

Learners' Potential

Strategies for Making Content Accessible

Second Edition

Diane Staehr Fenner

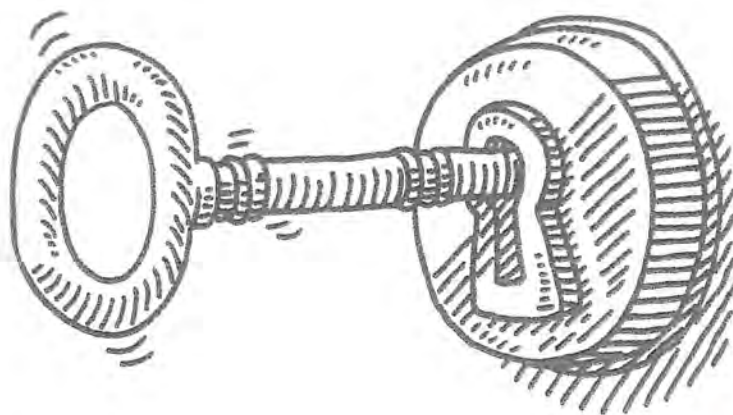
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ACTIVATING AND TEACHING MLs BACKGROUND KNOWLEDGE

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Viktor is a Ukrainian middle school emergent multilingual learner (ML) at a high beginning level of English proficiency. He has been in the United States for six months. His social studies class is beginning a unit on the Great Depression in the United States. To prepare him for the unit, Ms. Moussa and Mr. Lopez, his social studies and ELD teachers, devote several class periods building his and his emergent ML classmates' background knowledge on the consumer economy of the 1920s, what the stock market is, "Black Tuesday," and President Hoover. However, Ms. Moussa is beginning to grow frustrated with the amount of time they are spending on building background knowledge since she has a district social studies pacing guide she needs to follow and is falling behind. She is also concerned that her native English speakers are getting bored with all the background knowledge instruction since they already know much of this material. Both teachers wonder if there is a better way to help Viktor gain enough background knowledge so he can be an active participant in the content unit while developing his academic-language skills in English.

Ms. Moussa and Mr. Lopez are not alone in wondering how to choose and teach background knowledge to MLs when more is asked of all students, including MLs, yet teachers' time constraints are so pressing. This chapter will help you take a deeper look at how you select and teach background knowledge to MLs. It explores the time investment and potential benefit to MLs when background knowledge is chosen carefully and taught succinctly. The chapter will address the need to either develop a new approach to or reconceptualize teaching background knowledge to MLs. It will highlight a four-step framework for deciding which types of

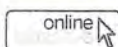
background knowledge to teach MLs and ways to activate and teach background knowledge concisely. The chapter includes a flowchart, tables, and models for educators to use in deciding which background knowledge to teach and how to teach it. It also includes and models several activities that you can use in your own planning and instruction to help you put the framework into practice. Since background knowledge is especially crucial for MLs to access mathematics instruction, we include a special section on the unique areas of background knowledge and mathematics for MLs.

REFLECTION QUESTIONS



Think of one lesson in which you teach some background knowledge to MLs.

1. What background do you see as essential?
2. Why do you choose to teach it?
3. How do you teach it?
4. How long do you spend on instruction of background knowledge as part of this lesson?



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Reflection: How Do I Feel About Teaching Background Knowledge to MLs?

Part of effectively choosing and teaching background knowledge to MLs involves first getting a sense of where you fall along the continuum of beliefs about teaching background knowledge. Consider the points on this continuum (Figure 7.1), and mark where you see yourself:

FIGURE 7.1 CONTINUUM OF BELIEFS ABOUT TEACHING BACKGROUND KNOWLEDGE

1. <i>I believe MLs should not be taught background knowledge. They will gain that knowledge through engaging with the academic content.</i>	2. <i>I believe MLs should be taught some background knowledge prior to engaging with academic content unfamiliar to them.</i>	3. <i>I believe MLs should be taught ample background knowledge so that they are completely familiar with the nuances of the academic content before engaging with it.</i>

REFLECTION QUESTIONS



Now, think about a rationale for your answer.

1. Why did you choose your answer?
2. Has this approach worked for you and your MLs? Why or why not?



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We've heard opinions that span both ends of the continuum when it comes to deciding how much background knowledge instruction is appropriate for MLs—from no background knowledge instruction whatsoever (and exclusive attention on the text) all the way to extensive preparation about the subject of the text, the author, or other topics that might or might not directly relate to the academic content. In our experience, ELD teachers' responses typically tend to gravitate more toward Point 3 on the continuum of beliefs about teaching background knowledge (Figure 7.1), whereas content teachers' responses usually tend to align somewhere between Point 1 and Point 2. Naturally, there are outliers in both groups of teachers. While we know that providing more experiential-type background knowledge instruction usually results in greater language development for MLs, it may take more class time to provide such experiences. With rigorous content standards and texts being used by teachers of MLs, we need to find a happy medium. Background knowledge is an issue that many teachers, district leaders, policy makers, and curriculum writers seem to continue to struggle with when considering how to equitably teach MLs within a standards-based framework.

How Can I Raise My Awareness About the Importance of MLs' Background Knowledge?

Now that you have considered your own stance on teaching background knowledge to MLs, you can continue raising awareness about the importance of background knowledge for MLs by putting yourself in the shoes of a student who has not yet developed background knowledge on a topic. One way to do this is to first take a look at how background knowledge influences your own understanding of a text by reading a math word problem that's written in English. Unlike most MLs' experiences learning language and content simultaneously, in theory, your knowledge of the English language should not affect your comprehension of the following short text in Application Activity 7.1.

APPLICATION ACTIVITY 7.1: MATH WORD PROBLEM

First, read this word problem, and then, discuss or think about your responses to the three reflection questions that follow.

Word Problem: A cricketer whose bowling average is 12.4 runs per wicket takes 5 wickets for 26 runs and thereby decreases his average by 0.4. How many wickets were taken by him before the final match?¹

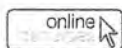
APPLICATION ACTIVITY 7.1: REFLECTION QUESTIONS



1. What would you need to know in order to solve this problem?

2. How does background knowledge play a part in your understanding of this problem?

3. How would you approach trying to solve this problem? What resources would you use?²



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Maybe you were able to solve the problem without linguistic or mathematical supports, but consider how much the answer “85 wickets taken before final match” actually means to you if you’re not familiar with cricket and the amount of information it provides. Now, suppose you’re in a mathematics class in England where wickets and cricket vocabulary might be part of regular conversation. Would you ask the teacher what cricket is and what the rules are in front of the class? Would you interrupt instruction and also immediately draw the whole class’s attention to yourself as a speaker of U.S. American English? What if you also did not have the

¹See <https://www.quora.com/A-cricketer-whose-bowling-average-is-12-4-runs-per-wicket-takes-5-wickets-for-26-runs-thereby-decreases-his-average-by-0-4>.

²Please see the end of the chapter for the solution.

math skills to solve this problem, let alone the understanding of the terms? This experience also underscores that you should not rely on MLs' responses to teachers' questions about context such as, "You know what a baseball field is, right?" or, "Have you ever heard of NASA?" Students may be self-conscious about sharing the range and depth of information that is unfamiliar, and they may not be entirely candid in publicly identifying cultural or linguistic information they do not yet know (August, Staehr Fenner, & Bright, 2014).

What Does the Research Say About Background Knowledge?

