CHAPTER

5

Strategies

CONTENT OBJECTIVES

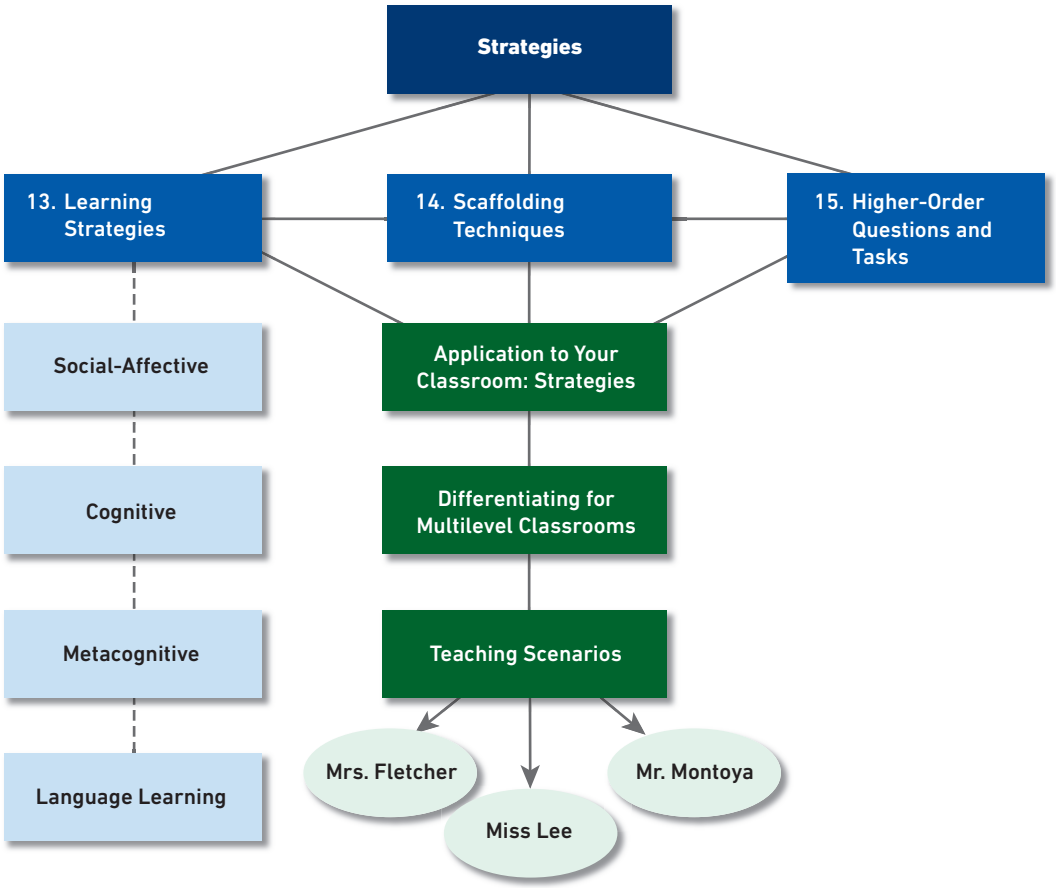
This chapter will help you to . . .

- Identify and build on students' strategy use during content lessons: cognitive, metacognitive, language learning, and socio-affective.
- Select effective teaching techniques for verbal, procedural, and instructional scaffolding.

LANGUAGE OBJECTIVES

This chapter will help you to . . .

- Write questions and tasks that are differentiated for students' English proficiency levels and are at different levels of cognition.
- Include in a lesson plan, instruction and practice with one or more learning strategies, scaffolding for those who need it, and higher-level questions and tasks.



Think about a time when you had to solve a really challenging problem. For example, you are driving in an unfamiliar city, trusting your rental car's GPS to get you safely to your destination. At some point, you realize that you don't recognize landmarks, and you wonder if you're heading in the wrong direction. At this point, you have a decision to make: (1) trust the rental car's GPS; (2) switch to your trusted GPS on your phone; or (3) try to figure out where you are and where you need to go to arrive at your location. If you choose #2, how do you know that your phone's GPS is more trustworthy that the one in the rental car? If you choose #3, how are you going to get to your destination in a timely manner?

In this age of GPS dependence, most likely this has happened to every driver at least once. What did you do to when this happened to you? More than likely, as an experienced driver, you activated a plan for dealing with the dilemma and you relied on a repertoire of strategies you have developed over the years for finding your way from point A to point B, in an unfamiliar environment. As you think about the possible strategies you used, which were taught to you by someone with more experience? Which did you learn by yourself through trial and error? ■

■ Background

A growing body of research suggests that skilled readers and learners are mentally active, engaged, and strategic (August & Shanahan, 2010; Duke, Ward, & Pearson, 2021). Effective learners self-regulate by activating a variety of skills and strategies, such as self-questioning and generating mental images while reading. Active self-regulation involves motivation, engagement, and executive function skills, including cognitive flexibility, working memory, and inhibitory control, such as suppressing distracting information (Duke & Cartwright, 2021). For reading, strategy use is defined as, "deliberate, goal-directed attempts to control and modify the reader's efforts to decode text, understand words, and construct meaning" (Afflerbach, Pearson, & Paris, 2008, p. 368).

