

Lifting Up Early Math

The Campaign for
GRADE-LEVEL
READING

Partnership Highlights the Importance of Early Math

The Campaign for Grade-Level Reading (CGLR) seeks to disrupt generational poverty by mobilizing communities to find solutions for one of the major obstacles in the pathway out of poverty — failure to read proficiently by the end of third grade. And as reading proficiency is an important predictor of success in school and in life, math proficiency is just as important. Both need to be part of a more inclusive, aligned and integrated approach to early school success.

Since 2017, CGLR has partnered with the Heising-Simons Foundation to lift up the importance of early math among the GLR Network. The Heising-Simons Foundation’s Early Math grant-making promotes programs and policies that increase children’s exposure to high-quality math

education at home, in early childhood settings and in communities. As part of this partnership, we are pleased to highlight the work of five initiatives across the country that support the field of early math, that connect early literacy and math skill-building, and that engage children and their parents and caregivers around the importance of math. We commend the local, regional and state-based funders that are investing in these efforts, the local practitioners and staff advancing this work, and the children and families participating in these initiatives.

We hope you are inspired and motivated by these examples, and we look forward to advancing more models of early school success that incorporate early math for our youngest learners and their families.



PARTNER HIGHLIGHT:

Development and Research in Early Math Education (DREME) seeks to advance the field of early mathematics research and improve young children’s opportunities to develop math skills.

“Recent research and increasing awareness of the importance of children’s math skills when they enter kindergarten are generating interest in early math among funders, researchers and educational practitioners. Our goal is to support those efforts.”

— DEBORAH STIPEK, CHAIR, DREME NETWORK



“PreK math is known to predict future math performance into high school.”

— WATTS, DUNCAN, SIEGLER & DAVIS-KEAN (2014). WHAT’S PAST IS PROLOGUE: RELATIONS BETWEEN EARLY MATHEMATICS KNOWLEDGE AND HIGH SCHOOL ACHIEVEMENT. *EDUCATIONAL RESEARCHER*, 43(7).

Books Are Not Just for Reading

Boosted by research and the understanding that children gain deeper understanding through interdisciplinary teaching, Bring Me a Book (BMAB) founder Judy Koch saw the potential to incorporate math into the Foundation’s focus on book access for early readers.

“We had a unique opportunity because our focus is on picture books,” Koch says. “You can’t read *Five Little Monkeys* without doing the counting! It was easy to find books that relate to math concepts that kids want to read again and again.”

BMAB developed an easy-to-use model to address a common set of needs shared among community partners working with children and families. The Foundation provides picture books, accompanying guides to create strong read-aloud experiences, and volunteer “Book Buddies” trained to model read-alouds in preschool classrooms. Recognizing that many kids also need a place to keep books at home, BMAB also helps facilitate book cubby workshops for children and parents, providing resources for children to take home their own special book cubby.

BMAB partners with researchers at DREME who identify and select picture books that help grow children’s literacy and mathematical thinking. Additionally, read aloud guides developed by DREME are shared with Book Buddies to encourage interactive experiences that expand learning.

Reading and Math: The Perfect Complement

Catalyzed by local PNC Bank funding, ServeMinnesota — a statewide AmeriCorps administrator — recently redesigned and piloted a modified PreK AmeriCorps intervention focused on literacy and math.

The model complements existing reading modules with math activities, such as read-aloud books focused on math and language-rich interactions focused on numeric concepts. Tutors in the combined program deliver interventions in both subject areas and split their time between the two.

“We were interested in applying the idea of AmeriCorps to make a big impact in foundational math skills and math development,” says David Parker, Ph.D., Vice President of Research and Development with ServeMinnesota. “There was both need and opportunity. You have clear connections between early math skills and later math skills. And yet studies show there is typically very little math instruction occurring in PreK classrooms.”

“Working behind all of this is empirical evidence that math and reading work together,” says Parker.

ServeMinnesota tested how carving out more time and space

for math in a program previously structured as a reading intervention might affect literacy improvements. Early results indicate that literacy scores were higher when math was added.

Thirty school sites took part in the initial pilot. This school year, ServeMinnesota expanded its math focus to 50 schools and plans to scale to all PreK Reading Corps locations.





United Way of Salt Lake Makes Math and STEM a Priority

Because research shows that students who are proficient in math are more likely to complete college and be prepared for the workforce, the United Way of Salt Lake (UWSL) has made math a focus of their work in the community.

One key piece of UWSL's strategy is boosting professional development for teachers. In 2018, UWSL implemented an Elementary STEM Endorsement program, providing scholarships for teachers to gain their endorsement through the University of Utah's Center for Science and Mathematics Education. The two-year professional development program provides K-6 teachers with cohort-based training in STEM subjects. This

support could particularly benefit children of color and girls; exposure to high-quality, well-trained science and math teachers in early elementary grades could well hold the key to holding children of color and girls' interest in STEM-related fields despite social norms that push them in other directions.