Now that you've had the opportunity to see how your own background knowledge plays out in solving an algebra problem, let's take a look at some of the relevant research on the concept of background knowledge. According to Marzano (2004), "What students already know about the content is one of the strongest indicators of how well they will learn new information relative to the content" (p. 1). In addition, the research synthesis *Reaping the Rewards of the Reading for Understanding Initiative* (Pearson et al., 2020) cites multiple studies that suggest background knowledge has a direct influence on reading comprehension and that the influence of background knowledge on reading comprehension is particularly important for adolescents as grade levels increase. Further, Billings and Walqui (2017) share that "When a teacher assigns either a text or a task that does little to draw on MLs' prior experiences and understandings, they are likely to struggle with comprehension of the text and with successful engagement in the task" (p. 3).

It is generally true that what we know and are already familiar with can influence new learning and the comprehension of what we read (McNamara & Kintsch, 1996; Pearson et al., 2020). Background knowledge does not have to be knowledge gained from a text. It can also be built through a piece of art, a diagram, a cartoon, a picture, or a video. Further, peer learning activities that foster intellectual engagement with a topic also support building the wide array of background knowledge that students need for success from one content class and text to the next (Fisher et al., 2012).

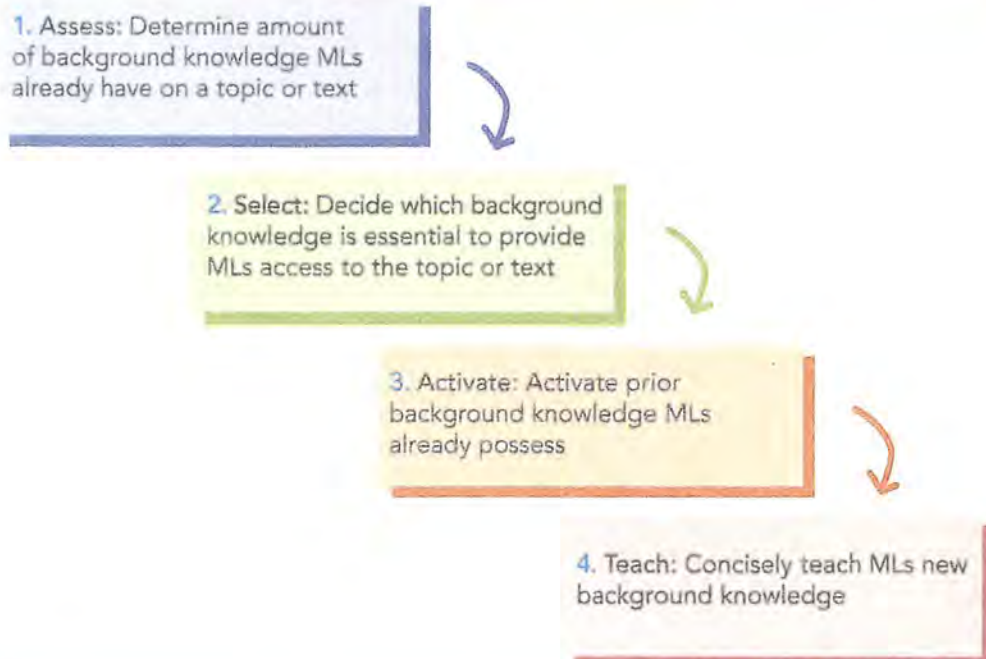
MLs bring great diversity to classrooms in terms of their language proficiency, background knowledge, and experiences. It is critical that teachers take an assets-based perspective to the knowledge and experience MLs bring to the classroom. Teachers should provide targeted support by building on MLs' prior knowledge and addressing gaps that may exist in their background knowledge for them to acquire new language and content (National Academies of Sciences, Engineering, and Medicine [NASEM], 2018). Taking a few minutes to "jump-start" students' schema, finding out what they know or have experienced about a topic, and linking their knowledge directly to a lesson's objective will result in greater understanding for MLs (Echevarria et al., 2004). Additionally, connecting to students' prior knowledge and experiences will foster ML engagement as it provides an opportunity for students to see themselves in the curriculum (Snyder & Staehr Fenner, 2021). Research supports that the relationship between students' background

knowledge and comprehension increases with age (Pearson et al., 2020). Also, vocabulary and background knowledge have the potential to be two of the more powerful means of improving learning and comprehension, particularly for adolescent readers (Ahmed et al., 2016; Cromley & Azevedo, 2007). For these reasons, it is critical to learn what background knowledge MLs already have and also to find the gaps in MLs' background knowledge to provide concise explicit instruction in order to facilitate learning new content.

What Is a Framework I Can Use for Building MLs' Background Knowledge?

Through our review of the research, as well as work with MLs and their teachers, we have developed a framework for building MLs' background knowledge when working with complex texts or topics. The framework consists of four sequential steps, each of which we outline in more detail in this chapter, and it takes place within a context of collaboration among teachers. It is important to remember that not all background knowledge is created equal in terms of relevance when it comes to lesson planning and instruction, and this framework will provide a tool for you to determine what is most relevant for MLs and worth your precious time. Figure 7.2 provides a visual representation of the framework.

FIGURE 7.2 FRAMEWORK FOR BUILDING MLs' BACKGROUND KNOWLEDGE



Step 1: How Do I Find Out MLs' Prior Knowledge on a Particular Topic or Text?

In order to maximize your instructional time on new content, assessing your MLs' background knowledge to gauge their level of familiarity on a certain topic can provide valuable insight for lesson planning. You will need to figure out how much MLs already know about a topic or text prior to teaching it so you can determine whether to activate prior knowledge, build new background, or do a combination of both. This kind of informal assessment can be accomplished through many means that do not require much time and can be seamlessly woven into instruction. In addition, you should concentrate this informal assessment on background you already feel may be essential for MLs to fully engage with the topic or comprehend the text you're planning to base your instruction on. For example, teachers can have MLs participate in oral discussions or use anticipation guides, checklists, and self-rating activities to inform them of MLs' background knowledge and adjust instruction accordingly. In addition, Fisher et al. (2012) suggest cloze assessments, word sorts, opinionnaires, and caption writing to find out what students already know on a given topic. Let's look at one type of informal assessment in a little more depth.