Teachers of multilingual learners may have difficulty determining their students' proficiency with learning strategies and self-regulatory skills, especially in the beginning stages of English acquisition. They may confuse students' lower levels of English proficiency with poor or underdeveloped learning strategies.

Therefore, in this chapter, we discuss the importance of teaching and providing practice with a variety of cognitive, metacognitive, and language learning strategies that facilitate knowledge acquisition, and socio-affective strategies that impact

engagement and motivation. We also suggest that all students, including multilingual learners, benefit from questions and tasks that involve higher levels of cognition. To accomplish these goals, teachers must carefully scaffold instruction for multilingual learners and other students who need additional support.

Note that in SIOP, we distinguish between *instructional strategies* and *learning strategies*. We use the term *strategies* when discussing how a learner cognitively processes knowledge and language. When referring to instruction, we use terms such as *techniques, activities, methods,* and *approaches.* It is important to understand these differences as you move forward with SIOP.

> The Strategies component provides students access to their funds of knowledge while building linguistic confidence through strategic thinking.
>
> Dr. Francheska Figueroa
> Postdoctoral Research Scholar Arizona

You will find three teachers' lessons in the section, Teaching Scenarios. As you read about each of features in the Strategies component, followed by the Scenarios, reflect on the multilingual learners you are currently teaching or have taught previously. Who are the strategic thinkers and problem solvers, who can readily answer questions and tackle tasks that require higher-order thinking? Who are challenged by tasks that require strategic thinking and problem solving? Are you aware of students who use their knowledge of their home language strategically when they are translanguaging? (See the definition of *translanguaging* in the Glossary). What types of scaffolding might be beneficial for the students you have identified? These are the important questions we address in the Strategies component.

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SIOP® FEATURE 13:

Ample Opportunities Provided for Students to Use Learning Strategies

Research studies focused on highly effective readers and learners have shown they use a variety of strategies in an interactive and recursive manner. These individuals use strategies that are flexible and appropriate to the task. As multilingual learners develop English proficiency, it is important that their language, literacy, and content instruction include a focus on learning and practicing a variety of strategies so that they can activate, self-regulate, and transfer these cognitive processes to thinking and learning in English.

Reflect again on the opening scenario in this chapter, in which you were asked to think about a time when you questioned the accuracy of the GPS in your car. What cognitive and metacognitive strategies did you employ to solve the problem of not knowing if you were traveling in the right direction? Think about your answer to this question as you read about the following cognitive, metacognitive, language learning, and socioaffective strategies (See Table 5.1 for a list of the four types of strategies). Strategies that can be taught and that generally transfer to new learning include the following.

- **Cognitive Strategies.** Cognitive strategies are used when learners mentally and/or physically manipulate information, or when they apply a specific technique to a

learning task. While some cognitive strategies may need to be taught, others develop naturally, as when we solve a problem and figure things out. Whether taught or learned, cognitive strategies are often remembered for future use and application.

Example: A SIOP teacher models a cognitive strategy during a lesson through a think-aloud that focuses on an important aspect of a text, such as the Essential Question: "*When I see this question in big, bolded words at the beginning of the chapter, I know it is important, because I need be able to answer it after I read."*

- **Metacognitive Strategies.** Metacognition encompasses both the awareness of one's cognitive processes (thinking about one's thinking = metacognitive knowledge), and the facility to self-regulate these cognitive processes (metacognitive monitoring and control). Educational research includes considerable evidence that substantiates the importance of metacognition in learning and academic achievement (Fleur, Bredeweg, & van den Bos, 2021). The active use of metacognitive strategies implies awareness, reflection, and interaction, and effective learners use these strategies in an integrated, interrelated, and recursive manner. Science of Reading research studies have found that when metacognitive strategies are taught explicitly and practiced frequently, before, during, and after reading, reading comprehension is improved (Duke & Cartwright, 2021; Duke, Ward, & Pearson, 2021; Shanahan, Callison, Carriere, Duke, Pearson, Shatschneider, & Torgesen, 2010).

  Example: SIOP teachers use think-alouds to model metacognitive strategy use, such as: "*When I am reading, I like to stop occasionally, to think about what I just read. If there are three points the author made, I try to remember them and repeat them in my head before going on. I try to summarize or think about the information in the order that I read it. This helps me understand and remember what I am reading."*

- **Language Learning Strategies.** Language learning strategies are defined as, "Mental strategies that [people] use to make sense of oral and written text, to organize information, to monitor language production, and to apply skills to language tasks" (Short & Echevarria, 2016, p. 21). These mental processes and ways of thinking give multilingual learners resources to learn on their own. As they do with other aspects of learning, effective language learners consciously use a variety of strategies to increase their facility in speaking and comprehending the new language.

  Example: SIOP teachers encourage multilingual learners to use their home language (L1) as described in Chapter 6. *With your partner, explain combustion, using English or your primary language. In your explanation, include our key vocabulary: mass, reactant, chemical reaction.*

  Using translanguaging and code-switching can reduce the affective filter, an invisible, mental screen that can either aid or deter the process of language acquisition (Krashen, 1985). When the affective filter is reduced, the multilingual student feels safer and language acquisition occurs.

