

Realizing Multilingual Learners' Immense Promise in Mathematics

Policies That Enable Ambitious Practice



The population of Multilingual Learners in U.S. schools is large and growing rapidly —there were more than 2.2 million Multilingual Learners in fall 2021, their population having increased by 50 percent in grades 6 through 12 during the past decade. Their achievement results do not yet reflect their immense potential to contribute to an increasingly multilingual and intercultural future. Educators must challenge and support Multilingual Learners in engaging in deep mathematical learning characterized by rich participation that simultaneously develops generative uses of language. Such quality learning in classroom practice requires coherent, systemic changes in policy and programs at the state and district levels.

What We Know From the Research

Multilingual Learners thrive in mathematics when they are able to do the following:

- **Have full access to courses and content.** Because language is not a prerequisite to learning mathematics, Multilingual Learners are fully capable of learning mathematical content when well supported. Multilingual Learners learn effectively in classes in which they can work alongside classmates from different cultural and linguistic backgrounds.
- **Develop conceptual understanding.** Although procedural fluency remains important, Multilingual Learners must develop an understanding of why, when, and how those procedures work. Conceptually driven learning develops as students explore ideas and make connections between procedures, representations, and meaning.
- **Participate, by design, in meaningful activity.** Participating in activity is central to developing knowledge for Multilingual Learners. Learning develops effectively through activities designed to require all

members in a group to participate through structure or a careful distribution of information.

- **Focus on language in purposeful ways.** Like all human beings, Multilingual Learners create language, and with appropriate support they can progress from everyday language to language that is more technical and academic. Multilingual Learners enjoy unique advantages in understanding how language works. They can leverage that understanding to develop new mathematical language, enabling their growing agency as mathematics learners.

What State and District Leaders Can Do

Ensure policy, programs, and placement maximize Multilingual Learners' access to courses and content.

Review patterns of enrollment and achievement critically and longitudinally to ensure that Multilingual Learners have full access to the general curriculum and appropriate supports that maximize their learning. Identify pathways that challenge and support Multilingual Learners.

Offer coherent, sustained professional learning and collaboration so that educators can challenge and support Multilingual Learners.

Educator expertise needs to bridge knowledge and practice through reflection in order to challenge and support Multilingual Learners. By collaborating, teams of educators can develop a shared repertoire in the joint enterprise of fostering Multilingual Learner learning.

Adopt instructional materials that center the experiences of Multilingual Learners.

When investing significant resources to adopt new instructional materials, it is critical to ensure that Multilingual Learners are considered and centered from the beginning of the process. Adopting instructional materials closely tied to professional learning enables educators to implement them with integrity.

Invest in a full continuum of supports for Multilingual Learners.

Offer quality, high-dosage, responsive tutoring programs that are responsive to the needs of Multilingual Learners and foster their learning in interaction with others. Create extended learning opportunities in summer and after school to maximize access.

How WestEd Can Help

- **Continuous improvement partnerships.** We engage school and district teams in cycles of continuous improvement that address a problem of practice and are driven by a variety of data that directly inform practical improvement and iterative refinement.
- **Professional learning institutes.** We develop educators' expertise by expanding their vision of quality mathematics learning and offering them tools that expand their knowledge and practice.
- **Curriculum development.** We develop replacement lessons and units that illustrate key mathematical concepts, practices, or pedagogical approaches.
- **Program evaluation.** We partner with district and school teams in comprehensive, collaborative program evaluation that is focused on the student experience and conditions that enable an ambitious learning of mathematics.
- **Coaching.** We develop educators' expertise at the point of classroom practice through individualized coaching and collaborative lesson inquiry cycles.

Learn more about our math work and services at WestEd.org/Math and <https://qtel.WestEd.org>.

Relevant Resources

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- National Academies of Sciences, Engineering, and Medicine. (2017). *Promoting the educational success of children and youth learning English: Promising futures*. National Academies Press. <https://doi.org/10.17226/24677>
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- Roberts, S. A., de Araujo, Z., Willey, C., & Zahner, W. (2022). Three ways to enhance tasks for multilingual learners. *Mathematics Teacher: Learning and Teaching PK–12*, 115(7), 458–467. <https://doi.org/10.5951/MTLT.2021.0300>
- Wilson, J., & Smith, E. (2022). Increasing multilingual learners' access in mathematics. *Mathematics Teacher: Learning and Teaching PK–12*, 115(2), 104–112. <https://doi.org/10.5951/MTLT.2021.0060>