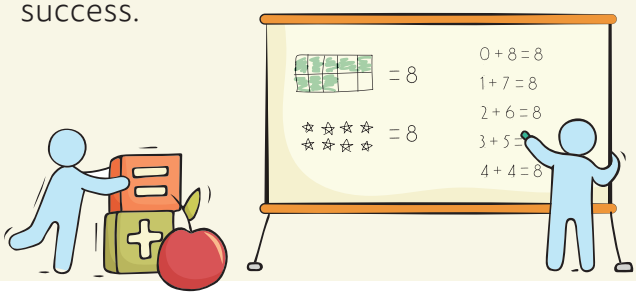
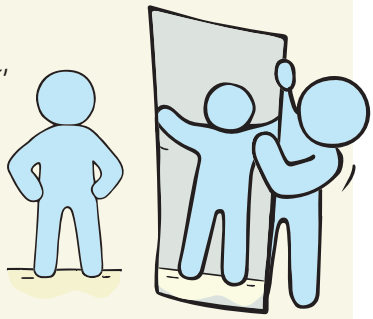
Elementary Mathematics is Broken for Too Many Children

The National Council of Teachers of Mathematics calls for dramatic changes to policies and practices that have stalled significant progress for our youngest learners.

Early mathematics success predicts future success.

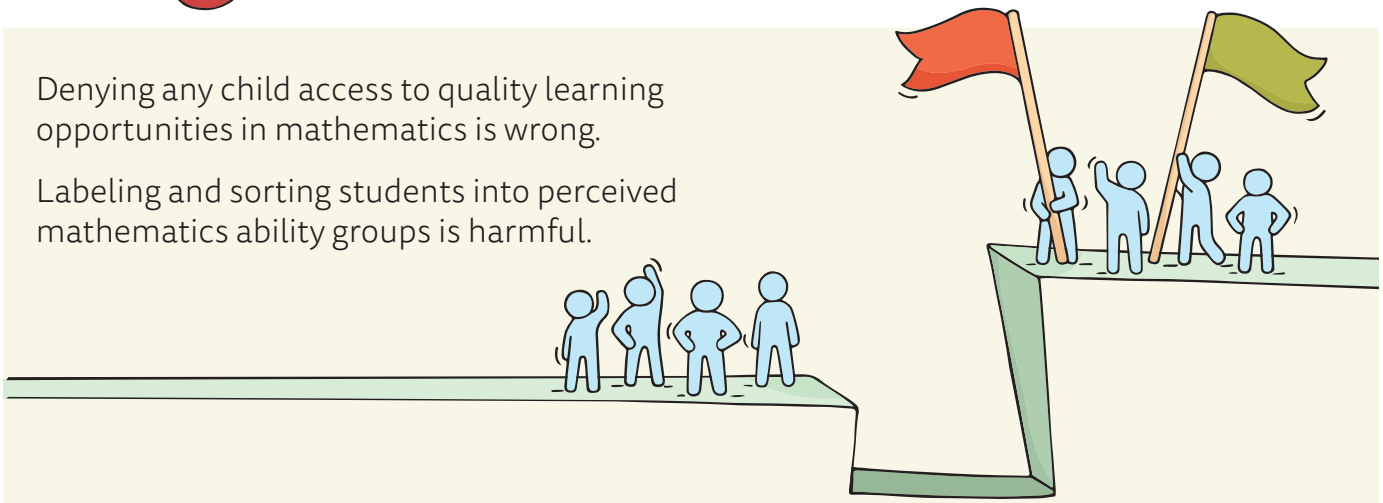


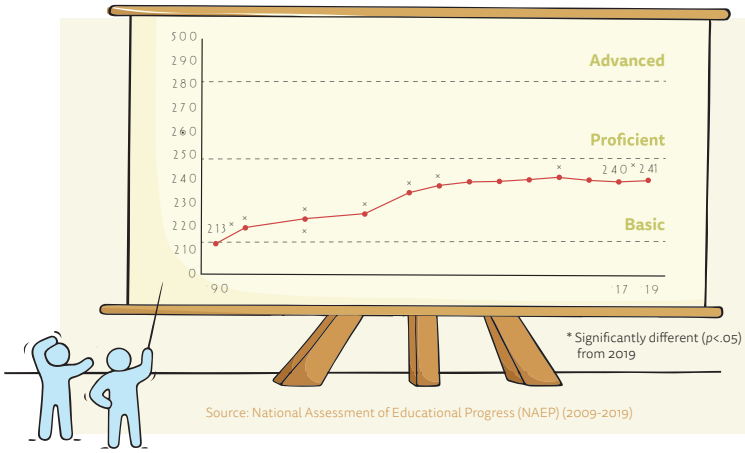
Foster students to see themselves as capable, successful, mathematical thinkers from the start.



Denying any child access to quality learning opportunities in mathematics is wrong.

Labeling and sorting students into perceived mathematics ability groups is harmful.





Source: National Assessment of Educational Progress (NAEP) (2009-2019)

Significant improvement is possible in early childhood and elementary school. The structures and practices students experience in their early years set the trajectory for children's continued mathematical success and confidence in middle school, high school, and personal and professional life as adults.

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Catalyzing Change in Early Childhood and Elementary Mathematics

Catalyzing Change in Early Childhood and Elementary Mathematics: Initiating Critical Conversations identifies existing policies, structures and processes in schools related to the teaching and learning of mathematics that privilege some learners while disadvantaging and restricting access and opportunity to a significant portion of others. This challenge is systemic and widespread; it requires leadership and engagement at all levels to confront.

Catalyzing Change in Early Childhood and Elementary Mathematics: Initiating Critical Conversations is part of the Catalyzing Change Series, a collection of three books for initiating the critical conversations on policies, practices and issues that impact mathematics education. The opportunities that result from early mathematics, coupled with the strengths and needs of young children and elementary-age students, must be considered in conversations that address the focus, engagement and development of a positive mathematical identity through mathematics education across the early childhood and elementary school levels.

There appears to be widespread agreement about the importance of mathematics and the impact of early mathematics education.

The key recommendations for *Catalyzing Change in Early Childhood and Elementary Mathematics* include:

1. Broaden the purposes of learning mathematics. Each and every child should develop deep mathematical understanding as confident and capable learners; understand and critique the world through mathematics and experience the wonder, joy and beauty of mathematics.

2. Create equitable structures in mathematics. Early childhood and elementary mathematics should dismantle inequitable structures, including ability grouping and tracking, and challenge spaces of marginality and privilege.

3. Implement equitable mathematics instruction. Mathematics instruction should be consistent with research-informed, equitable teaching practices that nurture children's positive mathematical identities and strong sense of agency.

4. Develop deep mathematical understanding. Early childhood settings and elementary schools should build a strong foundation of deep mathematical understanding, emphasize reasoning and sense making and ensure the highest-quality mathematics education for each and every child.

The National Council of Teachers of Mathematics celebrates 100 years as 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 40,000 members and more than 200 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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