- **Socio-Affective Strategies.** O'Malley and Chamot (1994) originated the concept of teaching and reinforcing strategies that were not cognitive in nature, but instead, were more aligned with the social and emotional development of the multilingual learner. These strategies can ease the anxiety and discomfort for language learners who are placed in a classroom with a dominant language group (TESOL, 2018). With the increased focus on students' social-emotional learning (SEL) and the call for student-centered classrooms, socio-affective strategies are important to include in this discussion of strategies that can be taught and reinforced for multilingual learners.
  - *Examples:* SIOP teachers include routines in their lessons, such as how to take turns when talking, how to use sentence frames, how to appropriately agree or disagree with another student during a discussion, how to praise another student for something they said or did, and so forth. These examples are not just intended for young children, because multilingual learners of all ages may have had varied educational experiences in their former schools, if they've had schooling. Modeling socio-affective strategies is important for all students, but especially for multilingual learners.

Furthermore, the social aspects of language learning require practice to build confidence. In a classroom setting, SIOP teachers discuss and model how to participate in instructional conversations (see Chapter 6), including knowing which English words and phrases are appropriate, turn-taking, asking questions, paraphrasing, and so forth. Practice with socio-affective strategies can be beneficial for multilingual learners and native-English speakers, alike.

Take a moment and review the examples of cognitive, metacognitive, language learning, and socio-affective strategies that are important and beneficial for multilingual learners (see Table 5.1). Which of these could you model and teach to your students?

TABLE 5.1 Examples of Cognitive, Metacognitive, Language Learning, and Socio-Affective Strategies

Cognitive Strategies	Metacognitive Strategies	Language Learning Strategies	Socio-Affective Strategies
■ Previewing a text before reading	■ Predicting and inferring	■ Conscientiously applying reading strategies, such as previewing, skimming, scanning, self-questioning, summarizing, and reviewing	■ Seeking out conversational partners
■ Establishing a purpose for learning	■ Generating questions and using the questions to guide comprehension	■ Analyzing and using consistent forms and patterns in English, such as: *prefix* + *root* + *suffix* (im + port + ed); and *prefix* + *base word* + *suffix* (pre + read + ing)	■ Taking risks with the new language
■ Consciously making connections with past learning	■ Monitoring and clarifying (*Am I understanding? If not, what can I do to help myself?*)	■ Making logical guesses based on contextual and syntactic information	■ Practicing the target language when alone
■ Using mnemonics (hints or systems for remembering information)	■ Evaluating and determining the importance of what is read and/or learned		■ Combatting inhibitions about using the target language by having a positive attitude
■ Highlighting, underlining, or using sticky notes to identify important information	■ Summarizing and synthesizing		■ Asking for clarification, even though it may be difficult to do so

(continued)

TABLE 5.1 Examples of Cognitive, Metacognitive, Language Learning, and Socio-Affective Strategies *(continued)*

Cognitive Strategies	Metacognitive Strategies	Language Learning Strategies	Socio-Affective Strategies
■ Taking notes or outlining ■ Rereading to aid understanding ■ Identifying key vocabulary ■ Identifying, analyzing, and using varied text structures to aid comprehension	■ Making mental images (visualizing) ■ Using mental and sensory images: *What might it smell like? What picture(s) do you see in your mind? How might this feel?*	■ Breaking words into component parts (*un + break + able = unbreakable*) ■ Purposefully grouping and labeling words (*nouns, verbs, adjectives, adverbs, conjunctions*, *compound words*, etc.) ■ Drawing pictures and/or using gestures to communicate when words do not come to mind ■ Self-monitoring and self-correcting while speaking English (also a metacognitive strategy) ■ Substituting a known word when unable to pronounce an unfamiliar word ■ Guessing and deducing ■ Using verbal and nonverbal cues to know when to pay attention ■ Imitating behaviors of native English-speaking peers to successfully complete tasks ■ Translanguaging: Expressing ideas in more than one language: using one's target and native language as resources to build understanding (see Glossary)	■ Encouraging and rewarding oneself for participating in a group or completing a task ■ Lowering anxiety and reducing stress by reminding oneself of learning goals ■ Asking for help or assistance ■ Learning to clarify and confirm understandings ■ Working with others to achieve a common goal and/or to complete a task together ■ Taking risks by engaging in a discussion ■ Experimenting aloud with the target language, even though errors may be made ■ Recognizing feelings of pride upon meeting a lesson's content and language objectives ■ Motivating oneself by noting when the target language is used correctly; and/or when communicating effectively with another person

Teaching Strategies

What follows are some more tips for effectively teaching strategies:

- Cognitive, metacognitive, language learning, and socio-affective strategies transfer to learning in the new language. For example, once you know how to make predictions while reading in your first language (L1), you can predict with a text in your target language when you have the language proficiency to do so.

