# HB23-1231: Improving Mathematics Outcomes in Kindergarten through 12th Grade Education

COLORADO
Department of Education

## Purpose and Structure of K-12 Mathematics Supports

Under HB23-1231, Colorado Department of Education (CDE) offers targeted technical assistance to local education providers, with a particular focus on supporting educators in rural areas. Assistance encompasses best practices in mathematics instruction, including evidence-based interventions for students performing below grade level, students with disabilities and multilingual learners. CDE math specialists work with local providers to enhance math instruction through individualized consultations, tailored action plans and personalized support. By connecting educators to resources and addressing instructional challenges, this support aims to drive systemic improvements in classroom practices and elevate student learning outcomes.

**Educators Served** In the 2023-2024 school year, four CDE Math Content Specialists provided targeted support to 40 districts and BOCES with the following designations:

- 22.5% Denver Metro,
- 27.5% Urban-Suburban,
- 30% Small Rural, and
- 20% Rural

By working closely with educators and focusing on personalized professional learning, specialists helped enhance math instruction and implement evidence-based strategies.

## CDE's Mathematics Resource Bank

CDE supports districts in adopting, adapting and implementing high-quality K-12 math instructional materials through resources like curriculum evaluation tools and a mathematics curriculum and assessment materials resource bank. These efforts aim to ensure that instructional materials are high-quality, research-backed, effective and meet the needs of all students. By providing tools for evaluating materials, CDE helps districts make informed decisions, enhancing math teaching practices and improving student outcomes. The resource bank is updated regularly, offering educators access to the most current, evidence-based materials to support their math instruction.

## Free Training on Evidence-Informed Practices in Mathematics

Per HB 23-1231, CDE partnered with TNTP to develop "Powerful Practice: Evidence-Informed Math Teaching," a free, optional online course for elementary and secondary educators. The asynchronous training includes 14 one-hour modules, each concluding with an assessment, and covers key evidence-based math practices including:

- examples demonstrating applications specifically for elementary educators
- examples demonstrating applications specifically for secondary educators
- topics designed to help teachers support students below grade level or struggling in math including:
  - intervention strategies
  - impact of low-floor, high-ceiling tasks on engaging all students
  - use of language and sentence stems for students who are multilingual learners

Funding allows 750 educators to participate in the optional course each year. All 1,500 licenses for the first two years were filled in just seven months. The final cohort will launch in July 2025.

## Building Capacity in Professional Learning, Train-the-Trainer Model

Powerful Practice: Evidence-Informed Math Teaching course integrates online materials with biweekly discussions led by Math Content Specialists, fostering a train-the-trainer model aimed at building sustainability and scale in math

professional learning. With over 80 educators participating, these sessions go beyond traditional learning by connecting theoretical concepts to classroom practices, encouraging active collaboration among math educators and cultivating a community where shared strategies are implemented and refined. This approach not only strengthens individual educators' ability to apply new methods but also empowers them to pass on insights and strategies within their schools and districts, amplifying the impact of the training and ensuring long-term improvements in math instruction across Colorado.

**Free Math Intervention Resources**

CDE utilized findings from 50 critical areas in math education as a guiding framework to develop 28 free math interventions aimed at addressing key challenges in K-12 learning. These adaptable interventions support small group or one-on-one instruction, helping students strengthen foundational math skills. Each intervention includes an overview of goals and materials, a pre-assessment to identify learning gaps, lessons to build understanding, a post-assessment to measure progress and extensions for real-world application. These resources equip educators, families and out-of-school professionals to provide targeted, effective math support.

## Powerful Practice: Evidence-Informed Math Teaching Participant Demographics

Course participants reported specializing in the following roles:

- Licensed Teacher – 63.13%
- Administrator/District Specialist/Coach - 14.2%
- Interventionist/Special Ed – 13%
- Other supporting roles – 9.67%

Course participants have reported working in the following grade levels:

- Elementary – 59%
- Secondary – 27.67%
- Both Elementary and Secondary– 13.33%

## Results from Powerful Practice: Evidence-Informed Math Teaching End of Course Survey

- 98.1% of those who completed the course would recommend it to others.
- 97.6% agree that they will be able to apply the knowledge and skills acquired from the course in their professional role.
- 96.7% agree that the interactive elements of the course provided opportunities to practice and apply what they learned.
- 98.5% agree that the course encouraged them to reflect on their own professional practice.

## Testimonials to Powerful Practice: Evidence-Informed Math Teaching's Personal Impact

Teacher Testimonials

- This course influenced my classroom practices immensely, especially reflecting on my past experience, and how I'll do my best to give my students the opportunities I did not have.
- The course has helped me to get a better understanding of how I will work with students who are behind in content. By using a learning acceleration approach with my students, I believe I can better help fill in the needed skills.

School/District Leader Testimonial

- As a building administrator, I would love to use this to deliver PD to my entire staff, as this is work that we need to do! Additionally, I plan on using many of the ideas learned to provide better feedback to teachers and provide them with some alternative ideas that are more aligned to the science behind learning math.

## WHERE CAN I LEARN MORE?

**Colorado Department of Education: https://www.cde.state.co.us/comath/improvingmathoutcomes**

**For questions, please contact Joanna Bruno, bruno_j@cde.state.co.us**