



## Evaluating Math Materials for Equity and Access: Findings from the High-Quality Instructional Materials Learning Partners Coalition

This report highlights strengths in supporting diverse learners, particularly multilingual learners (MLLs), in the recently approved California instructional materials. It outlines what adoption review teams should expect from materials, identifies areas requiring adaptation, and recommends professional learning opportunities to support implementation of new instructional materials.

The growing demand for culturally and linguistically responsive mathematics materials reflects a significant shift in California's policy landscape. The 2023 California Mathematics Framework elevates access, equity, and coherence as core design principles and explicitly calls on instructional materials to support diverse learners through meaningful mathematical discourse, integrated language development, and instructional coherence across grade levels. As a result, California education leaders are increasingly recognizing the importance of addressing the assets and needs of diverse learners in California's classrooms, and the need to equip teachers with the right tools to support them.

To inform California's 2025 math adoption, the High-Quality Instructional Materials Learning Partners Coalition (HQIM-LPC) contracted with and trained expert reviewers to evaluate a subset of the same versions of the instructional materials that content developers had previously submitted to the California Department of Education. Grounded in the HQIM-LPC's definition of high-quality instructional materials for mathematics and using research-based criteria grounded in the latest evidence on effective math instruction for multilingual learners, reviewers assessed how well the program incorporates high-impact features for MLLs.

This report describes our analysis and process, along with the overall findings and recommendations for Local Education Agencies (LEAs) conducting their own reviews of materials.

## Overview of Materials Reviewed and Reviewers

Our team invited content developers of math materials currently in use in California, with significant market share, who have submitted math materials to the State Board of Education. Four content developers agreed to participate in our review. Three of these programs included content for Grades 1, 4, and 8. One program included only Grades 1 and 4.

Reviewers were selected from a pool of experienced California educators with expertise in math and multilingual learner instruction, ranging from 5 to 16+ years of teaching experience. Reviewers participated in a two-day training on the impact features outlined in the evaluation tool and calibration process. Trained educators reviewed the Teacher Edition (TE) and the Student Edition (SE) of a core unit selected by the content developer from each of the focal grade levels.

### Grades and Reviewers

#### Grade 1:

- Suzanne Abdelrahim, *Education Consultant, UC Davis School of Education*
- Danielle Fox, *Assistant Principal, Glendale Unified School District*
- Hilda Wright, *Math Coordinator, Kern County Superintendent of Schools*

#### Grade 4:

- Annie Duong, *Coordinator, San Joaquin COE*
- Sumita Jaggar, *Director of MBAMP & Supervisor of Teacher Education (Math & Science), UC Santa Cruz*

#### Grade 8:

- Dionne Aminata, *Founder & CEO, MathTrust*
- Taica Hsu, *ELD Teacher, Mountain View Los Altos High School District*

## Overview of Product Features

Our evaluation of instructional materials utilized an evaluation rubric based on three high-impact product features for multilingual learners (language mapping, assessment of language development, and purposeful collaboration and conversation) and one feature focused on cultural sustaining pedagogy (cultural and community funds of knowledge).<sup>1</sup>

Product Feature	Definition
Language Mapping	A plan outlining the language that students need to engage with grade-level content, lessons, and activities throughout the unit.
Assessment of Language Development	Opportunities to elicit disciplinary language alongside descriptions, illustrations, and examples of quality work and demonstration of mathematical practices with varying levels of language proficiency. Includes teacher guidance for using assessment data to inform instructional moves, including guidance for leveraging students' linguistic repertoires.
Purposeful Collaboration and Conversation	Prompts or tasks in a unit that allow students to build and refine their mathematical ideas and language through clarifying, justifying, borrowing language/ideas from peers in well-designed and equitable collaboration opportunities.
Cultural and Community Funds of Knowledge	Product features that intentionally place children and their family, cultural, and community practices at the heart of mathematics instruction.

### Areas of Strength

Our review highlighted several promising areas of progress:

- **Explicit language objectives aligned to math content within a lesson:** The review found that, overall, content developers have made significant strides in integrating explicit language objectives directly aligned with the mathematical content and practices being taught. This approach ensures teachers can attend to core math

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<sup>1</sup> Adapted from rubric included in Zavala M del R, Aguirre J. *Cultivating Mathematical Hearts : Culturally Responsive Mathematics Teaching in Elementary Classrooms* / Maria Del Rosario Zavala, Julia Maria Aguirre. Corwin Mathematics; 2024.

concepts and mathematical language simultaneously, which is crucial for deeper understanding and application.