You may have multilingual learners who have been well schooled in their home language (L1), and they have developed a variety of strategies that they can use and talk about once they learn the English terms for them. Sentence frames and sentence starters can be very helpful for providing the necessary language bridge for student engagement. (See Table 5.4 in this chapter in the Differentiating for Multilevel Classes section; and Chapter 6 for more information about sentence frames and starters.)

- You also may have multilingual learners in the classroom, including refugees, who have had interrupted formal education (SIFE). The temptation might be to think of these students as "less than"—as being without strategies and skills. However, many of these students have developed a repertoire of survival strategies that they can apply to their learning. Whenever you can, tap into these strategies and assist students in making connections between what they've experienced and learned, and what you are teaching.
- When teaching strategies, it is important that students understand how these strategies work together in an integrated fashion. For example, consider the metacognitive strategies that we use when reading fiction and nonfiction. Here's an example of a think-aloud that could be used with upper grade students to help them understand the interrelatedness of metacognitive strategies:
  - *When reading a short story, we usually make mental predictions about the plot, the characters, the setting, and so forth—sometimes based on the description of the book, other stories we've read by the same author, illustrations, or the first few paragraphs of Chapter 1.*
  - *As we are reading, we ask ourselves questions, such as: "What just happened? Who is this new character and where did he come from? It's beginning to snow heavily, and they can't see where they're driving. Are they going to have an accident? What's going to happen?"*
  - *These questions (in our heads) lead to either confirming (it happened) or disconfirming (it didn't happen) our previously made predictions, based on where the author has taken us in the story. What's fun about reading fiction is that we may think one thing is going to happen, and we're surprised when it doesn't.*
  - *While reading, we should stop, once in a while, to recapitulate, summing up in our heads what we've just read. We then add new predictions and ask new questions for the next paragraph or chapter we're going to read.*
- Introduce and model a variety of strategies and then give students ample practice in using them in an integrated manner (see Mr. Montoya's lesson and lesson plan in this chapter). Encourage students to think of strategies as being housed in a *mental toolbox*, from which they can select one or more depending on the task at hand. It is not good practice to interrupt students' reading of a text by having them stop, label, and write the name of the strategy they're using. There is no research that supports this practice.

- Lipson and Wixson (2013) contend that strategies should not be taught in isolation, one at a time. Rather, teachers need to teach and reinforce strategy use as an integrated process during which readers employ declarative, procedural, and conditional knowledge:
  - *Declarative knowledge*: What is the strategy?
  - *Procedural knowledge:* How do I use this strategy?
  - *Conditional knowledge*: When and why do I use this strategy?

Finally, note that teaching these strategies can serve as the basis of a lesson's content objectives and language objectives. For example, each of the following objectives include strategy practice:

- Content Objectives: You will. . .
  - Preview (skim) a chapter and think of 2–3 questions you have about the earth's ozone layer. *Cognitive strategy: skimming; metacognitive strategy: self-questioning*
  - Jigsaw, with small group members, information about preserving and restoring the Earth's ozone layer. *Socio-affective strategy: actively participating in a small group; language learning strategy: orally sharing information with other group members through the adapted Jigsaw procedure*[1].
- Language Objectives: You will. . .
  - Select three key vocabulary words or terms that you think are important to the topic of climate change. *Cognitive strategy: highlighting or underlining text; metacognitive strategy: evaluating*
  - Write an informal definition, using what you know and have read for each word or term, and share your definitions with a partner. *Language learning strategy: making a logical guess; metacognitive strategy: predicting word meaning; social-affective strategy: explaining information to another person.*

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SIOP® FEATURE 14:

Scaffolding Techniques Consistently Used, Assisting and Supporting Student Understanding

Scaffolding is a term coined by Jerome Bruner (1983) that is associated with Vygotsky's (1978) theory of the Zone of Proximal Development (ZPD). In essence, the ZPD is the difference between what students can accomplish alone and what they can accomplish with the assistance of a more experienced individual. The assistance that is provided by this individual is called *scaffolding.*

[1]Adapted Jigsaw procedure: Partners or small group members read an assigned section of a text, and prepare information on notes or a graphic organizer, to teach to other students in a small group.