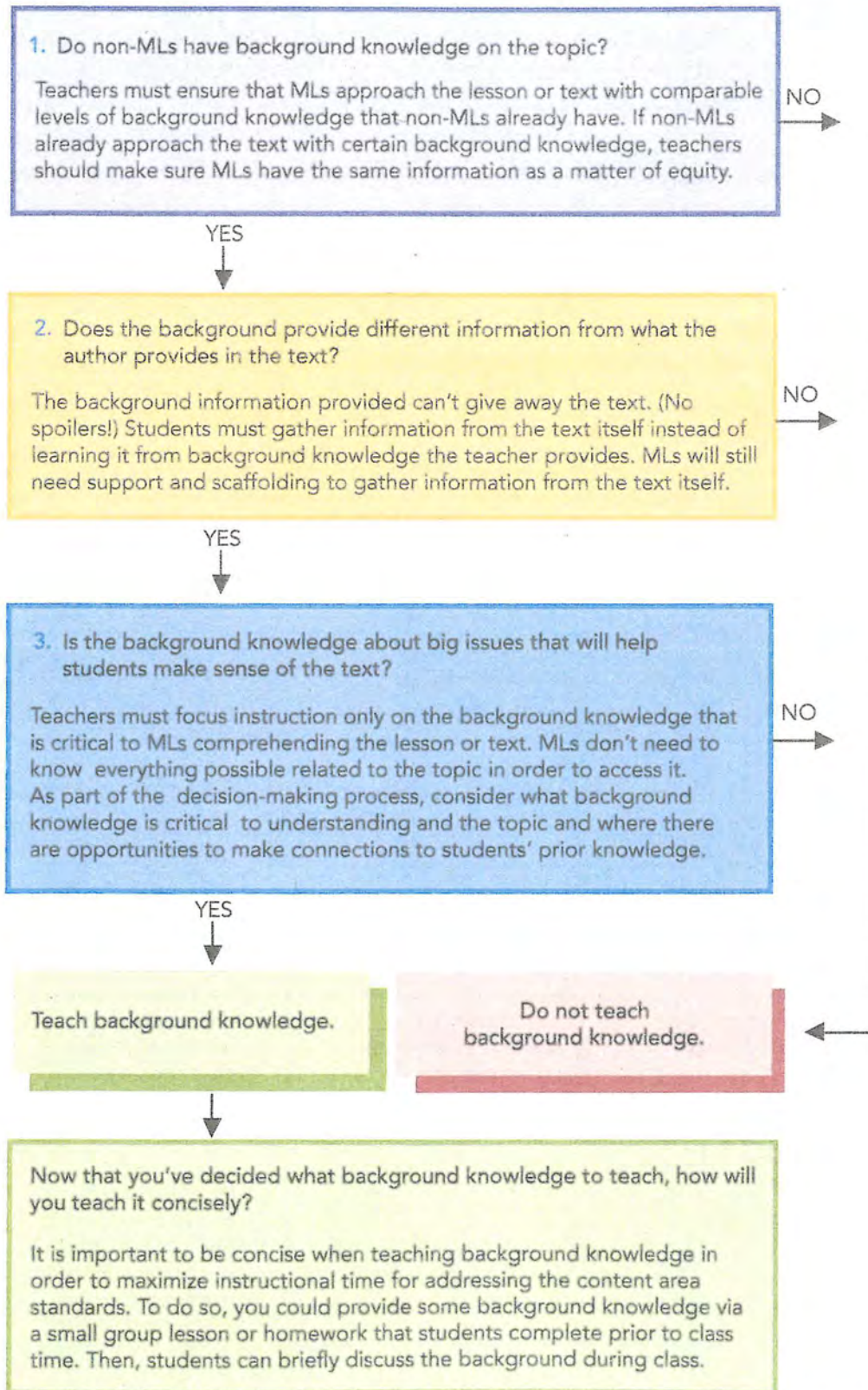
Anticipation Guides are a series of statements students can complete that demonstrate students' background knowledge on a particular topic. Teachers can use them before instruction on a topic and then again after instruction to see what students knew prior to instruction and what they learned. Figure 7.3 provides a sample anticipation guide that teachers could use to determine the level of students' background knowledge on a health lesson about nutrition before reading a text or discussing the topic. Students would answer the before reading questions individually, then discuss their answers in pairs, and finally discuss with the entire class. This exercise, which can be used with all students, would allow teachers to determine how much background individual MLs have on the topic without singling them out. After students read a text on nutrition or discuss the topic as a class, they revisit the anticipation guide and complete the after reading section. To ensure MLs of varying English proficiency levels can respond to the anticipation guide, you will need to write statements in a way so that they will be linguistically accessible to emergent MLs. In addition, you may need to add scaffolds, such as glossaries in English or the home language and visuals, so that emergent MLs can fully engage with anticipation guides.

FIGURE 7.3 HEALTH LESSON ANTICIPATION GUIDE EXAMPLE

Before Reading	Why?	Statement	After Reading	Why?
Yes		1. I am active, so the kinds of food I eat do <u>not</u> matter.	Yes	
No			No	
Yes		2. Taste is <u>more</u> important than nutrition.	Yes	
No			No	
Yes		3. The government <u>should limit</u> the size of junk food and soda containers.	Yes	
No			No	
Yes		4. It's reasonable to exercise for <u>thirty</u> minutes a day.	Yes	
No			No	

Step 2: How Do I Decide How Much Background Knowledge to Provide to MLs?

Research suggests that there is a minimum amount of background knowledge students need on a topic in order to comprehend a text about that topic (O'Reilly et al., 2019). When trying to decide how much background knowledge to teach MLs, it's important to first figure out how critical the background knowledge is to MLs' understanding of the topic or text. This is the area that is the biggest departure from traditional thinking on MLs' background knowledge and can be the most challenging for teachers to change their practice. Fisher et al. (2012) note that *core background knowledge* is what students need to understand in order for the new information to be learned. They contrast *core background knowledge* with *incidental knowledge*, which is knowledge that is merely interesting and not likely to be used or recalled in the future. We refer to the background knowledge that is needed as *essential*. When you're considering preteaching some background about a text your MLs will be working with or a topic they will be discussing, use the following flowchart to help you decide whether knowledge fits into the *essential* category. Figure 7.4 provides considerations within a flowchart for determining which background knowledge to teach.

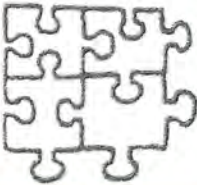
FIGURE 7.4 FLOWCHART FOR DETERMINING BACKGROUND KNOWLEDGE TO TEACH MLs

Source: Adapted from Staehr Fenner, D. (2013b).

Step 3: How Do I Activate MLs' Background Knowledge That They Already Possess?

After taking part in Step 2, you may have a few areas of background knowledge you'd like to teach. However, some MLs may actually already have some related background knowledge you can tap into instead of teaching outright. Shanahan (2013) outlines two essential areas of background knowledge that teachers can effectively use with students. One area is providing background knowledge where none previously exists. A second area is activating existing prior knowledge. Existing prior knowledge is also a form of background knowledge, and teachers can efficiently draw upon what students already know. For example, teachers can use the title of a text as a springboard to help the students make a connection between the title and their existing knowledge of a topic without giving away what students will learn in the text. Figure 7.5 provides further explanation and examples of the differences between providing background knowledge and activating existing prior knowledge.

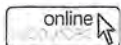
FIGURE 7.5 DIFFERENCES BETWEEN PROVIDING BACKGROUND KNOWLEDGE AND ACTIVATING EXISTING PRIOR KNOWLEDGE

TEACHER ACTIONS RELATED TO BACKGROUND KNOWLEDGE	DEFINITION	EXAMPLES
Providing background knowledge 	Giving students background knowledge that they do not already have on a particular topic or text	- Showing students a visual of Inuit art prior to them engaging in a lesson on the topic - Showing students a video clip on Betsy Ross
Activating existing prior knowledge 	Finding out and leveraging pre-existing knowledge on a topic or text	- Having students discuss what they think the title of a text titled "Hurricane Katrina" means in pairs - Having students write a paragraph in their journals about what they previously learned about the Revolutionary War

REFLECTION QUESTION



What ways do you activate your MLs' existing prior knowledge?

