



# **Criteria for Review of Instructional Materials’ Success in Addressing MLL Linguistic and Instructional Needs in Mathematics: User Guide**

Instructional Materials Serving  
MLLs: Pilot Review



September 2022 (Updated January 2023)

**Criterion 1: Simultaneous content, math practices, and language development**

Materials consistently provide opportunities for simultaneous content, math practices, and language development

**Indicator 1a:** Materials describe major math language goals (informed by language demands, language forms and functions, and language objectives) at the lesson and/or unit level.

**About this Indicator****What is the purpose of this indicator?**

In recent years, math instructional materials have increasingly included disciplinary language development, adding key vocabulary and language objectives. At times, however, these language objectives have not been well-integrated with the math content, giving the impression that the language objectives are ancillary or optional. Instead, content and language are interdependent so that as students learn math, they also need to be apprenticed into its language in a planful way.

**Research and Resources**

- California Department of Education (2017). English learner roadmap. Element 2.A. Integrated and designated English language development. Retrieved from <https://www.cde.ca.gov/sp/el/rm/rmpolicy.asp>.
- Himmel, J. (2012, January 31). Language objectives: The key to effective content area instruction for English learners. Colorín Colorado; Colorín Colorado. Retrieved from <https://www.colorincolorado.org/article/language-objectives-key-effective-content-area-instruction-english-learners>.
- Mandell, R., & Russell, F. (2019, June 20). How does my lesson stack up? ELSF. Retrieved from <https://www.elsuccessforum.org/blog/how-does-my-lesson-stack-up>.
- Staples, M., Truxaw, M. P., & Cruz, V. (2020). Developing and writing language objectives. *Mathematics Teacher: Learning and Teaching PK-12*, 113(10), 828-834.

**Indicator 1a Guiding Question:** Do materials describe the math language goals at the lesson and/or unit level?

**Evidence Collection**

In the Instructional Materials being reviewed:

- Describe whether language goals/objectives are **explicit** and tied directly to the content objectives.
- Describe whether language goals/objectives are **connected** to what students are expected to do with language (language functions), and/or the language structures and vocabulary that are used to support those functions (language forms).
- Describe whether the language objectives in the lesson clearly focus on at least one of the **four domains** of speaking, listening, reading, and writing and include a balance of the domains over time.
- Describe how the materials connect or make reference to the English Language Arts/English Language Development (ELA/ELD) Framework.

### Discussion Questions for Team Meeting

1. Will the language goals/objectives help students to be able to say, depict, and/or write what is asked for in the content objective?
2. Are the language goals/objectives formulaic and not connected to the content?
3. How are language goals/objectives integrated with content goals/objectives at the lesson and unit level?
4. How are language goals/objectives connected to what students will do with the language needed for learning math content and/or how students learn language?
5. Do the language goals/objectives incorporate speaking, listening, reading, and/or writing in a balanced way or are some modes overrepresented?
6. Do materials guide teachers to balance the four domains of language development across lessons and over the course of units and if so, how?

Note: Examples of language functions/objectives are found in the California ELA/ELD framework and Framework for English Language Proficiency Development Standards corresponding to the Common Core State Standards and the Next Generation Science Standards. See the Research and Resources section.

**Indicator 1b:** Materials describe the math language progression for how students will bridge between everyday and mathematical ways of communicating.

### About this Indicator

**What is the purpose of this indicator?**

Just as content develops across lessons and units, so too, does the disciplinary language evolve over lessons and units. In the same way that content is carefully sequenced to build upon ideas, disciplinary language can also be organized and planned in a way that intentionally builds across lessons, bridging students' everyday language to the more academic language. The colloquial, day-to-day language serves as a bridge to the mathematical ways of communicating with the larger mathematical community.

