

# ELSF Math Best Practices, Must Haves, and Pitfalls

At ELSF we know that English learners (ELs) are capable of accessing and excelling at grade-level content learning alongside their peers. High quality instructional materials (HQIM) play an integral role in constructing and driving learning experiences that ensure that all students are equally able to excel in school contexts. Our mission is to increase the supply and quality of learning materials that provide ELs with equitable access to the content, skills, and language needed to unleash their immense potential.

The leading experts in education for ELs, alongside school-based practitioners around the country, have created essential Guidelines that provide a roadmap for creating or improving HQIMs inclusive of ELs' rich assets and learning needs. The table below is an abbreviated version that outlines the “Must Haves” and common “Pitfalls” within ELSF’s *Guidelines for Improving Math Materials for English Learners* (the Guidelines). This easy-to-navigate visual can be used as a starting point by curriculum creators or users to clarify must-haves within those Guidelines.

Hyperlinks to resources are provided in the digital version of this table to illustrate what these suggestions look like in practice. If you are viewing a printed copy of the table, you can find these resources on [elsuccessforum.org](https://elsuccessforum.org) under the heading *Explore the Resources*.

The caveats included in the Pitfalls section of this table were selected due to the frequency with which they were observed by EL Experts in reviewing materials. This section describes common pitfalls to avoid when implementing the Guidelines or engaging in curriculum development or improvement with ELs in mind.

If you have clarifying questions while reading the table below, ELSF recommends reviewing the Guidelines at [elsuccessforum.org/guidelines](https://elsuccessforum.org/guidelines), referring to our Glossary of terms at [elsuccessforum.org/resources/glossary](https://elsuccessforum.org/resources/glossary), and/or reaching out to [opportunities@elsuccessforum.org](mailto:opportunities@elsuccessforum.org).



**Table 1.** ELSF Math Best Practices, Must-Have Strategies, and Pitfalls

<b>Best Practices</b> <i>Fundamentals of Quality Curricula for ELs</i>	<b>Must-Have Strategies</b> <i>Supporting the Fundamentals</i>	<b>Common Pitfalls</b> <i>Implementation Challenges</i>
<b>Integrate Language Learning and Math</b>	<ul style="list-style-type: none"> <li>• Presence of content-language objectives, not just content objectives (See: <a href="#">Analyzing Content and Language Demands</a>; <a href="#">Texts/Tasks Language Demand Chart</a>).</li> <li>• Prepares students to use multiple language modalities throughout a lesson or unit: receptive, productive, and interactive (See: <a href="#">Bounce Cards</a>, <a href="#">Choose &amp; Defend</a>).</li> <li>• Includes discussions as well as how to execute and facilitate (See: <a href="#">Talk Moves</a>).</li> <li>• Spirals both math content and language over the course of a unit (See: <a href="#">Spiraling Math</a>).</li> <li>• Provides a clear rationale to teachers for integrating math language learning as an essential part of math instruction.</li> </ul>	<ul style="list-style-type: none"> <li>• Explicit selection of language objectives for math tasks may require additional training if they are not evident in the materials</li> <li>• Math language routines and talk moves should be carefully chosen based on context to support math language to express student understanding of specific math content.</li> <li>• If curricular materials do not provide clear instructions on how or why to integrate language development in math, teachers will often skip it.</li> </ul>
<b>Scaffold Language Demands</b>	<ul style="list-style-type: none"> <li>• Foreshadows/anticipates language challenges, which are explicitly identified beyond basic vocabulary frontloading (See: <a href="#">Unpacking a Lesson for Embedded Language Demands</a>).</li> <li>• Encourages students to use informal language to build understanding. Then formal language can flow from the need to make informal language precise.</li> <li>• Prepares scaffolds for the full range of reading, writing, speaking, listening activities in math (See: <a href="#">Anchor Charts</a>, <a href="#">Dictogloss</a>, <a href="#">3 Reads</a>).</li> <li>• Guides teachers to capture and assess language progress over time (See: <a href="#">Assessment of Student Writing and Oral Language Production</a>).</li> <li>• Multiple exposures and contextualization of math vocabulary are consistent in order to make meaning.</li> </ul>	<ul style="list-style-type: none"> <li>• A common mistake is to oversimplify or remove challenging language from word problems. Instead, materials should provide scaffolding to help students access the task alongside proficient English speakers.</li> <li>• Do not assume that student language proficiency is static. It will change over the course of the year. Ensure that scaffolds are slowly withdrawn as proficiency develops to support more student independence.</li> <li>• Without multiple exposures and contextual opportunities, students will not be able to make meaning of math vocabulary. Spiral back to revisit math vocabulary and support appropriation of precise math language.</li> </ul>



<b>Provide Mathematical Rigor</b>	<ul style="list-style-type: none"><li>• Balances content and language demands: when teaching new content, uses familiar math vocabulary; when introducing new language, uses familiar math content. When reviewing previously covered concepts, uses content and language that is at grade level.</li><li>• Continual use of informal assessments to measure content/language growth.</li><li>• Includes metacognitive opportunities for students to stop, reflect upon, and refine their thinking (See: <a href="#">Nonverbal &amp; Verbal</a>).</li></ul>	<ul style="list-style-type: none"><li>• Does not water down the rigor of math lessons just because students are building their language proficiency. ELs can and should be learning grade level rigorous math.</li><li>• Concepts developed within a curriculum should not be isolated. It is better to build a deep mathematical understanding of core concepts than to superficially cover a wide variety of math topics too quickly.</li></ul>
<b>Leverage Student Assets</b>	<ul style="list-style-type: none"><li>• Encourages teachers to ask students about their experiences &amp; knowledge related to math concepts or context (see: <a href="#">Wide Angle</a>).</li><li>• Guides teachers to connect math to the daily experiences of students.</li><li>• Supports teachers in integrating student home languages (See: <a href="#">Translanguaging</a>).</li><li>• Captures student understanding expressed in multiple modalities (see: <a href="#">Collect &amp; Display, Group Activity</a>).</li><li>• Provides intentional group work and pair-share opportunities (see: <a href="#">Information Barrier, Strategic Grouping</a>).</li></ul>	<ul style="list-style-type: none"><li>• Does not assume that adding in a few cultural or historical references makes math learning “relevant” to students. Instead, incorporate opportunities for student choice so that students can pursue their own questions and use math to better understand and participate in the world around them.</li><li>• Does not advise instructors to place all the students with the same language background in the same group all year. Suggest targeted, varied group opportunities.</li></ul>