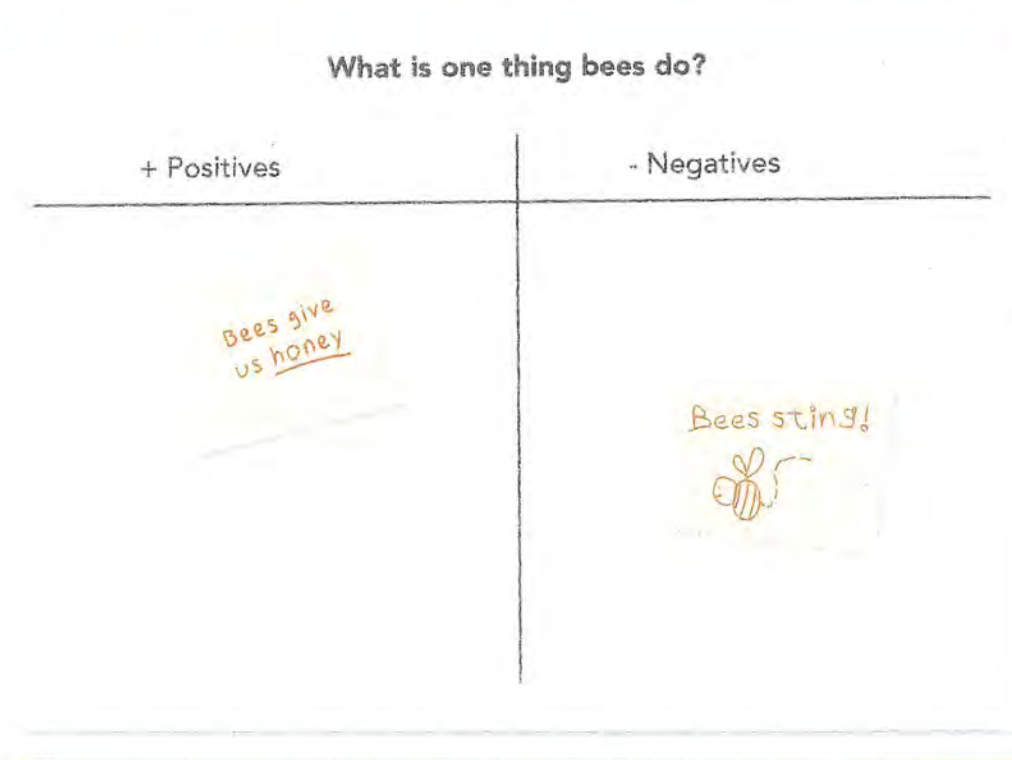


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Three ways to activate MLs', as well as non-MLs', prior knowledge are through carousel brainstorming, sentence starters, and categorized sticky notes. There are many other ways as well.

- **Carousel brainstorming:** The teacher posts a series of questions or statements on chart paper around the room. Students are split up into small groups to respond to the question or statement posed at the top of the paper. These questions or statements should be written at a linguistic level that MLs can use to access the questions' meaning and should represent components of students' upcoming texts. After a short period of time, student groups move on to another piece of chart paper, read what has been written about that topic, and add to or respond to it. You can use these charts and responses as ungraded baseline formative assessments because they represent the prior knowledge and current understandings of the group.
- **Sentence starters:** Provide a sentence starter or prompt for students that requires them to complete a sentence or phrase on the topic or text you will be working on. You can use this for example: One thing I already know about _____ is _____. You could post these starters around the room and have students view and discuss each other's sentence starters.
- **Categorized sticky notes:** Give students sticky notes and a question or topic related to the upcoming lesson. For example, when beginning a unit on bees, you can ask students, "What is one thing bees do?" Students respond to the question or topic on their sticky notes and then post their notes on the board, door, wall, or a chart. The space they post their notes to can be divided into positives and negatives, for example, so students will have to categorize their responses. See Figure 7.6. (For example, the sticky note with "Bees give us honey" written on it would go in the "positive" section while the sticky note with "Bees sting" would go in the "negative" section). Students will return to those responses at the end of the lesson to confirm, revise, or add to their thinking and may need to move their sticky notes.

FIGURE 7.6 CATEGORIZED STICKY NOTES



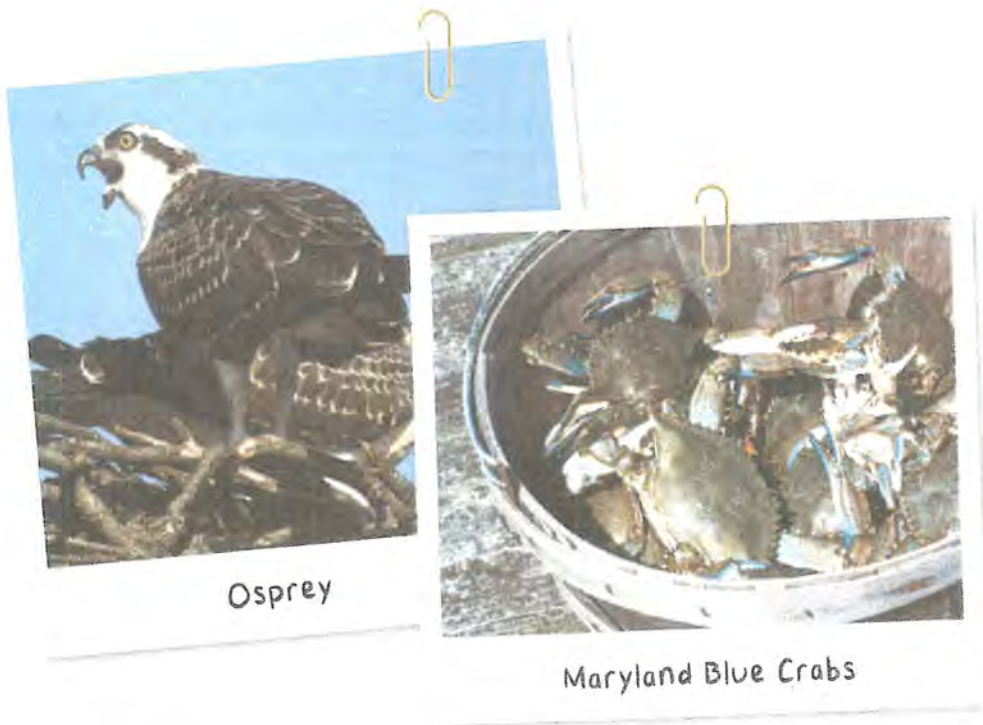
Step 4: What Are Some Strategies for Concisely Teaching MLs Background Knowledge?

After you have determined which background knowledge MLs already have on a topic or text (Step 1), decided which background knowledge is essential (Step 2), and activated MLs' prior background knowledge (Step 3), it is now time to focus on concisely teaching any new background knowledge that is necessary for MLs (Step 4). There are several strategies for teaching new background knowledge (August, Staehr Fenner, & Snyder, 2014), which include the following:

1. Short, teacher-developed text, with guiding and supplementary questions
2. Online resources (in English or home language)
3. Brief video clips or visuals
4. Text-based instruction
5. Home language support (e.g., text, website, or video)

Background knowledge instruction can be pretaught, or it can be embedded into instruction. How much background knowledge you teach depends on the

amount of instruction that is needed, students' English language proficiency levels, and your lesson objectives. It's important to consider how to make the most out of limited instructional time and how to teach background knowledge concisely. Some ways to teach background knowledge to MLs that do not interrupt class time are for ELD teachers to teach it during a small-group ELD lesson or to assign it for homework prior to all students working with the content. This approach will require collaboration between content and ELD teachers. Content teachers could also address background knowledge in small groups such as during a station rotation time or at a differentiated center. Another option that we've seen work well with MLs is to hold an after-school homework club for MLs to meet with their ELD or content teacher, socialize a bit, and also work on a background knowledge lesson. This provides a setting in which MLs can feel safe to ask questions about the background as well as take risks with the language.



In a third-grade classroom in Maryland, students are preparing to read a text about environmental issues facing the Chesapeake Bay. The emergent MLs in the class who recently moved to the area are not as familiar with the Chesapeake Bay as the other students in the class who grew up in the area. To prepare the emergent MLs to access the text, the teacher used images and a brief video to introduce key concepts prior to having the students engage with the text. Concisely preteaching emergent MLs about these key concepts prior to reading increased their ability to comprehend the text when reading independently.

Source: Photographs by iStock.com/OKRAD and iStock.com/Iris_Savoy



To see how educator Megan Brown helps build her students' background knowledge before beginning a lesson on the Trail of Tears, watch the video titled *Activating and Building Background Knowledge* (Snyder & Staehr Fenner, 2021). The video can be found on the online companion website. To access the companion website, please visit resources.corwin.com/FennerUnlocking2E

What Are Some Examples of Teaching Background Knowledge?