## Research and Resources

- Banse, H. W., Palacios, N. A., Merritt, E. G., & Rimm-Kaufman, S. E. (2017). Scaffolding English language learners' mathematical talk in the context of Calendar Math. *The Journal of Educational Research*, 110(2), 199-208.
- California Department of Education (2015). "English Language Arts/English Language Development Framework for California Public Schools." Curriculum Framework and Evaluation Criteria Committee.
- California Department of Education (2017). English learner roadmap. Element 2.A. Integrated and designated English language development. Retrieved from <https://www.cde.ca.gov/sp/el/rm/rmpolicy.asp>.
- Council of Chief State School Officers. (2012). Framework for English Language Proficiency Development Standards corresponding to the Common Core State Standards and the Next Generation Science Standards. Washington, DC: CCSSO.
- Lampert, M. & Cobb, P. (2003). Communication and language. A research companion to principles and standards for school mathematics. *Research Companion* 237-249.
- Turner, E., Dominguez, H., Maldonado, L., & Empson, S. (2013). English learners' participation in mathematical discussion: Shifting positionings and dynamic identities. *Journal for Research in Mathematics Education*, 44(1), 199-234.
- Walqui, A., & Heritage, M. (2018). Meaningful classroom talk: Supporting English learners' oral language development. *American Educator*, 42(3), 18-39.

**Indicator 1b Guiding Question:** Do materials describe the math language progression for how students will bridge between everyday and mathematical ways of communicating ?

## Evidence Collection

In the Instructional Materials being reviewed:

- Describe how materials intentionally develop language in ways valued by disciplinary practices over time, through lessons, units, and the overall scope and sequence, and any framing of the interdependence of content, practices, and language.
- Describe how the materials present a plan for teachers to bridge between students' informal and everyday ways of communicating and formal mathematical ways of communicating.

- For example, students learning about linear functions might talk about slope using words like tilt, steepness, uphill, and gestures to show their understanding. (Moschkovich, 1997)
- Describe how the materials introduce and support development of mathematical ways of communicating.

### Discussion Questions for Team Meeting

1. Is language addressed throughout the curriculum?
2. Within lessons and units, is there a bridge between everyday and mathematical ways of talking and if so, is the bridge described?
3. Over the course of the curriculum, do language goals/objectives reflect an expectation of increasing participation in mathematical discourse practices?
4. Where and how do materials provide guidance for teachers to foster conversations using everyday and mathematical language and distinguishing between the two?
5. Do materials guide teachers to connect students' everyday and informal language to mathematical language and if so, how?
6. Is new vocabulary introduced in context with content?
7. Do materials provide consistent opportunities for students to develop mathematical language?
8. Are disciplinary discourse practices highlighted in the materials (e.g., conjecture, argument, justification, proof, explanation, counter-example)?

## Criterion 2: Language Features of Mathematical Tasks

Materials provide tasks that require students to make meaning through collaboration by interpreting and producing language.

**Indicator 2a:** Tasks in materials require students to make meaning through collaboration.

### About this Indicator

#### What is the purpose of this indicator?

Collaborative meaning-making is especially important as it provides opportunities to express and interpret emerging mathematical ideas. When tasks provide genuine opportunities for collaboration, MLLs are able to articulate their ideas about mathematics, engage in the process of developing arguments from evidence, and read, interpret, and evaluate information. Such tasks offer students repeated, extended access to participation in mathematics practices.

#### Research and Resources

- NAEM, 2018; English Language Development Guidelines for Instruction. Saunders, W., Goldenberg, C., Marcelletti, D. 2013.
- Swanson, L. H., Bianchini, J. A., & Lee, J. S. (2014). Engaging in argument and communicating information: A case study of English language learners and their science teacher in an urban high school. *Journal of Research in Science Teaching*, 51(1), 31-64.
- Torff, B., & Murphy, A. (2020). Teachers' beliefs about English learners: Adding linguistic support to enhance academic rigor. *Phi Delta Kappan*, 101, 14-18.

**Indicator 2a Guiding Question:** Do tasks in materials require students to make meaning through collaboration?

#### Evidence Collection

In the Instructional Materials being reviewed:

- Describe how the activities and tasks in the curriculum **require** students to **collaborate to make sense** of information and exchange and negotiate ideas and strategies.

#### Discussion Questions for Team Meeting

- Are the tasks sufficiently complex as to require genuine collaboration or is the collaboration superficial?

- How do the tasks present information such that students are required to work together to successfully problem solve and find a solution?
- Do the tasks require extended and sustained collaboration?
- Do the tasks provide multiple entry-points and problem-solving pathways to allow for negotiation of meaning?
- Is the purpose of collaboration made explicit to teachers and students?
- Does the collaboration support students' sense-making around the language of important grade-level mathematical concepts?
- Are there a variety of structures for collaboration (or is it limited to suggestions like think-pair-share)?
- Does the collaboration provide opportunities for students to engage jointly in mathematical practices such as conjecturing, explaining, and/or arguing?