"It's an incredible opportunity to increase the reach of high-quality instruction in our region and equip more teachers with the skills they need to bring STEM alive in their classrooms," says Franque Bains, UWSL's Network Director of Collective Impact. "Across our programming and initiatives you will see work that bridges literacy and math, because

cross-curricular approaches are highly engaging and effective."

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— FRANQUE BAINS, UWSL'S NETWORK DIRECTOR OF COLLECTIVE IMPACT

KITS: Building Strong Minds Holistically

The United Way of Lane County (UWLC) has partnered with the Oregon Social Learning Center (OSLC) to promote and scale a kindergarten readiness program, Kids in Transition to School (KITS), focused on boosting math, literacy and social-emotional learning (SEL) skills. KITS's holistic approach to skill-building and evidence-based results make it UWLC's gold standard for kindergarten readiness programming.

"This is something that's hitting on all the levers," says Bess Jayme, Director of Education at UWLC.

Armed with the knowledge that building strong self-regulation skills by age 4 has been linked to college-age reading and math achievement, OSLC Senior Research Scientist and the program director of KITS

Dr. Katherine Pears focuses on the interconnectedness between KITS's three levers of early literacy, early math and SEL. For example, making friendship bracelets becomes an opportunity for counting beads, noticing patterns and sharing. A recent

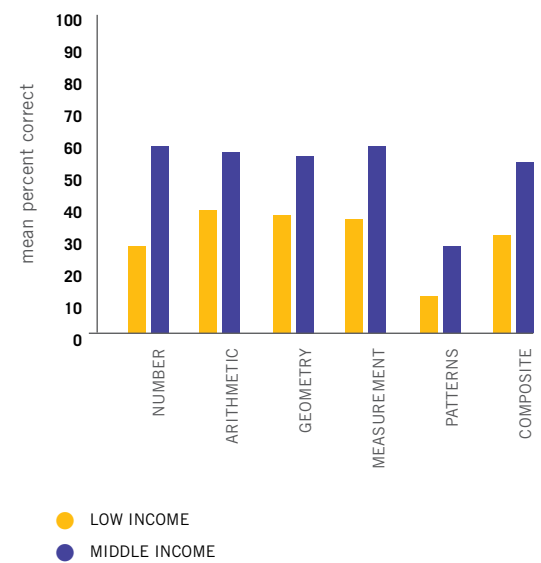


randomized clinical trial, not yet published, directly measured the effects on numeracy for children before and after KITS and found significant effects for those in the program.

"The numeracy part of KITS has always been there," says Pears. "In the last five to six years, we began making a more conscious effort to single it out."

UWLC is continuing to encourage greater use of KITS among school districts. In fall 2019, OSLC piloted the KITS curriculum in two kindergarten classrooms to test its effectiveness in a non-summer setting. "We know KITS asks a lot of kids and parents [who have their own workgroups as part of the program], but we believe in it so strongly," says Jayme.

MATH KNOWLEDGE IN AMERICAN 4-YR-OLDS



Source: Alice Klein, Prentice Starkey, & Lydia Deflorio (2011). *Scaling Up an Effective Pre-K Mathematics Intervention: Mediators and Child Outcomes*. Presented at the Society for Research on Educational Effectiveness.

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Empowering Math Educators to Move Grade-Level Math

Since its inception in 2009, CME Group Foundation's Early Math Education Initiative has invested more than \$10 million in underserved Illinois communities to aid math education from infancy through elementary school. The initiative bolsters professional development for teachers of young children, improves family engagement in the learning of young children and aims to influence early childhood mathematics policies.

The Early Math Education Initiative emerged as a response to both community needs and growing evidence behind grade-level math. In 2008, three grantees separately approached

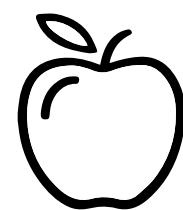
CME Group Foundation with a very specific request: supporting professional development for early childhood teachers in math.

At the same time, two key research findings shaped CME Group Foundation's Early Math Education Initiative: math ability at third-grade level was the most important predictor of future school success; and early childhood teachers lacked the confidence, content and pedagogy knowledge to teach early math appropriately.

A summary report published in 2014 on the Early Math Education Initiative led CME Group Foundation to expand the initiative into new areas, including policy and

advocacy and family engagement programs to help parents gain confidence in supporting their children's math learning. CME Group Foundation is also spearheading a partnership between Chicago Public Schools and several of the city's universities to develop a new early math specialist certification. CME Group Foundation now convenes Early Math Education grantees annually to share how they're learning and evolving, with many continuing to work together on their own.

Supporting teachers remains essential



It is crucial to our economy that all children have access to quality math education, and that starts with providing educators with the right tools to be successful."

— KASSIE DAVIS, EXECUTIVE DIRECTOR, CME GROUP FOUNDATION