In what follows, we present two different examples of how teachers of MLs determined what background knowledge to teach and concisely taught that background knowledge to support MLs in accessing the content of challenging, grade-level texts and topics. The first example is at the first-grade text level, and the second example is at the ninth-grade text level.

Grade 1 Text Example

First-grade teacher Ms. Young and ELD teacher Mr. Goodman taught background knowledge to their first-grade ML students related to the following sample text. The teachers read the text aloud to students.

A Father and His Son in Mesopotamia

Almost four thousand years ago, a father and a son were walking together on the banks of a great river, close to what was then possibly the biggest city in the world: Babylon. The father, whose name was Warad, said to his son Iddin, "See, my son, the great Euphrates River. If this river did not flow, there would be no wonderful city of Babylon, no palaces, no gardens, not even any houses . . . They dug ditches cut into the earth, which we call canals. The water flowed out of the river and through the canals to the areas of the city farther from the river. Then farmers could grow crops even where the rivers didn't flow." "Our great king, Hammurabi, did the same thing. He had canals dug to move water all over our country from the two great rivers, the Tigris and the Euphrates. And King Hammurabi and his helpers used an ancient way to collect rainwater. When the winter rains come, the water doesn't just wash away downstream. They made the waters run into a reservoir so that after the rains stopped, there would be water for drinking or for watering crops."

Source: Core Knowledge Foundation (2013). *Early World Civilizations: Tell It Again!*TM Read-Aloud Anthology: Listening & LearningTM Strand: Grade 1: Core Knowledge Language Arts[®] New York Edition (p. 16). Charlottesville, VA

Figure 7.7 shows how, in deciding which background knowledge to teach to MLs, Ms. Young and Mr. Goodman planned for teaching the meaning of the word *ancient*. Figure 7.7 outlines their thinking using Step 2 of the framework. All students learned about similarities and differences between people today and people in ancient Mesopotamia.

Figure 7.8 shows how Ms. Young and Mr. Goodman concisely taught two meanings of the word *ancient* to MLs in an engaging way. They used two images, partner talk, and questions that are accessible to MLs as scaffolds for this activity.

FIGURE 7.7 BACKGROUND KNOWLEDGE CONSIDERATIONS AND COMMENTS ON THE WORD ANCIENT

BACKGROUND KNOWLEDGE CONSIDERATIONS	COMMENTS
1. Do non-MLs have background knowledge on the topic?	Yes, non-MLs know what the word <i>ancient</i> means.
2. Does the background provide different information from what the author provides in the text?	Yes, it does.
3. Is the background knowledge about big issues that will help students make sense of the text?	Yes, knowing what <i>ancient</i> means will help students make sense of the text.
4. If you've decided to teach background knowledge, how will you teach it concisely?	We will provide this background knowledge concisely by showing two visuals and having MLs discuss them.

FIGURE 7.8 TEACHING BACKGROUND KNOWLEDGE OF THE WORD ANCIENT

	
Instructions for Teachers • Show students the first picture. • The picture shows a village, or town, in Mesopotamia from a long time ago. Partner Talk: How can you tell this village is from a very long time ago? • Show students the second picture. • Tell students that the word <i>ancient</i> can also mean very, very old. This picture shows a very old tree. Partner Talk: How can you tell this tree is very old?	

Source: Adapted from August, D., Staehr Fenner, D., & Snyder, S. (2014). Scaffolding instruction for English language learners: A resource guide for ELA. (p.25). Reprinted with permission of American Institutes for Research. Retrieved from https://SupportEd.com/wp-content/uploads/Scaffolding_Instruction_for_ELLs-Resource_Guide_for_ELA.pdf. Images by iStock.com/LuisaFumi and iStock.com/Michael_VerSprill

Grade 9 Text Example

Mrs. Luu, a ninth-grade English teacher, used the following text in the first lesson of a unit centered on an excerpt of the first chapter of the book *Animals in Translation* (Grandin, 2005). Here is the text excerpt:

People who aren't autistic always ask me about the moment I realized I could understand the way animals think. They think I must have had an epiphany. But it wasn't like that. It took me a long time to figure out that I see things about animals other people don't. And it wasn't until I was in my forties that I finally realized I had one big advantage over the feedlot owners who were hiring me to manage their animals: being autistic. Autism made school and life hard, but it made animals easy. (Grandin, 2005, p. 1)

The book draws from the author's own experiences with autism spectrum disorder, which provides her insight into how animals think, act, and feel. However, Mrs. Luu knew that the concept of autism would be unknown to some of her MLs. Some did not know the meaning of the word *autism* in English but knew it in their home language. Also, in some cultures, disabilities may not be acknowledged due to possible stigma, and the concept of autism will not exist in the home language. Thus, Mrs. Luu worked through these considerations when deciding whether to teach background knowledge on autism spectrum disorder. Figure 7.9 outlines her thinking using Step 2 of the framework.

FIGURE 7.9 BACKGROUND KNOWLEDGE CONSIDERATIONS AND COMMENTS ON TEACHING AUTISM AS BACKGROUND TO ANIMALS IN TRANSLATION

BACKGROUND KNOWLEDGE CONSIDERATIONS	COMMENTS
1. Do non-MLs have background knowledge on the topic?	Yes, I believe most non-MLs would know what autism is.
2. Does the background provide different information from what the author provides in the text?	Yes, knowing what autism is will not provide information in place of what the author will provide in the text.
3. Is the background knowledge about big issues that will help students make sense of the text?	Yes, knowing what autism is in general will be critical to MLs comprehending the text.
4. If you've decided to teach background knowledge, how will you teach it concisely?	I will present this information concisely in one paragraph with some guiding questions.

Based on Mrs. Luu's responses to these questions, she recognized that her MLs were more likely to be able to successfully engage with the first chapter of *Animals in Translation* if they were provided background knowledge about the concept of autism spectrum disorder in a concise manner. Accordingly, she developed a short text (eight sentences) on autism that provided basic information about the disorder and the challenges, strengths, and behaviors of individuals with autism spectrum disorder. She also developed a glossary to support her MLs in understanding key words of the autism text that may be unfamiliar to them. In addition, Mrs. Luu created a few supporting questions to check for students' understanding. To support her emerging MLs with beginning English language proficiency, she used sentence stems and sentence frames and a word bank to scaffold the questions. Additionally, Mrs. Luu knew that the concept of autism might be perceived differently in different cultures, and the supporting questions provided an opportunity to address those different perceptions.

How Can I Apply the Four-Step Framework When Teaching Background Knowledge to MLs?

To better illustrate how to apply the four-step framework from start to finish, let's take a look at a sample social studies text. Banting's (2004) *England: The Land* is suggested to be at a Grade 4–5 reading level. Take a look at an excerpt from this informational text, and think about what kinds of background knowledge your MLs would need to fully access the meaning:

England: The Land Text Excerpt

Low fences, some of which are thousands of years old, divide much of England's countryside. These fences, called hedgerows, were first built by the Anglo-Saxons, a group of warriors from Germany and Scandinavia who arrived in England around 410 A.D.

As they gained control of sections of land, they protected their property with walls made from wooden stakes and spiny plants. Dead hedgerows, as these fences were called, were eventually replaced by fences made from live bushes and trees.

Recently, people building large farms and homes in the countryside have destroyed many live hedgerows. Other people are working to save the hedgerows, which are home to a variety of wildlife, including birds, butterflies, hedgehogs, and hares.

Source: Banting, E. (2004).