**Indicator 2b:** Tasks in materials require students to make meaning by interpreting and producing mathematical language.

### About this Indicator

#### What is the purpose of this indicator?

Though beneficial to all students, tasks that require students to both interpret and express ideas are particularly essential for MLLs. Students need opportunities, beyond independent paper-pencil exercises, to use all language modes (reading, speaking, listening, writing) . For MLLs, experiencing mathematics through engagement around tasks that are both cognitively demanding and language-intensive provides opportunities to comprehend (receptive language functions) and express (productive language functions) disciplinary ideas using their emerging English.

#### Research and Resources

- Bailey, A. L., Butler, F. A., Stevens, R., & Lord, C. (2007). Further specifying the language demands of school. In A.L. Bailey (Ed.), *The language demands of school: Putting academic English to the test* (pp. 103-156)
- Moschkovich, J. (2012). Mathematics, the Common Core, and language: Recommendations for mathematics instruction for ELs aligned with the Common Core. *Commissioned papers on language and literacy issues in the Common Core State Standards and Next Generation Science Standards*, 94, 17.
- National Academies of Sciences, Engineering, and Medicine. (2018). English learners in STEM subjects: Transforming classrooms, schools, and lives. Washington, DC: The National Academies Press. Retrieved from <https://www.nap.edu/read/25182/chapter/5#778>.

- Saunders, W., Goldenberg, C., & Marcelletti, D. (2013). English language development: Guidelines for instruction. *American Educator*, 37(2), 13.

**Indicator 2b Guiding Question:** Do tasks in materials require students to make meaning by interpreting and producing mathematical language?

## Evidence Collection

In the Instructional Materials being reviewed:

- Describe how the activities and tasks in the curriculum require students to **interpret a variety of mathematical input** (e.g., multiple representations, talk, text).
- Describe how the activities and tasks require students to **express ideas in writing and speaking** to justify and refine arguments, critique the reasoning of others, and make meaning of important mathematical concepts.
- Describe how the activities and tasks in the curriculum require students to use **multiple modes** of communication (reading, listening, writing, speaking) within a **variety of situations/settings/audiences** and for a **variety of purposes** (e.g., pair, small group, presentation, etc.)

## Discussion Questions for Team Meeting

1. Where and how are students asked to interpret mathematical input?
  - a. Across the curriculum, are there varied mathematical inputs (e.g., multiple representations, text, visuals) for students to make sense of?
  - b. How do the tasks require students to use these representations in sense-making?
2. Where and how do activities provide varied opportunities for students to express ideas both verbally and through writing?
3. Are there varied situations, settings, and audiences that require students to communicate for different purposes?
4. Where and how do the materials offer tasks that specifically require students to communicate and defend mathematical reasoning? Are students encouraged to:
  - a. Use objects, drawings, and diagrams?
  - b. Critique the reasoning of others?
  - c. Make meaning of important mathematical concepts?



## **Criterion 3: Language Supports**

Materials provide responsive language and collaborative supports that amplify mathematical language development.

**Indicator 3a:** Materials guide teachers to be responsive to students' current language development in relation to content.

### **About this Indicator**

#### **What is the purpose of this indicator?**

All MLLs bring strengths and interests to the mathematics learning environment. Since new knowledge, language, and skills are dependent upon pre-existing knowledge and skills, it is vital to identify what learners know and can do in order to responsively support new learning and the language needed for participation. Intentionally designed opportunities for learners to show what they know about a topic activates schema and background knowledge, disciplinary language, and provides teachers the opportunity to observe and respond.

#### **Research and Resources:**

- California Department of Education. (2018). California English learner roadmap: Strengthening comprehensive educational policies, programs, and practices for English learners. *CDE Publication*. Sacramento, CA.
- Walqui, A. (2006) Scaffolding instruction for English language learners: A conceptual framework. *International Journal of Bilingual Education and Bilingualism*, 9(2), 159-180,

**Indicator 3a Guiding Question:** Is guidance provided for teachers on how to be responsive to students' current understandings in both content and language?