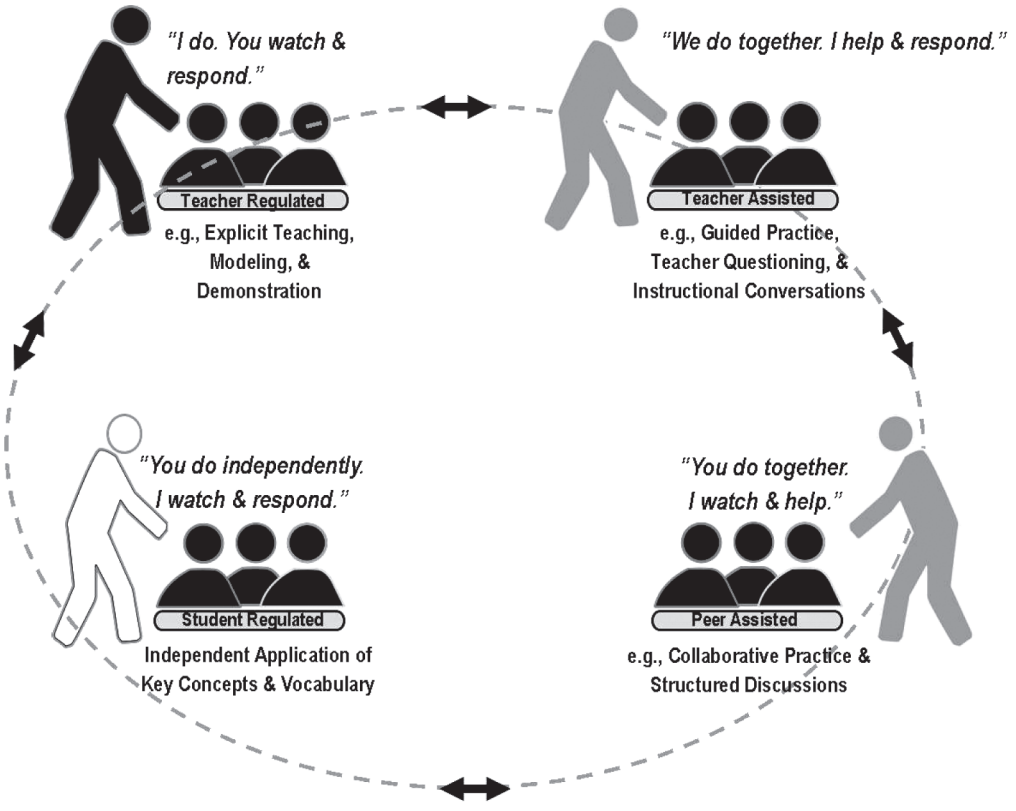
> Allowing students to work collaboratively before working independently not only scaffolds the task at hand, but also sends the message that everyone's input is valued and is a key factor in creating positive interdependence.
>
> Ana Segulin, ESL Administrator, Texas

Undoubtedly, you have seen scaffolding on buildings that are under construction. They are intended to provide the workers with access to the building as it is being built. Once the building is completed, the scaffolding is no longer necessary, and it is removed. The scaffolding metaphor is effective for education because when teachers provide scaffolding, they are enabling access to content concepts and academic language, for as long as is necessary. The scaffolding is removed when students no longer need it because they can access the content and academic language on their own.

Pearson and Gallagher (1983) described ZPD and scaffolding as the "gradual release of responsibility" (GRR), as it relates to classroom practices. The intent of the GRR model is to move from reliance on the teacher to student independence in applying key content concepts and vocabulary, but as we all know, a lesson may not move smoothly from one phase to the next.

What has been mostly absent in GRR explanations (*I do, We do, You do*), is the notion that teaching is a recursive, rather than linear process. Therefore, we offer an alternative to the traditional explanation of GRR. In this model (see Figure 5.1),

FIGURE 5.1 Scaffolding: Gradual Increase of Student Independence (GISI)



Reproduction of this material is restricted to use with Echevarría, J., Vogt, M.E., Short, D., & Toppel (2023). *Making Content Comprehensible for Multilingual Learners. The SIOP Model* (6th Ed.). Boston: Pearson.

the focus is on the student, and on recursive teaching, which is more in keeping with what goes on in a real classroom. A description follows:

- The Gradual Increase of Student Independence (GISI) offers explicit teaching (*I do. You watch and respond.*), and immediate practice with assistance from the teacher (*We do together. I help and respond.*).
- Students who are successful apply their learning with other students with minimal supervision (*You do together. I watch and respond.*).
- For some students, it may be necessary to take a step back and reteach and re-model before moving on to supported practice.
- Of course, the goal for all students is independent application of key concepts and vocabulary (*You do independently. I watch and respond.*).
- This process leads to more differentiated teaching, enabling those who can move forward to do so. But for those who need additional modeling and support, opportunities are provided.
- This model also provides varied starting points for a lesson, depending on lesson objectives and student needs.

Whatever your content standards, it is essential for all students, including multilingual learners, to have appropriate, scaffolded instruction that leads to eventual independence.

Three Types of Scaffolding

Three types of scaffolding can be used effectively with multilingual learners: Verbal, Procedural, and Instructional. A description of each type of scaffolding follows.

1. **Verbal Scaffolding.** SIOP teachers use prompting, questioning, and elaboration to facilitate students' movement to higher levels of language proficiency**,** comprehension, and thinking. Examples include:
   - Paraphrasing: Restating a student's response in another form or in other words to clarify and model correct English usage aids students' language development and comprehension.
   - Using think-alouds: These models of how effective strategy users think and monitor their understandings usually are provided by the teacher, but they can also involve other students.
   - Embedding definitions: An example: *Aborigines, the people native to Australia, were being forced from their homes.* The phrase, *the people native to Australia,* provides a partial definition of the word *Aborigines* within the context of the sentence.
   - Gesturing; using body language; acting out, modeling, and/or demonstrating
   - Providing correct pronunciation by repeating students' responses: When teachers repeat multilingual learners' correct responses, enunciating carefully