Step 1: Determine the amount of background knowledge MLs already have.

Fourth-grade teacher Ms. Linton and ELD teacher Mrs. Jarboe coteach social studies. They are using Banting's text with fourth-grade MLs at varying levels of English proficiency. First, they decided to find out their MLs' knowledge of the following:

- The history of the Anglo-Saxons
- What was happening during the time period described in the text (410 AD)
- Their knowledge of low fences or hedgerows
- The importance of protecting one's property in the time period described and today
- How large farms and homes in the English countryside look today
- The wildlife mentioned in the text

At first, Ms. Linton and Mrs. Jarboe were tempted to develop lessons on all of the aforementioned topics in order to fully prepare MLs to read this text. They recognized that their MLs may have very little background knowledge on the many topics contained in this text, let alone be familiar with all of the terms and academic-language structures used in the text. However, they decided not to spend the majority of their instruction on building their MLs' background knowledge and instead selected key topics to teach concisely based on the strengths and needs of their MLs.

REFLECTION QUESTION

Which topics from the bulleted list might you prioritize with your MLs? Why?



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One way Ms. Linton and Mrs. Jarboe determined MLs' existing knowledge on the topic was to have all students do some caption writing individually and then assess how much background knowledge MLs had on the topics pertaining to low fences. They gave students a visual of the English countryside from Anglo-Saxon times, a visual of English countryside today, and a visual of low fences and had them write a caption for each visual, first modeling their expectations for what a caption should look like. The teachers collaborated to support their emerging MLs with engaging in this task by providing sentence starters and word walls to complete the captions. The following is the image of a low fence they used:



Source: iStock.com/daseaford

After determining what MLs already knew about the topic through caption writing, Ms. Linton and Mrs. Jarboe learned that all the MLs could describe an image of the English countryside of today. They could not describe a visual of the English countryside during Anglo-Saxon times well and could only provide basic information on the low fence visual. Caption writing allowed the teachers to note how their MLs' background knowledge might differ from a personal connection to a text. For example, one student had some knowledge about what the English countryside looks like today from a documentary she had seen about England. On the other hand, another student had a personal connection to this image based on an event in the student's life that took place in the countryside. Where background knowledge from the documentary will most likely support the student's understanding of the text, the student's personal connection might not accomplish the same goal (Staehr Fenner, 2013a).

Step 2: Decide what background knowledge is needed.

Ms. Linton and Mrs. Jarboe worked together and determined that MLs might need more instruction on what low fences are. They then walked through the considerations that follow to determine whether they should teach background knowledge on low fences or not. Figure 7.10 outlines their decision-making process.

FIGURE 7.10 BACKGROUND KNOWLEDGE CONSIDERATIONS AND COMMENTS FOR LOW FENCES

BACKGROUND KNOWLEDGE CONSIDERATIONS	COMMENTS
1. Do non-MLs have background knowledge on the topic?	Through Step 1, caption writing, we determined that MLs do not have background knowledge on what low fences or hedgerows are.
2. Does the background provide different information from what the author provides in the text?	Yes, knowing what low fences or hedgerows are will not provide information in place of what students will read in the text.
3. Is the background knowledge about big issues that will help MLs make sense of the text?	Yes, knowing what low fences or hedgerows are will help students make sense of the text.
4. If you've decided to teach background knowledge, how will you teach it concisely?	We can provide this background precisely through a guided group work discussion about the same visual we used in Step 1, caption writing.

Step 3: Activate the prior background knowledge MLs already possess.

Through the caption-writing activity described in Step 1, Ms. Linton and Mrs. Jarboe learned that most MLs could write some key words about the English countryside. Some MLs wrote the word *fence* under the image of the low fence or hedgerow, and some wrote “fence” in their home language. That information told them that many MLs knew what a fence was at a surface level of knowledge, and they decided to activate that specific prior knowledge about fences. They then chose to activate MLs’ prior background knowledge about fences by doing a carousel brainstorm. To do so, they created three poster papers with the statements for their MLs to respond to, answering true, false, and then stating why (Figure 7.11).

Students worked in pairs to provide answers to each poster paper, rotating through the papers. Then, they had students come together as a large group to share their answers. This gave the teachers the opportunity to listen to students as they discussed their prior background knowledge on fences and also to introduce some new vocabulary to them to discuss fences (e.g., fence, join, and land). Bringing them together in the large group also provided an opportunity to respond to any misconceptions they might have about fences—for example, that they cannot be made of wood or plants.

FIGURE 7.11 CAROUSEL BRAINSTORM

Fences are used to join two pieces of land together.	Fences can be made of wood.	Fences can be made of plants.
I think this statement is (true/false) because _____.	I think this statement is (true/false) because _____.	I think this statement is (true/false) because _____.

Step 4: Concisely teach new background knowledge.

Next, after completing Steps 1 through 3, it was time to concisely teach some new background knowledge to prepare students to read an excerpt from *England: The Land*. The teachers looked back at what they decided to do as a team in Step 2 and referred to the same visual they used for Step 1, caption writing. This time, they used the visual as a basis for a guided discussion around what low fences or hedgerows are. The entire discussion took only 10 minutes of time and was centered on the following questions (Figure 7.12), which students discussed in small groups while viewing the image.

FIGURE 7.12 DISCUSSION QUESTIONS

✱

What is the purpose of the low fence (or hedgerow) in this photo?
The low fence or hedgerow in the photo is used to _____.

What is the low fence (or hedgerow) in the photo made of?
The low fence or hedgerow in the photo is made of _____.

After the students discussed the answers to the questions, Ms. Linton and Mrs. Jarboe brought them together as a large group to talk about what low fences or hedgerows are and what they are used for. They also elicited their responses to what low fences are made of. This conversation “primed the pump” for them to read and comprehend an excerpt from the text *England: The Land* without spoiling the meaning of the text.

Figure 7.13 captures how Ms. Linton and Mrs. Jarboe used the four-step process to plan their instruction of background knowledge for MLs with this lesson.

FIGURE 7.13 BACKGROUND KNOWLEDGE PLANNING FRAMEWORK FOR LOW-FENCES LESSON

STEP	OUTCOME	NEXT STEP
1. Determine the amount of background knowledge MLs already have on a topic or text.	Through caption writing, they determined that MLs were already familiar with what fences are.	They wanted to determine what essential background knowledge they needed to provide to MLs.
2. Decide which essential background knowledge is needed to provide MLs access to the topic or text.	They decided that MLs needed to know about low fences or hedgerows in order to take part in this lesson.	They needed a quick way to teach this to them, so they decided they would use a visual and guided discussion.
3. Activate the prior background knowledge that MLs already possess.	Through the caption writing, they learned that their MLs already knew a little about fences, but they wanted to dig deeper and activate more detailed prior knowledge.	They activated that prior knowledge through carousel brainstorming about fences.
4. Teach the new background knowledge.	Their MLs needed new background knowledge on low fences or hedgerows.	They decided to show them a picture of a low fence and have a brief, 10-minute discussion about it using guiding questions.

How Do I Build or Activate MLs' Background Knowledge in Mathematics?