#### **Evidence Collection**

In the Instructional Materials being reviewed:

- Describe how teachers are guided to use **language supports**.
- Describe how language supports are provided at **varying language proficiency levels** and whether they include guidance for teachers on how to **match students** with supports.
- Describe how specific supports allow students to **access grade-level content**.

#### **Discussion Questions for Team Meeting**

1. Where and how are language supports presented in the curriculum?

2. How do the materials guide teachers to utilize language supports for MLLs contingent upon learners' knowledge and information gathered about the student? (e.g., cue teachers to observe, listen, and gather information about students' current understandings and proficiencies).
3. Where is there evidence of language development and levels of support (light, moderate, high)?
4. Are language supports presented as fluid and responsive instead of a strict, linear language progression?
5. Where and how do language supports attend to the range of MLL students such as, but not limited to, SIFE/SLIFE (Students with Limited or Interrupted Formal Education), those literate in their primary language, long-term MLLs, and those at varying levels of English?
  - a. Are teachers made aware of attending to all the dimensions of students beyond language level?
6. Where is there planned guidance for removal of the supports that are no longer needed over time? What does this look like?

**Indicator 3b:** Materials amplify language and mathematics content while maintaining task and text complexity (oral and written).

### About this Indicator

#### What is the purpose of this indicator?

Complex tasks require deliberate language supports that maintain the cognitive demand by amplifying—rather than simplifying—the mathematical content, practices, and associated language. Language supports should “scaffold up” to provide appropriate assistance for learners. Supports that maintain the rigor of the tasks and prioritize peer interaction create conditions for new learning, and provide opportunity for teachers to observe, understand, and respond to learners' current knowledge.

#### Research and Resources:

- Chval, K. & Renaldi, C. (2022). ELSF: Amplify and facilitate student curiosity about language. *English Learners Success Forum*. Retrieved from <https://www.elsuccessforum.org/resources/amplify-and-facilitate-student-curiosity-about-language>
- Chu, H. & Hamburger, L. (2019). Designing mathematical interactions for English learners. *Mathematics Teaching in the Middle School*, 24(4), 218–225.
- English Learners Success Forum (2022). Talk moves. Retrieved from <https://www.elsuccessforum.org/resources/math-talk-moves>.

- Gibbons, P. (2015). Scaffolding language, scaffolding learning. *Teaching English Language Learners in the Mainstream Classroom*. New Hampshire: Heinemann.
- Hakuta, K., Butler, Y. G., & Witt, D. (2000). How long does it take English learners to attain proficiency? *The University of California Linguistic Minority Research Institute, (2000-1)*.
- Walqui, A., & Bunch, G. C. (2019). *Amplifying the curriculum: Designing quality learning opportunities for English learners*. Teachers College Press.

**Indicator 3b Guiding Question:** Do materials amplify language and mathematics content while maintaining task and text complexity (oral and written)?

### Evidence Collection

In the Instructional Materials being reviewed:

- Describe how language supports assist MLL students to **understand what the task is asking** them to do, to **participate fully** in the task (including navigating and negotiating resources), and **demonstrate understanding** through what the task asks them to produce.
- Describe how language supports assist students to **make meaning** while students are:
  - Collaborating
  - Interpreting
  - Producing and extending their mathematical understanding and language
- Describe how language supports are **aligned to academic tasks and address the four domains of language** (speaking, listening, reading, and writing).

### Discussion Questions for Team Meeting

1. Where and how do materials help teachers use supports while maintaining the cognitive demand of tasks?
2. Where and how do materials support learners' understanding of tasks and concepts with the use of specific language resources?
3. Where and how do the supports assist students in producing the language to demonstrate their understanding (language models and frames)?
4. Do the supports oversimplify or water down the content?
5. Where and how do reading and writing supports provide opportunities for peer interaction and co-construction of mathematical concepts?
6. Do the materials guide teachers to give support for students to make meaning through multiple methods, multiple representations?

7. Do the materials provide language supports that enable students to have meaningful interactions through extended conversation to build understanding?
8. How do language supports align to the academic tasks (beyond turn and talk, and generic/basic sentence frames)?
9. How do language supports provide opportunities to develop language using the four domains of language (speaking, listening, reading, and writing)?

**Indicator 3c:** Materials include use of language structures or routines that make full use of and engage all forms of communication including math conversations.

