



2018 NCTM Legislative Platform

What We Know

A strong foundation in and the ability to apply mathematics, for each and every student from pre-K through grade 12, is vital to national security, economic stability, workforce productivity, and full participation in our democratic society. Mathematical literacy is fundamental for adult numeracy, financial literacy, and everyday life. **“Mathematics education” is “STEM education.”**

As the world’s largest professional organization dedicated to improving mathematics education for each and every student, the National Council of Teachers of Mathematics (NCTM) knows that teachers and what they do in the classroom are at the heart of producing college-, career-, and citizen-ready high school graduates and making this vision a reality. **Time and again, research shows that it is the quality of the teacher in the classroom that is the largest factor in successful learning.** As such, they deserve the full support of federal, state, and local lawmakers.

NCTM supports investing in teachers **at every stage of their development** and believes that mathematical literacy can be achieved through an increased emphasis from policymakers on early childhood education, rigorous and engaging pre-K–12 mathematics education, family engagement, high-quality standards and assessments, and the guarantee of appropriate conditions for learning for each and every student in all the country’s schools and classrooms.

How Can Elected Lawmakers Help?

Federal, state, and local lawmakers have a responsibility to ensure that the country’s schools are meeting the needs of the students who attend them, the expectations of the parents who send them there, and the demands of the businesses and industries that employ their graduates. No doubt, supporting successful teaching and learning in every mathematics classroom is an element of that responsibility. This support has several elements.

Faithful Implementation of ESSA and Support of Its Goals

If the Every Student Succeeds Act (ESSA) is to fulfill its promise of providing equity and fostering excellence in pre-K–12 education, it must be implemented faithfully and supported financially. This means that federal, state, and local lawmakers should do the following:

- Invest in ESSA programs at the levels authorized in the statute.
- Rely on research-based best practices in preparing and supporting pre-K–12 mathematics teachers and classrooms.
- Invest in and support accountability systems that ensure that each and every mathematics student, in every state, city, and county—urban, suburban, and rural—and of every race, ethnicity, socioeconomic status, and ability is receiving a rigorous and engaging mathematics education.

- Support curricula and teaching practices on the basis of how children and adolescents learn, especially research-based findings showing that—
 - (a) having a strong start in mathematics gives young children significant advantages;
 - (b) conceptual understanding, procedural fluency, and problem-solving skills mutually reinforce one another; and
 - (c) engagement and support coupled with persistence, not simply inherent talent, results in mathematical achievement.
- Fight for equity in the provision of education between and within schools. The purpose of pre-K–12 schooling is to prepare all students for college, work, and life. Schools should be held accountable for meeting this expectation for all students equally; ensuring equitable access and providing the needed supports to succeed in rigorous, high-quality courses; and acknowledging and fighting the racist results of institutionalized perceptions, policies, and practices that presume the promise and possibilities ahead for certain students on the basis of zip code, race, or socioeconomic status.

Adequate Investments in Mathematics Educator Preparation and Research

The country needs mathematics educators; federal and state governments and coffers must support the identification, preparation, and ongoing professional development of mathematics educators. This means that federal, state, and local lawmakers should do the following:

- Support investing in Title II of ESSA and Title II of the Higher Education Act at their authorized levels.
- Revise Title II of the Higher Education Act to recognize the continued need for federal incentives to support and further develop colleges of education and their programs to enhance prospective teacher preparation and provide ongoing support for early career teachers.
- Develop and invest in programs that target middle and high school teachers of mathematics and their preparation as well as programs that develop and support mathematics specialists, coaches, and teacher leaders within elementary and middle schools.
- Develop and invest in programs for school administrators to support their understanding and leadership in creating schools with rigorous and engaging mathematics learning for all students.
- Develop and invest in programs for educational research and educational researchers to expand and enhance students' learning and application of mathematics and the roles of communities, schools, and teachers therein; and to positively influence student identity and agency relative to mathematics.
- Support adequate funding for the National Science Foundation (NSF), in particular the Directorate for Education and Human Resources and its STEM + Computing Partnerships (STEM+C) program.
- Revise the Education Sciences Reform Act to reflect the importance of research in improving teacher preparation, classroom practice, and the development of effective mathematics curriculum and assessments that inform and improve classroom instruction for all students.