Now that we have focused on teaching MLs background knowledge in general, we'd like to narrow our focus for special considerations of MLs' background knowledge in mathematics. Many MLs will have developed mathematical

concepts in their home language or in prior schooling (for information on supporting ML newcomer students and students with limited or interrupted formal education [SLIFE] with background knowledge, see the ML Newcomer Students and SLIFE Considerations section). While many MLs will be able to engage with mathematical concepts, such as addition or division, math is not a universal language, and MLs may not have the background knowledge in the language (or even culture) of math. Therefore, MLs may need additional support to comprehend the stimulus or prompt texts used in many mathematics lessons (August, Staehr Fenner & Bright, 2014). Not only might the technical vocabulary of math be new to some MLs, but the linguistic constructs and the so-called “real-life” contexts or situations used in mathematics words problems may also be unfamiliar and not relate to the MLs’ lived experiences (NASEM, 2018). As with our previous examples in English language arts and social studies, there may be times when MLs will need a succinct and purposeful explanation of a scenario, illustration, or other information that is not part of the mathematical content related to the lesson (Chval et al., 2021).

Mathematical word problems, in particular, may contain contexts or situations that are culturally bound. To support MLs in accessing the concise background information necessary to understand contexts or situations used in math word problems, it can be useful to show them images or short video clips. For example, if a word problem references passing yards in American football and students are unfamiliar with the sport, it may be helpful to show a brief video clip from a football game. Think back to the cricket math problem in Application Activity 7.1 at the beginning of the chapter and how helpful a brief overview of the game may have been for your understanding. Also, keep in mind that students may think they recognize a context but may not fully understand it or may be tripped up by a word with multiple meanings. For example, when working with a math word problem about a state fair, students may recognize the word “fair” as meaning things are equal rather than a public event. It’s important to clear up these misconceptions MLs may have while not singling them out or embarrassing them in front of their peers.

One step to providing background knowledge to MLs in mathematics is constructing or adapting problems so that they are grounded in MLs’ context or lived experiences while maintaining the same level of mathematical rigor (Chval et al., 2021). Problems that are more grounded in students’ contexts will mean less of a need to spend time providing background knowledge.

Figure 7.14 details tips, explanations, and examples to build MLs’ background knowledge in mathematics.

FIGURE 7.14 ML BACKGROUND KNOWLEDGE IN MATHEMATICS TIPS, EXPLANATIONS, AND EXAMPLES

MATHEMATICS ML BACKGROUND KNOWLEDGE TIP	EXPLANATION	EXAMPLES
Build knowledge from real-world examples.	Revise unfamiliar situations in word problem scenarios to make them more familiar. Try to reinforce concepts with familiar examples that students can picture, and engage in a think-aloud to talk students through the situation.	Original word problem: <i>A parking garage has 3 levels. Each level has 40 parking spaces for compact cars. What is the total number of parking spaces in the garage for compact cars?</i> Revised word problem: <i>A school has 3 floors. Each floor has 40 rooms. What is the total number of rooms in the school?</i>
Modify the linguistic complexity of language, and rephrase math problems.	Students will understand the problem better if it is stated in shorter sentences and in language they understand.	Instead of <i>Alex worked for 5 hours raking leaves in the fall. How many minutes are equivalent to 5 hours?</i> , reword the problem to <i>Alex worked on a project for 5 hours. How many minutes are equivalent to 5 hours?</i>
Guide students to cross out the unnecessary vocabulary in word problems and circle the necessary vocabulary.	Crossing out unnecessary words and circling necessary vocabulary allows students to focus on the math function required instead of getting bogged down with unnecessary language. This strategy is especially helpful for students on end-of-year tests that aren't teacher-created.	See the model of the unnecessary vocabulary crossed out of this word problem and then rephrased: A set of football jerseys contains only odd-numbered jerseys. Which could be 3 of the jersey numbers from this set of uniforms? A set of football jerseys contains only odd-numbered jerseys. Which could be 3 of the jersey numbers from this set of uniforms? A set contains only odd numbers. Which could be 3 of the numbers from this set?
Use manipulatives purposefully.	Manipulatives can be very useful in having students represent the numbers in the problems and manipulating them to get the answer.	A teacher uses cubes and the terms <i>hot numbers</i> and <i>cold numbers</i> when teaching with the concept of negative numbers. Students use the red cubes as hot, or positive, numbers and the blue cubes as cold, or negative, numbers. As students lay out the number of hot cubes and cold cubes represented, they can easily see if the answer would be a positive or negative number by which color had the most cubes.

Source: Adapted from Kristina Robertson, *Math Instruction for English Language Learners* (<http://www.colorincolorado.org/article/math-instruction-english-language-learners>) and the Virginia Department of Education (http://www.doe.virginia.gov/testing/sol/standards_docs/mathematics/plain_english_information.pdf).

It is important to acknowledge that students will be required to interact with unfamiliar contexts embedded in mathematical word problems in both their math curriculum and on state tests, and we recognize that MLs also need opportunities to practice with problems that are less grounded in their experiences. In order to prepare them for successfully engaging with these problems that contain unfamiliar content, we can intentionally and incrementally remove scaffolds over time, including teaching background knowledge specific to the problem. Strategies that teach students how to interpret and dissect a mathematical word problem, such as the Three Read Protocol (Kelemanik et al., 2016) or Reading and Understanding Mathematics Problems (Stanford Understanding Language, 2021), will help support students in being able to solve these problems independently. For more on the Three Read Protocol, please see Chapter 8.

Now that we've explored a framework for deciding which types of background knowledge to teach MLs and ways to activate and teach background knowledge concisely, let's take a look at some considerations for ML newcomer students and SLIFE and the role of collaboration, equity, advocacy, and leadership when activating and teaching MLs background knowledge.



ML NEWCOMER STUDENTS AND SLIFE CONSIDERATIONS

What Are Key Considerations for Supporting Background Knowledge for ML Newcomer Students and SLIFE?

While it is important to be intentional about selecting, activating, and concisely teaching background knowledge to all MLs, this concept warrants a deeper look with ML newcomer students and SLIFE.

Considerations:

- ML newcomer students and SLIFE will need more time dedicated to building background content-area knowledge than other students (DeCapua et al., 2020; DeCapua, 2023). ELD and content teachers can collaborate to support building content-area background knowledge during ML newcomer students and SLIFE-focused classes or through mini lessons during small-group instruction, homework assignments, and after-school learning opportunities.
- Getting to know ML newcomer students and SLIFE is imperative when activating and teaching background knowledge. It is important not to make generalized assumptions about students and take time to learn about their individual prior educational and life experiences. Use Figure 2.3 What I Know About My ML from Chapter 2 to gather information about your ML newcomer students and SLIFE and continue to add to it throughout the school year as you learn more about each student.

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- ML newcomer students and SLIFE come to our schools with knowledge, language, and experiences that educators can use as a springboard for new learning. It is important that learning be immediately relevant to ML newcomer students and SLIFE; therefore we should intentionally make connections to their linguistic and cultural backgrounds to help bridge familiar and unfamiliar concepts (DeCapua et al., 2020). This not only supports new learning but also fosters engagement as they see themselves in the curriculum (Snyder & Staehr Fenner, 2021).

Example: Joseph, the seventh-grade student from the Democratic Republic of Congo who was introduced in Chapter 2, is beginning a unit about the Great Depression in his social studies class. His teacher, Ms. Jones, knows that Joseph does not have background knowledge on the topic that other students in the class do, so she reaches out to his ELD teacher, Ms. Frank, to collaborate. Together, they determine that they will need to build Joseph's background knowledge on banking and the stock market. They develop a plan to first make the learning relevant to Joseph by making connections to his lived experiences and then to build Joseph's background knowledge on the topic. To begin, Ms. Frank works with Joseph in a small group, and they brainstorm a list of what people need to live (e.g., food, clothing) and how they obtain those things (e.g., money, bartering) on an anchor chart. She then uses the anchor chart to make a direct connection to what they will be learning about in their social studies classroom, the Great Depression. In the subsequent lessons, Ms. Frank introduces the concept of banking and the stock market using a video (in French), visuals, and a brief teacher-created text. Throughout the lessons, Ms. Frank makes explicit connections to what Joseph is learning in his social studies class and emphasizes key academic vocabulary, such as *bank*, *stock market*, *economy*, *crisis*, and *impact*. Ms. Jones communicates with Ms. Frank regularly so that she is also able to make connections between what Joseph has learned in Ms. Frank's small group and what he is learning in her social studies classroom.