### About this Indicator

#### What is the purpose of this indicator?

Language structures and routines provide opportunities for students to actively use language across domains (speaking, listening, reading and writing) for a variety of purposes (formulating ideas, comparing ideas with peers, presenting to class). When used consistently, structures and routines become predictive and learners feel safe to share, explore and generate language as they learn new concepts and skills.

#### Research and Resources

- English Learners Success Forum (2022). Nonverbal and verbal communication routine. Retrieved from <https://www.elsuccessforum.org/resources/nonverbal-and-verbal-communication-routine>
- Gibbons, P (2003). Mediating language learning: teacher interactions with ESL students in a content-based classroom. *TESOL Quarterly*, 37(2), 247–73.
- Gibbons, P. (2015). *Scaffolding language, scaffolding learning: Teaching English language learners in the mainstream classroom (2nd ed.)*. Portsmouth, NH: Heinemann.

**Indicator 3c Guiding Question:** Do materials include use of language structures or routines that make full use of and engage all forms of communication including math conversations?

#### Evidence Collection

In the Instructional Materials being reviewed:

- Describe **consistent opportunities and routines** for students to actively use language **for different purposes**
- Describe how structures and routines are **aligned to the goals of the lesson**.

- Describe how materials guide teachers to use language supports and routines to **foster classroom discussions** that:
  - **Center student ideas** that drive classroom discussions through peer to peer interactions
  - Provide consistent opportunities for generative, exploratory, and presentational talk

### Discussion Questions for Team Meeting

1. Where and how do materials guide teachers to provide language structures or routines for students?
2. Where and how do materials provide consistent use of language structures or routines for all students to use language for different purposes such as:
  - a. Reading and interpreting complex math text and/or symbols? (e.g., 3 Reads Protocol)
  - b. Interacting/collaborating, revising, reporting, reflecting on their learning
  - c. Communicating with multiple representations (e.g., using drawings, notes)
  - d. Communicating with different audiences
3. Where and how do structures and routines align with the language goals of the lesson? It is not sufficient for language routines to be generic.
4. Where and how do materials provide guidance for teachers to orchestrate discussions that allow students to revisit and revise their mathematical ideas and language?
5. Do materials prompt teachers to actively monitor student discussions centered on student ideas?
6. Where and how do students have opportunities for a variety of math talk, (e.g., generative, exploratory and presentational talk)?

**Indicator 3d:** Materials include guidance for intentional and flexible grouping structures to ensure equitable participation.

### About this Indicator

#### What is the purpose of this indicator?

Flexible grouping for MLLs that is responsive to both students' language needs and the lesson content creates opportunities for learners to meaningfully interact with peers, co-create ideas, share assets and build classroom culture. Language supports in this context allow MLLs to participate fully while developing language.

#### Research and Resources

- English Learners Success Forum (2022). Strategic grouping for home language supports. Retrieved from <https://www.elsuccessforum.org/resources/math-strategic-grouping-for-home-language-supports>

**Indicator 3d Guiding Question:** Do materials include guidance for international and flexible grouping structures to ensure equitable participation?

### Evidence Collection

In the Instructional Materials being reviewed:

- Describe how materials **guide and remind** teachers to create groups to promote a **variety of learning opportunities** for MLLs reflective of oral language resources
  - grouping by similar language resources
  - grouping by varied language resources
  - grouping in ways to support community building
- Provide guidance on **intentional grouping structures** for equitable participation and **monitoring** for effective collaboration opportunities.

### Discussion Questions for Team Meeting

1. Where and how do materials prompt teachers to create intentional groups of students? Across the curriculum, do materials suggest varied ways of grouping? Are MLLs always grouped together? Are they always separated?
2. Where and how do materials guide teachers to create explicit structures for equitable peer collaboration to practice communicating mathematical thinking (share ideas, defend claims, develop/critique lines of reasoning)?
3. Where and how do materials prompt teachers to monitor groups so that all students equitably participate?

## Criterion 4: Leveraging Students' Assets

Materials forefront, value, and use the assets of students, including their home language, experiences, and beliefs, in the teaching of mathematics

**Indicator 4a:** Materials activate and build on students' home and community mathematical practices, showing teachers how to elicit and affirm students' strengths and experiences and connect these to mathematics learning.

