructional focus to current state standards, including the Common Core State Standards, which NCTM continues to [support](#). The Essential Concepts represent a first step to opening critical conversations, analyzing, and bringing needed focus to high school mathematics.

“Like many states, Colorado has recently undergone a review and revision process for our state standards. Overwhelmingly, high school teachers and leaders in our state are calling for more clarity in the high school standards. The Essential Concepts in *Catalyzing Change* help identify the most critical content in our state high school standards and allow us to provide guidance to teachers, schools, and districts in prioritizing the mathematics that all students need to be able to pursue whatever postsecondary options they choose. All mathematics content is not created equal, and with focus and relevancy in the forefront, high school students can more broadly experience the beauty of high school mathematics. We applaud NCTM’s leadership and believe *Catalyzing Change* will be a tremendous support as our state implements revised standards,” said Joanie Funderburk, President of the Colorado Council of Teachers of Mathematics, an NCTM Affiliate.

The publication calls on school and district leaders, math teachers, university leaders, and policymakers to change a system that currently does not work for all students. NCTM provides these stakeholders with concrete ideas and approaches for ways to evaluate the existing practices and policies in their schools and districts.

Larson added, “The lack of improvement in high school mathematics over the past several decades is holding back our children, our communities, and our society. These challenges require leadership and participation far beyond the classroom and include school, district and state administrators and policymakers, college and university leaders, and community and business leaders. NCTM is confident that *Catalyzing Change* will help frame the serious discussions necessary to begin the process of improving high school mathematics.”



Learn more about *Catalyzing Change* at www.nctm.org/change.

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The National Council of Teachers of Mathematics is the public voice of mathematics education, supporting teachers to ensure equitable mathematics learning of the highest quality for each and every student through vision, leadership, professional development and research. With 50,000 members and more than 230 Affiliates, it is the world's largest organization dedicated to improving mathematics education in prekindergarten through grade 12. NCTM is dedicated to ongoing dialogue and constructive discussion with all stakeholders about what is best for students and envisions a world where everyone is enthused about mathematics, sees the value and beauty of mathematics, and is empowered by the opportunities mathematics affords.

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