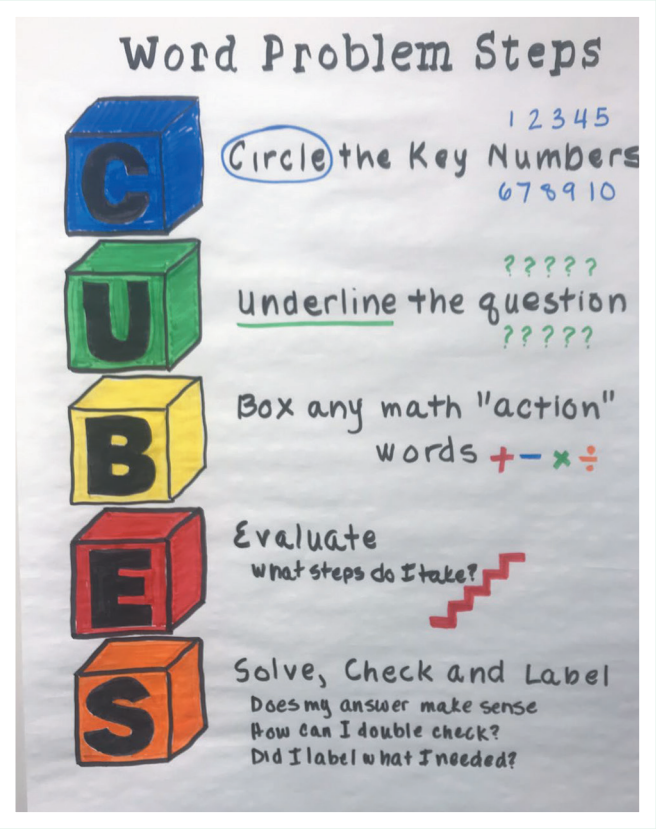
and naturally, students have an additional opportunity to hear the content information, pronunciation, and inflection.

- Providing or asking for translation in the students' first language
- Eliciting more language and information from students: Rather than accepting one- or two-word responses, ask students to add on, tell more, or explain their ideas more fully, giving them the chance to advance their language skills. Use prompts, such as:
  - *Tell us more about that.*
  - *Can you add some more information?*
  - *What else do you know about ___?*
  - *That's interesting! I'd like to know more about ___.*
  - *How did you learn that?*

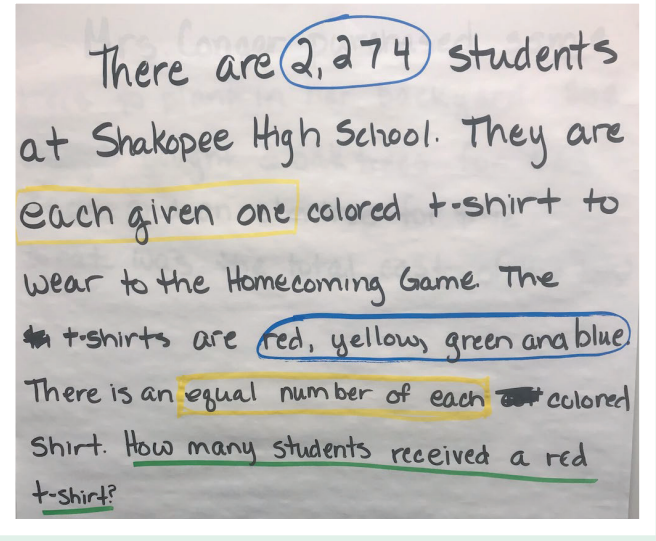
2. **Procedural Scaffolding.** SIOP teachers also incorporate instructional approaches that provide procedural scaffolding. Examples include:
   - Using an instructional framework, such as GISI (Figure 5.1) that includes explicit teaching, modeling, and guided and independent practice, with an expectation of eventual student independence
   - Small-group instruction, in which students practice a newly learned strategy with another more experienced student
   - Social supports, such as partnering or small groups for reading and content activities, with more experienced readers assisting those with less experience
   - Cooperative learning activities, such as Jigsaw

3. **Instructional Scaffolding.** SIOP teachers use instructional scaffolding to provide multilingual learners with access to content and language concepts. Examples include:
   - Graphic organizers focused on text structure, such as chronological or sequential (see Vogt & Echevarria, 2022)
   - Models of completed assignments: students' sample products, such as posters, booklets, or reports to give a clear picture of the goal
   - Sentence frames or sentence starters, partially completed outlines, or advance organizers
   - Home language texts and/or modified texts
   - Electronic texts with vocabulary links to definitions
   - Visuals, including pictures, diagrams, illustrations, videos, props, or picture dictionaries. See Artifact 5.1 for an anchor chart that a teacher created for helping students remember the steps in solving word problems. Note in Artifact 5.2, how the teacher used colored markers to indicate each of the "CUBE" steps.