### About this Indicator

#### What is the purpose of this indicator?

MLLs participate in mathematical practices in their homes and communities, and curricular materials can prompt teachers to connect to these. Bringing in their mathematical practices and familiar contexts positions MLLs' experiences and knowledge as valuable and broadens access to mathematics content. Materials can guide teachers to collect information about their students' math practices. Two-way communication with students and families provides both information about instruction and students' progress as well as respectfully eliciting information about students' experiences at home, interests, and informal math strategies.

#### Research and Resources

- California Department of Education. (2018). California English learner roadmap: Strengthening comprehensive educational policies, programs, and practices for English learners. 1.A.1.D (CDE Publication). Sacramento, CA:CDE.
- Land, T. J., Bartell, T. G., Drake, C., Foote, M. Q., Roth McDuffie, A., Turner, E. E., & Aguirre, J. M. (2019). Curriculum spaces for connecting to children's multiple mathematical knowledge bases. *Journal of Curriculum Studies*, 51(4), 471-493
- Renaldi, C. & Chval, K. (2022). Don't underestimate the power of contexts in mathematics curricula. *English Learners Success Forum*. Retrieved from [https://assets-global.website-files.com/5b43fc97fcf4773f14ee92f3/601884afcb642461d937099d\\_Don%E2%80%99t%20Underestimate%20the%20Power%20of%20Contexts%20in%20Mathematics%20Curricula.pdf](https://assets-global.website-files.com/5b43fc97fcf4773f14ee92f3/601884afcb642461d937099d_Don%E2%80%99t%20Underestimate%20the%20Power%20of%20Contexts%20in%20Mathematics%20Curricula.pdf)
- Turner, E. E., Foote, M.Q, Stoehr, K. J, McDuffie, A. R., Aguirre, J. M, Bartell, T, G, & Drake, C. (2016) Learning to leverage children's multiple mathematical knowledge bases in mathematics instruction. *Journal of Urban Mathematics Education*. 9(1), 48-78.

**Indicator 4a Guiding Question:** Do materials forefront, value, and use the assets of students, including their home language, experiences, and beliefs, in the teaching of mathematics?

### Evidence Collection

In the Instructional Materials being reviewed:

- Describe how materials prompt teachers to **elicit** information about their **students, families, and communities**.
  - Experiences with mathematics in school and in everyday contexts
  - Informal strategies
  - Interests
  - Home and community
- Describe how materials guide teachers to use an **asset-based view** of students
- Describe how materials explicitly guide teachers to **integrate** information about students and their communities into instruction.

### Discussion Questions for Team Meeting

1. Where and how do materials prompt teachers to elicit information about students, families, and communities?
2. Are teachers prompted to elicit a variety of information (informal strategies, students' interests, experiences with math in school and outside of school, students' experiences in their homes and communities)?
3. Are suggestions about eliciting information from students done in a respectful way (information that students are comfortable sharing, being sensitive and thoughtful of the students)?
4. How are teachers being prompted to acknowledge MLLs' contributions and highlight their thinking?
5. Where and how are teachers prompted to integrate information from MLLs into instruction?
6. Are suggestions about integrating information from students done in a respectful way (careful not to generalize experiences to whole groups but rather reflective of individuals)?

**Indicator 4b:** Materials explicitly guide teachers to create opportunities for students to use home language and practices as resources for learning mathematics and to express their culture and identity.



## About this Indicator

### What is the purpose of this indicator?

Students benefit when they have access to all of their linguistic resources as they learn mathematics. This includes students' everyday ways of talking, home language, and familiar participation structures (e.g., norms for communicating with adults, familiar communication styles). When students have access to all of their linguistic resources, they have more opportunities to make meaning of mathematics.

### Research and Resources

- California Department of Education. (2018). California English Learner Roadmap: Strengthening Comprehensive Educational Policies, Programs, and Practices for English Learners.1.A(CDE Publication). Sacramento, CA:CDE.
- English Learners Success Forum (2022): Translanguaging strategies. Retrieved from <https://www.elsuccessforum.org/resources/math-translanguaging-strategies>.
- Turner, E., & Celedón-Pattichis, S. (2011). Mathematical problem solving among Latina/o kindergartners: An analysis of opportunities to learn. *Journal of Latinos and Education*, 10(2), 146-169.