- **Attention to mathematical language functions and forms across lessons:** Reviewers noted that most of these materials showed increased emphasis on supports for developing the functions of mathematical discourse (e.g., describing, explaining, comparing, predicting, justifying), which are closely tied to math practices. Historically, attention to language development has only focused on mathematical vocabulary. The reviewed products demonstrated a conscious effort to design units that identify, highlight, and strategically integrate these language development features throughout.
- **Stronger teacher supports for assessing disciplinary language:** Some of the reviewed products showed increased support for assessing language use alongside mathematical reasoning, including providing tools for gathering evidence of language learning and giving actionable student feedback. For example, some materials included “If / then” statements that provided guidance on how to respond instructionally to students’ language needs.
- **Opportunities for student collaboration:** Some materials offer well-structured opportunities for students to collaborate with peers that go beyond simple strategies such as turn-and-talk or think-pair-share. For example, most of the materials embedded Math Language Routines (MLRs) or similar activities. These collaborative conversations are crucial in math because they foster deeper learning, build math language, and promote critical thinking.
- **Diverse representation:** Most of these curricula include multiple non-stereotypical representations of various cultures, people, genders, and professions. Some of them include activities or tasks that tap into students’ interests or lived experiences.

### **Areas for Adaptation and Professional Learning**

Our review identified areas where instructional leaders should plan to enhance the program by incorporating curriculum adaptations, supplements, or additional professional learning to be inclusive of MLLs and students of color, and maximize the program’s potential.

- **Coherence in language development across the unit:** Most of the reviewed materials provide limited support for sustained language development. To strengthen this area, language forms, features, and functions should be intentionally connected and built progressively across lessons. Making these elements explicit for both teachers and students would clarify the developmental pathway and ensure that language skill growth is continuous and coherent over time.
- **Coherence of collaborative conversation implementation guidance:** In some materials, publishers include collaboration ideas, but teachers must consult a separate document to understand how to implement them, reducing clarity and uptake.
- **Collaboration protocols:** Many of the collaboration protocols in these materials could be strengthened to support longer, more productive exchanges of ideas.
- **Assessments that prompt target form and function:** In most cases, assessment prompts should make the intended mathematical language functions and forms explicit. As written, it is often unclear how the assessments guide or measure language development.
- **Formative assessment next steps:** Some materials include “look-fors” or “listen-fors” in formative assessments, but they do not clearly explain how to use this evidence. Guidance should specify how teachers can provide language-related feedback, plan opportunities for student revision, and determine next instructional steps to support math language development.
- **Teacher guidance:** There are opportunities to strengthen teacher guidance to scaffold language development. Recent survey research shows that teachers want more explicit guidance on how to meet the needs of multilingual learners in math. Some materials would benefit from including specific strategies for teachers to support students in using and progressively developing disciplinary language effectively throughout the unit. In addition, teacher resources should provide more precise guidance to facilitate extended student-to-student discourse.
- **Integration of student experiences and cultures:** While some of the materials invite student ideas and encourage teachers to connect math problems to students' lives, these connections could be more fully developed. The reviewers suggest that publishers could better integrate opportunities to draw on students' cultural and community knowledge as central to the mathematical learning

experience.

- **Connection to home languages:** Some materials reference students using their home language for learning, but provide limited guidance on how to do so effectively. This observation suggests that while the importance of students' linguistic backgrounds is acknowledged, there isn't a robust, integrated approach to leveraging this information throughout the learning process.

### **What Findings Mean for the Field**

The overall findings provide a snapshot of the current state of K-8 mathematics instructional resources for diverse learners. We learned from this review that, while there is evidence of awareness and progress in the instructional materials on MLL supports, there are still opportunities for further adaptation and improvement. We acknowledge that academic support for diverse learners, especially MLLs, is an evolving area and commend publishers for the progress they have made to date.

The High-Quality Instructional Materials Learning Partners Coalition (HQIM-LPC) recommends that LEAs:

- Use tools such as quality rubrics with robust criteria for MLLs.
- Reconcile competing priorities so that math adoption processes receive the attention they deserve.
- Incorporate data into decision-making.
- Provide educators with ongoing professional development to ensure effective implementation.

LEAs are encouraged to use the myriad free tools available through the Coalition, many of which are accessible via [our resource repository](#).

### **Additional Resources to Support Local Adoptions**

[CalCurriculum.org](#) has published MLL Criteria and Evidence Guides to support decision-makers in enhancing their criteria and adoption processes to meet the specific math language and content needs of multilingual learners.

[UnboundEd's Instructional Materials Adoption Toolkit](#) supports instructional leaders through the five phases of an instructional materials adoption process. Their [Winnowing Guidance for California](#) provides specific guidance to Local Educational Agencies (LEAs) for Phase III: Identify and Evaluate Your Options. It outlines a winnowing process to narrow down math programs for adoption.

The [English Learner's Success Forum's Math Curriculum Adoption Toolkit](#) is designed to help education leaders—district administrators, curriculum committees, and school boards—select and implement high-quality, inclusive, linguistically responsive instructional materials. This step-by-step resource ensures multilingual learners are considered at every stage of the adoption process.

[Essential RFP Language](#) for Math Instructional Materials provides LEAs with specifications to include in their Request for Proposals (RFP) and evaluation rubrics to communicate their dedication to giving MLLs and all students access to rigorous, grade-level math content while simultaneously fostering their language development and affirming their identities.

[GLIMA](#), or the Guidance for Local Instructional Materials Adoptions, is a document adopted by the California State Board of Education in March of 2024. This document supports local educational agencies (LEAs) throughout the instructional materials adoption process, including links to current legislation, sample timelines, support for student groups, and implementation considerations.