

## Actions

Although principles provide guidance and structure, actions determine impact. *Principles to Actions* argues that ensuring mathematical success for all will take **teachers** who, among other actions—

- ◆ plan and implement effective instruction as described by the Mathematics Teaching Practices;
- ◆ develop socially, emotionally, and academically safe environments for mathematics teaching and learning—environments in which students feel secure and confident in engaging with one another and with teachers;
- ◆ evaluate curricular materials and resources to determine the extent to which these materials align with the standards, ensure coherent development of topics within and across grades, promote the mathematical practices, and support effective instruction that implements the Mathematics Teaching Practices;
- ◆ incorporate mathematical tools and technology as an everyday part of the mathematics classroom, recognizing that students should experience “mathematical action technologies” and physical or virtual manipulatives to explore important mathematics;
- ◆ provide students with descriptive, accurate, and timely feedback on assessments, including strengths, weaknesses, and next steps for progress toward the learning targets;
- ◆ work collaboratively with colleagues to plan instruction, solve common challenges, and provide mutual support as they take collective responsibility for student learning.

*Principles to Actions* argues that ensuring mathematical success for all will take **principals, coaches, specialists, and other school leaders** who, among other actions—

- ◆ make the eight Mathematics Teaching Practices a schoolwide focus that is expected for all teachers to strengthen learning and teaching for all students, and provide professional development, training, and coaching to make the implementation of these practices a priority;
- ◆ maintain a schoolwide culture with high expectations and a growth mindset;

- ◆ allocate time for teachers to collaborate in professional learning communities;
- ◆ support improvement with multifaceted assessments used to monitor progress and inform changes to instruction;
- ◆ make the mathematical success of every student a nonnegotiable priority.

*Principles to Actions* argues that ensuring mathematical success for all will take **leaders and policymakers in districts, states or provinces, including commissioners, superintendents and other central office administrators**, who, among other actions—

- ◆ make ongoing professional development that supports the implementation of the eight Mathematics Teaching Practices as a priority;
- ◆ allocate resources to ensure that all students are provided with an appropriate amount of instructional time to maximize their learning potential;
- ◆ eliminate the tracking of low-achieving students and instead structure interventions that provide high-quality instruction and other classroom support, such as math coaches and specialists;
- ◆ understand the devastating impact of professional isolation and create collaborative structures to maximize professional growth;
- ◆ Support risk taking and encourage new approaches that advance student learning.

Only when these words become actions and the actions lead to more productive beliefs, new norms of instructional practice, and implementation of the essential supporting elements will we overcome the obstacles that currently prevent school mathematics from ensuring success for all students.

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The National Council of Teachers of Mathematics is the world's largest professional organization dedicated to improving mathematics education for all students. Growing out of its visionary *Agenda for Action* in 1980, the Council launched the education standards movement with its publication of *Curriculum and Evaluation Standards for School Mathematics* (1989), which presented a comprehensive vision for mathematics teaching and learning in K–12 mathematics. In 2000, NCTM's *Principles and Standards for School Mathematics* expanded on the 1989 Standards and added underlying Principles for excellence in school mathematics. Subsequent publications, *Curriculum Focal Points for Prekindergarten through Grade 8 Mathematics: A Quest for Coherence* and *Focus in High School Mathematics: Reasoning and Sense Making*, extended this work by identifying the most significant mathematical concepts and skills at each level from prekindergarten through grade 8 and advocating practical changes to the high school mathematics curriculum to refocus learning on reasoning and sense making, respectively. These NCTM publications have significantly influenced the development of mathematics education standards worldwide. NCTM's recently published *Principles to Actions: Ensuring Mathematical Success for All* describes the principles and actions, including specific research-informed teaching practices, that are essential for a high-quality mathematics education for all students. The Council is committed to a constructive public dialogue to ensure a mathematics education of the highest quality for all students.

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