ARTIFACT 5.1 Anchor Chart: Steps to Solve Word Problems

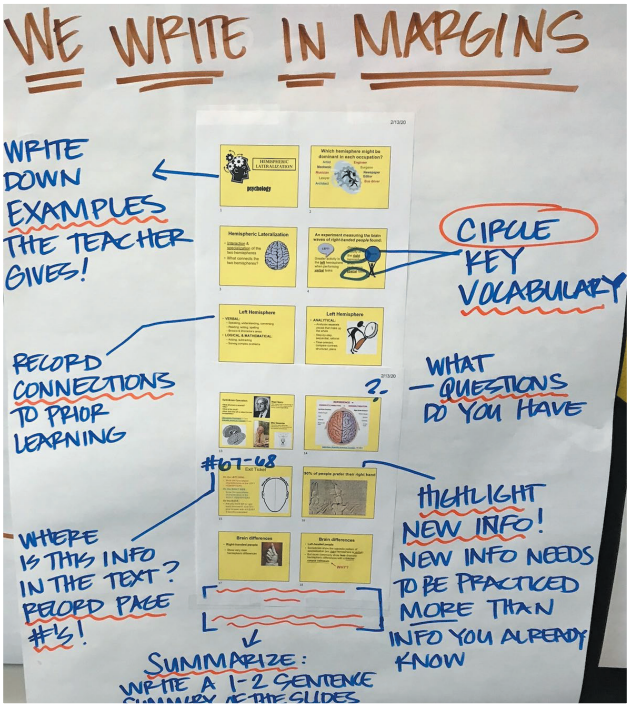


ARTIFACT 5.2 Example of Word Problem Indicating CUBE Steps



ARTIFACT 5.3 Anchor Chart: Note-Taking Example

> This anchor chart idea not only provides an important scaffold for students when they are taking notes, but it also supports a teacher's think-aloud during instruction. The questions posed in the anchor chart help uncover students' thinking processes used in note-taking, determining importance, and summarizing key information, all of which are important learning strategies.
>
> Andrea Rients, District Professional Learning Coordinator, Minnesota



As you begin to write SIOP lesson plans, keep this in mind: *A scaffold is a temporary structure for helping students complete a task that would otherwise be too difficult to do alone*. The release of verbal, procedural, and instructional scaffolds is gradual until student independence has been achieved. Resist the temptation to keep scaffolding in place beyond the point that students need it. Additionally, state assessments may require that students complete assessment tasks without teacher scaffolding, so stay alert to students' increasing independence with learning tasks.

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SIOP® FEATURE 15:

A Variety of Questions or Tasks That Promote Higher-Order Thinking Skills

Effective SIOP teachers provide meaningful practice with learning strategies by asking questions and providing tasks that promote critical thinking. Over the years, several taxonomies have been designed to assist teachers in including higher-level questions and tasks in their lessons. Anderson and Krathwohl's (2001) taxonomy of cognition from lowest to highest includes: *Remember, Understand, Apply, Analyze, Evaluate,* and *Create* (see Table 5.2). Webb (1997) developed a similar, but more complex system and criteria for aligning standards, teaching, and assessment, called Depth of Knowledge (DOK).

TABLE 5.2 Process Verbs and Products at Varying Levels of Cognition

Level	Process Verbs	Products
Create	compose, propose, formulate, assemble, construct, set up, manage, plan, design, pretend, revise, blend, arrange, collect, create, invent, develop, hypothesize, generalize, originate, derive, compile, predict, act, modify, suppose, reorganize, role-play	film, poem, story, theatrical play, formula, machine, design, blueprint, goal, plan, play, solution, cartoon, new game, invention, video, event, newspaper, magazine
Evaluate	judge, evaluate, appraise, rate, compare, value, validate, defend, probe, assess, measure, decide, revise, conclude, determine, justify, support, prioritize, recommend, reject, referee, debate, award, score, choose, estimate	investigation, opinion, report, survey, editorial, debate, scale, conclusion, review, recommendation, critique, verdict, estimation
Analyze	distinguish, calculate, test, question, solve, analyze, research, characterize, appraise, interpret, diagram, experiment, compare, contrast, examine, scrutinize, dissect, probe, discover, categorize, investigate, order, differentiate, sift, sort, deduce	diagram, checklist, investigation, chart, graph, outline, conclusion, list, category, plan, illustration, survey, inventory, database, graphic organizer, rubric, matrix
Apply	teach, apply, employ, adapt, show, manipulate, exhibit, relate, solve, illustrate, operate, schedule, calculate, interview, collect, interpret, change, dramatize, prepare, record, construct, make, translate, use	puzzle, prediction, scrapbook, drawing, demonstration, diary, photograph, report, illustration, diorama, simulation, poster, sculpture, diagram, experiment, lesson
Understand	restate, describe, explain, paraphrase, report, tell, discuss, recognize, summarize, locate, review, list, research, locate, calculate, convert, outline, expand upon, annotate, give example, give main idea	recitation, example, summary, definition, reproduction, quiz, collection, list, explanation, test, dramatization, label, show & tell, outline
Remember	define, repeat, list, label, memorize, record, recall, relate, match, locate, show, select, group, quote, underline, recite, distinguish, cite, choose, give example, sort, describe, reproduce	quiz, label, definition, list, test, worksheet, workbook

It is important to carefully plan higher-order questions and tasks prior to lesson delivery. This is especially critical when teaching multilingual learners. As students are acquiring proficiency in English, it is tempting to rely on simple questions that result in yes/no or other one-word responses. It is possible, however, to reduce the linguistic demands of responses while still promoting higher levels of thinking.