- Ensure that changes to all federal education laws—the Elementary and Secondary Education Act, the Higher Education Act, the Carl D. Perkins Career and Technical Education Act, the Individuals with Disabilities Education Act, the Education Sciences Reform Act, and others—and their implementation reflect the importance of preparing and supporting mathematics teachers who can engage, support, and prepare each and every student for future success and ensuring that these professionals are in schools that similarly support that goal in word and deed.

NCTM’s Commitment

NCTM—through its leadership, members, and staff, and in collaboration with like-minded organizations, colleagues, and elected lawmakers, among others—is investing time and effort into policies and ideas that support the organization’s mission and the work of its members. Key areas of focus include the following:

- Ensuring that federal, state, and local lawmakers recognize that “mathematics education” is “STEM education” and should be defined as such in in legislation and regulations.
- Meeting with federal, state, and local lawmakers to convey the evolution of the teaching and learning of mathematics and the importance of dedicating public dollars to the endeavor.
- Developing long-term strategies and implementing initiatives to effect significant improvement in mathematics education as set forth in NCTM’s *Principles to Actions: Ensuring Mathematical Success for All* (2014) and *Catalyzing Change in High School Mathematics: Initiating Critical Conversations* (2018).
- Supporting growing efforts to increase the mathematics preparation of teachers at all levels, including elementary school and to place more mathematics specialists in schools and classrooms in the early grades.
- Supporting expanded research in the teaching and learning of mathematics in pre-K–12, the implementation of research-based teaching practices, and how best to prepare and support early career teachers of mathematics.
- Providing information, guidance, and support to state administrators considering and implementing mathematics standards and assessments.
- Supporting federal funding for programs dedicated to STEM education and the national priority placed on inspiring students to pursue study in the fields of science, technology, engineering, and mathematics to fill the STEM careers pipeline and satisfy the workforce needs of the future.
- Ensuring that lawmakers’ efforts to improve investments in teacher preparation programs and ongoing professional development for educators reflect best practices and focus on the importance of well-qualified and effective teachers in every mathematics classroom.
- Advocating for new federal investments in high-quality early childhood mathematics education programs and supporting proposals to provide or strengthen education for the youngest children most at risk for falling behind in pre-K–12 classrooms.
- Highlighting the role of mathematics in major legislation to ensure that citizens develop and apply the mathematical and critical-thinking skills necessary to evaluate choices and their effects on their financial, statistical, economic, scientific, and technological literacy.
- Promoting efforts to coordinate federal investments in STEM education and mathematics education, because mathematics, critical thinking, and problem solving are foundational to disciplines reliant on mathematics and important to a vibrant economy.

(Approved by the Board of Directors February 2018)

The National Council of Teachers of Mathematics is the world's largest professional organization dedicated to improving mathematics education for each and every student. The Council's *Principles to Actions: Ensuring Mathematical Success for All* (2014) describes the principles and actions, including specific teaching practices, that are essential for a high-quality mathematics education for all students. *Principles and Standards for School Mathematics* (2000) provides guidelines for excellence in mathematics education. *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics: A Quest for Coherence* (2006) outlines the next step in implementing the Standards by identifying the most important mathematical topics that form the foundation for understanding and lasting learning at each grade level. *Focus in High School Mathematics: Reasoning and Sense Making* (2009) advocates practical changes to the high school mathematics curriculum to refocus learning on reasoning and sense making. The Council is committed to a constructive public dialogue to ensure a mathematics education of the highest quality for each and every student. The NCTM's *Catalyzing Change in High School Mathematics: Initiating Critical Conversations* (2018) identifies significant challenges in policies, practices and purposes of high school mathematics and provides a framework for leaders, teachers, universities and businesses to engage in supporting much needed change.