What Is the Role of Collaboration in Teaching Background Knowledge?

Our teachers Ms. Moussa and Mr. Lopez, whom we introduced at the beginning of this chapter, had already decided they would coteach background knowledge to Viktor and his other emergent ML classmates. However, there are different options that you might wish to explore to use your precious instructional and planning time, as well as your colleagues' time, when selecting and teaching background knowledge to MLs. Which option you use depends on the type of ELD program that is in place at your school, the grade level(s) you teach, your students' level of proficiency, and the content you're working on. Figure 7.15 describes different background teaching options for program models and suggests roles the content teacher and ELD teacher can take in selecting and teaching background knowledge to MLs.

FIGURE 7.15 PROGRAM MODELS AND TEACHERS' POSSIBLE ROLES IN TEACHING BACKGROUND KNOWLEDGE

PROGRAM MODEL	CONTENT TEACHER'S ROLE	ELD TEACHER'S ROLE
Cotaught elementary or secondary class	Determine which background knowledge non-MLs already have, share essential learning from the text, lesson, or unit with ELD teachers; coteach background knowledge	Determine which background knowledge MLs need and at what point in instruction; develop activities to assess it, activate it, and teach it; coteach background knowledge
Small-group elementary-level ELD	Share relevant, grade-level content standards and classroom materials with ELD teachers who teach MLs at that grade level; reinforce background knowledge throughout content instruction	Determine which background knowledge MLs already have and need; develop activities to activate it and teach it as part of ELD instruction
Stand-alone secondary-level ELD	Share relevant content standards and classroom materials with ELD teachers who teach MLs enrolled in those content classes (e.g., algebra or world history); reinforce background knowledge throughout content instruction	Determine which background knowledge MLs already have and need in key content classes; develop activities to activate it and teach it as part of ELD instruction

What Is the Role of Equity, Advocacy, and Leadership in Teaching Background Knowledge?

Activating and concisely teaching background knowledge to MLs requires a more defined skill set and targeted training for all educators who work with MLs. Engaging MLs in the close reading of grade-level texts and rigorous topics often presents challenges that go beyond balancing the building of background knowledge with working with the actual text. Such challenges for educators of MLs include choosing appropriate grade-level texts, providing MLs with supplementary texts at different reading levels or texts in the home language, scaffolding instruction, and creating tasks that MLs can access to help them unlock the meaning of texts. We recognize that background knowledge is just one piece of the puzzle that gives MLs a greater chance at accessing equitable instruction.

In addition to learning about MLs' level of background knowledge, teachers themselves will benefit from building their own background knowledge of their students. In particular, teachers will need to learn about their students' and students' families' cultures to have a sense of what valuable background knowledge MLs bring. Teachers of MLs should also learn about the ways in which

mathematics, social studies, science, and language concepts are approached in students' or their families' home countries or communities to the degree possible. When teachers of MLs employ an assets-based approach that highlights what students already know and can do, teachers may shift instruction appropriately to be more inclusive of MLs. Many opportunities exist for you to leverage your leadership skills when sharing this framework with colleagues and also if conflicts arise in terms of your colleagues' approach to assessing, selecting, activating, and teaching background knowledge. Your focus on the students and support of colleagues as they reflect on their practice will be key in approaching background knowledge in a different way.

Next Steps

The following application activity will help you synthesize your learning on activating and teaching MLs background knowledge.

APPLICATION ACTIVITY 7.2: BACKGROUND KNOWLEDGE PLANNING TOOL

Consider the topics and texts you will address in the unit you are planning. Use the Background Knowledge Planning Tool (Figure 7.16) to plan for activating and teaching MLs background knowledge needed to access the unit content. Note that the Background Knowledge Planning Tool can also be used as a standalone tool.

FIGURE 7.16 ACTIVATING AND BUILDING MLs' BACKGROUND KNOWLEDGE PLANNING TOOL

Content Topic and Objective(s)

Text and/or Tasks

STEP 1. ASSESS

What strategies will you use to assess MLs' background knowledge related to the topics described above?

STEP 2. SELECT

What is the essential background knowledge that all students need to know to engage with the content? For each item, determine if you think you will activate prior background knowledge or teach new background knowledge. You may select both if you think you will provide different instruction for different groups of students.

Topic #1:

- ☐ Activate prior background knowledge
- ☐ Teach new background knowledge
- ☐ Both (depends on my students)

Topic #2:

- ☐ Activate prior background knowledge
- ☐ Teach new background knowledge
- ☐ Both (depends on my students)

Topic # 3:

- ☐ Activate prior background knowledge
- ☐ Teach new background knowledge
- ☐ Both (depends on my students)

STEP 3. ACTIVATE

Describe the strategies that you will use to activate MLs' prior background knowledge.

STEP 4. TEACH

Describe the strategies that you will use to concisely teach new background knowledge.

Describe how you plan to differentiate for the strengths and needs of different MLs.



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UNLOCKING RESOURCES

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Now, add your plans to the *Unit Preparation: Identify Required Background Knowledge* section of the Unlocking MLs' Potential Unit Planning Template (the portion of Appendix A reproduced in Figure 7.17). Appendix A can be found on the online companion website. To access the companion website, please visit resources.corwin.com/FennerUnlocking2E.

FIGURE 7.17 PORTION OF THE UNLOCKING MLs' POTENTIAL UNIT PLANNING TEMPLATE (APPENDIX A)

UNIT PREPARATION

Identify Required Background Knowledge

Figure 7.16 Background Knowledge Planning Tool

What is the **essential background knowledge** that all students need to know to access the unit?

How will you assess MLs' **current prior knowledge** on the topic?

How will you build on MLs' **cultural and linguistic backgrounds**?



SupportEd TOOLBOX

For ready-to-use, practical tools to support activating and developing MLs' background knowledge, please see supported.com/unlocking-toolbox.

Conclusion

This chapter has focused on the need to rethink the way we frame the selection and instruction of background knowledge for MLs within the context of time constraints and challenging texts and topics. We have provided a four-step framework to assess background knowledge, select essential background knowledge, activate MLs' existing background knowledge, and teach background knowledge concisely through modeling and examples. We have also highlighted the specific issues of teaching background knowledge in mathematics; ideas for supporting

background knowledge for ML newcomer students and SLIFE; and considerations for collaboration, advocacy, equity, and leadership when teaching background knowledge to MLs. The next chapter builds on this learning around background knowledge as a vehicle to support MLs' access and understanding of lessons and texts. Chapter 8 deepens our conversation, focusing on supporting MLs' reading and writing in the content areas.

CHAPTER 7 REFLECTION QUESTIONS

1. How will you change or refine how you approach the activating and teaching of background knowledge to MLs?
2. Who will you collaborate with in activating and teaching background knowledge, and how will you collaborate?



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Application Activity Responses

Solution to Mathematics Problem in Application Activity 7.1

Here's one way to solve the problem:

x = number of wickets before final match

$(x \text{ wickets})(12.4 \text{ runs/wicket}) = 12.4x \text{ runs}$

After taking another 5 wickets for 26 runs, his average is $12.4 - 0.4 = 12$ runs/wicket

Total runs = $12.4x + 26$

Total wickets = $x + 5$

$(12.4x + 26)/(x + 5) = 12$

$x = 85$

85 wickets taken before final match