**Indicator 4b Guiding Question:** Do materials explicitly guide teachers to create opportunities for students to use home language and practices as resources for learning mathematics and to express their culture and identity?

### Evidence Collection

In the Instructional Materials being reviewed:

- Describe how materials explicitly guide teachers to **encourage** students to use everyday and home languages as resources to **make meaning** for mathematics content
- Describe how materials explicitly guide teachers to encourage students to use everyday and home languages as resources to **demonstrate their understanding**
- Describe how teachers are supported to draw on and highlight students' contributions and **emphasize connections** to mathematics content to validate their contributions

### Discussion Questions for Team Meeting

1. Where and how are students encouraged to use their everyday and home language?
2. Are teachers prompted to include students' home and everyday language in the classroom language practices that are developed throughout the lessons? Or are students' home and everyday language ignored?

3. In assessments (formative and summative), are students encouraged and allowed to draw on their home and everyday language practices to demonstrate their understanding?
4. Where and how are teachers supported to connect students' spoken and written contributions to content (to support meaning making, promote engagement, position students' contributions as valuable)?

**Indicator 4c:** Materials guide teachers to establish and maintain a classroom culture that encourages student participation and agency for language development.

### About this Indicator

#### What is the purpose of this indicator?

Materials that highlight strategies to broaden MLLs' classroom participation promote more equitable classrooms. When students are encouraged to take risks, explore mistakes and ask for help, students develop a greater sense of agency and ownership of their mathematics and language learning.

#### Research and Resources

- California Department of Education. (2018). California English learner roadmap: Strengthening comprehensive educational policies, programs, and practices for English learners. 1.C.School Climate (CDE Publication). Sacramento, CA:CDE.
- Moschkovich, J. (2013). Principles and guidelines for equitable mathematics teaching practices and materials for English language learners. *Journal of Urban Mathematics Education*. 6(1). 45-57.

**Indicator 4c Guiding Question:** Do materials guide teachers to establish and maintain a classroom culture that encourages student participation and agency for language development?

#### Evidence Collection

In the Instructional Materials being reviewed:

- Describe how materials guide teachers to facilitate equitable participation
  - Examples: Explicit advice to teachers to hold and maintain an asset-based view of their students, Intentional solicitation of MLLs contributions to conversations
- Describe how materials guide teachers to maintain norms to promote student agency
  - Example: promoting students to take academic risks in sharing tentative ideas, exploring mistakes, asking for help, giving help to others, and having more ownership over their learning.

## **Discussion Questions for Team Meeting**

1. Where and how are teachers advised to maintain an asset-based view of their students? (for example, looking for what students know, not only the misconceptions they may hold)
2. Are teachers prompted to intentionally elicit contributions from MLLs?
3. Where and how are there intentional teaching strategies highlighted for activities that promote equitable participation (e.g., wait time, revoicing, questioning strategies)?
4. Does the curriculum highlight best practices for building relationships and a sense of community for MLLs (e.g., community building activities, reminders not to use sarcasm or teasing, reminders to learn students' names and pronunciation)?
5. Where and how are norms around participation and agency made explicit and revisited?
6. Do the norms suggested by the curriculum encourage students to take risks, share ideas, explore mistakes, ask for help, collaborate with others, and move toward independence?

## Criterion 5: Formative Assessment of Content, Math Practices, and Language

Materials provide opportunities to consistently assess, analyze, and communicate progress while students have opportunities to incorporate feedback.

**Indicator 5a:** Materials include a formative assessment plan for language alongside content that includes a connection to established unit/lesson language goals.

### About this Indicator

#### What is the purpose of this indicator?

Formative assessment is a critical process to improving learning, and a driver for supporting MLLs who are learning new language and content simultaneously. Just as materials guide teachers to collect formative assessment data connected to content goals, they can also provide guidance for collecting data connected to the language goals.

#### Research and Resources

- Alvarez, L., Ananda, S., Walquí, A., Sato, E., & Rabinowitz, S. (2014). Focusing formative assessment on the needs of English learners. *WestEd*.
- Cardenas, G., & Heritage, M. (2022). Formative assessment: A key to improving learning for English learners. English Learners Success Forum. Retrieved from <https://www.elsuccessforum.org/resources/formative-assessment-a-key-to-improving-learning-for-english-learners>
- Alvarez, L., Ananda, S., Walquí, A., Sato, E., & Rabinowitz, S. (2014). Formative assessment considerations. *English Learners Success Form*. Retrieved from <https://www.elsuccessforum.org/resources/math-formative-assessment-considerations>

**Indicator 5a Guiding Question:** Do materials include a formative assessment plan for language alongside content that includes a connection to established unit/lesson language goals?

#### Evidence Collection

In the Instructional Materials being reviewed:

- Describe how formative assessments are **aligned to lessons' language and content learning goals**.
- Describe guidance for teachers to collect formative assessment data at **key points throughout the unit**.

- Describe how rubrics and other assessment criteria specifically identify and describe typical **content, practice, and language**.
  - These tools may also suggest ways to capture students' progress from everyday language to language for more formal academic purposes.

### Discussion Questions for Team Meeting

1. Where and how do the materials connect the language goals to the formative assessments?
2. Is there guidance for teachers to collect formative assessment data (with a focus on oral and written language samples) throughout the unit? Is it across key points or only at the end?
3. How do the assessment materials capture both students' mathematical reasoning and mathematical language development?
4. How do rubrics and other assessment criteria specifically identify and describe expected content, practice, and language?

**Indicator 5b:** Materials include guidance for gathering, analyzing, using, and communicating language and content data from formative assessments (in a cycle of continuous improvement).

### About this Indicator

#### What is the purpose of this indicator?

Guidance for formative assessment practices helps teachers and students determine next steps in content and language learning. Collecting and analyzing student assessment data is a continuous cycle that includes the teacher gathering evidence and making decisions about students' speaking, listening, reading, and writing skills related to language and content; providing feedback; and using this evidence to adjust instruction while teaching or when planning. Instead of focusing on MLLs' formally assessed language proficiency levels as the sole metric for decision-making, formative assessment practices focus on what the teacher knows about the students' strengths, assets, and needs in the context of the learning. When this data is communicated to all stakeholders, content and language learning continue to move forward and students can take a more active role in their learning.

#### Research and Resources

- Cardenas, G., & Heritage, M. (2022). Formative assessment: A key to improving learning for English learners. *English Learners Success Forum*. Retrieved from <https://www.elsuccessforum.org/resources/formative-assessment-a-key-to-improving-learning-for-english-learners>.

**Indicator 5b Guiding Question:** Do materials include guidance for gathering, analyzing, using, and communicating language and content data from formative assessments (in a cycle of continuous improvement)?

### Evidence Collection

In the Instructional Materials being reviewed:

- Describe guidance for how teachers will use and analyze student language assessments to give **informative, timely, and actionable feedback** and to **adjust instruction** by adding scaffolds or amplifying language.
- Describe guidance for how **students** will **self-assess, peer assess**, and incorporate teacher feedback in **revision of work**.
- Describe any examples of quality work provided for teachers and students and whether these **exemplars are inclusive of varying levels of language proficiency**.
  - This work may include written model tasks, examples of teacher-student and student-student interactions, or examples and non-examples of intended practices. This work should be presented in a way that **highlights student potential for English proficiency**, and is not deficit-based.
- Describe guidance for how teachers **communicate assessment data and progress to all stakeholders**, including the student, the student’s family, and other teachers.

### Discussion Questions for Team Meeting

1. Where and how do the materials provide guidance for how teachers will give informative, timely, and actionable feedback for mathematical language development?
2. Where is the guidance (i.e look fors, listen fors) for how teachers will use and analyze student language assessments to adjust instruction as needed, by adding scaffolds or amplifying language?
3. How do materials provide students with opportunities to self-assess? Peer assess? Is there sufficient structure to ensure the feedback is actionable?
4. Is there guidance and time allocated for how students will incorporate teacher feedback to revise their work?
5. Where are examples of quality work provided for teachers and students? Do the examples represent different stages of language development? Are the examples presented in a way that highlights student potential for developing language?
6. Do the materials provide guidance for how teachers communicate assessment data and progress to the student? To the student’s family? To other teachers?

- a. Do they do so in a way that promotes an asset-based view of students? Do they highlight what students can do along with areas of growth?
7. Do they provide actionable suggestions to support mathematics and language development?

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