For example, in a study of plant reproduction, the following question requires little thought: *Are seeds sometimes carried by the wind?* A nod or one-word response is almost automatic if the question is understood. However, a higher-level question

coupled with a higher-order task, such as the following, requires analysis, though not a significant language demand:

- *Which of these seeds would be more likely to be carried by the wind: the rough seed or smooth seed?*
- *What do you think about this seed that has fuzzy hairs?*
- *Why do you think a particular seed would be more likely to be carried by the wind?*

Having three types of seeds available, either the actual seeds or photographs, and perhaps a small fan (or just blow air on the seeds to simulate the wind), enables students with lower English proficiency levels to have a concrete understanding of the English words, *seeds* and *wind,* so they can respond to the higher-level question and perform the higher-order task, which can be done using words with which they are familiar.

In addition, multilingual learners can also be encouraged to respond to higher levels of questions in their home languages, using translation for both the questions and the students' responses. Other students in the class who speak the same language can help translate, or you can use translation apps or websites. You might check with your district office for multilingual learners to see which translation service they recommend. Encouraging students to respond with higher levels of thinking requires teachers to consciously plan and incorporate higher-order questions and tasks, with scaffolding of course, at a variety of cognitive levels.

To assist in your lesson planning, review the examples of Process Verbs and Products as presented within varied levels of cognition (see Table 5.2). Note that you can use these active verbs in your content and language objectives, as well as in the questions you ask and the assignments you create. The highest level of cognition as depicted here is *Create*; the lowest is *Remember* (Anderson & Krathwohl, 2001).

Application to Your Classroom: Strategies

What follows are effective activities that teach and provide practice with learning strategies, include scaffolding techniques, and foster critical thinking.

- **Directed Reading-Thinking Activity (DR-TA)**, grades K–12 **(**Stauffer, 1969; Vogt & Echevarría, 2008). DR-TA is an effective activity for encouraging strategic thinking while students are reading or listening to narrative (fiction) text. The text to be read by students or as a teacher-read-aloud should be rich, interesting, and, if possible, have a surprising or unanticipated ending. Throughout the reading of the story, stop periodically in pre-designated spots and have students respond to a variety of probes, such as:
  - *With a title like . . ., what do you think this story will be about?*
  - *What do you think is going to happen next? What makes you think so?*
  - *Did . . . happen? If not, why not?* (revisit predictions)
  - *Now, what do you think is going to happen? Why?*
  - *Where did you get that idea? Does anyone else think that?*
  - *Tell me more about that . . .*

It is important that you revisit previously made predictions after chunks of text are read so that students come to understand how predictions (and their confirmation or disconfirmation) impact their comprehension. Note that an adapted DR-TA process is also effective in the upper grades for novels, with chapter-to-chapter discussions focusing on what students think will happen, what really happened, and why. (See Chapter 3, Mrs. Ornelas's lesson vignette that includes a DR-TA activity.)

- **SQP2RS ("Squeepers").** This instructional framework, grades 1–10, is intended to provide practice with metacognitive strategies (predicting, self-questioning, monitoring/clarifying, evaluating, summarizing), while students read content in expository (nonfiction) texts (Vogt & Echevarría, 2022, p. 112). For young children, you can teach and practice Squeepers with informational big books, modeling the process as you read the book aloud. (See Mr. Montoya's lesson and lesson plan and Table 5.3 for Squeepers steps).
- **Canned Questions** (Vogt & Echevarria, 2022, p. 97). This idea has two purposes: (1) to provide practice in asking questions about a topic that is being studied; and (2) to provide a safe way for students to ask questions that they are reluctant to ask in front of the class. The steps to this simple idea are:
  - Decorate a large container (such as an oatmeal box) that has a plastic lid. This is your Question Can. Cut a slit in the lid big enough for pieces of paper to fit through it. With masking tape, not duct tape, secure the lid to the container. You will need to be able to open it to read students' questions.
  - Cut strips of paper for students' questions and place them in a box or envelope near the Question Can.

For free, downloadable, Squeepers posters, see: https://assets.savvas.com/asset_mgr/current/201941/SQPRRS_posters_2019.pdf?_gl=1*1j9wzq9*_ga*Mzg1NzczMDIwLjE1OTk2NzIzNzY.*_ga_79FVM8Y0G4*MTY2NzIxNDQ4NS4xMTg1LjEuMTY2NzIxNDUwMi40My4wLjA.&_ga=2.213532823.2089527723.1667214490-385773020.1599672376

TABLE 5.3 SQP2RS (Squeepers)

Steps for Squeepers Lesson	Procedures
Survey	Explore the text before reading: Look at the pictures and captions. Skim the highlighted text, bold words, headings, subheadings. Think about what you are going to learn while reading.
Question	With a partner or small group, come up with 3–4 questions that you think you'll be able to answer after reading the text. Record your questions.
Predict	Predict 2–3 things you're going to learn by reading this text. Use your questions and the lesson's content and language objectives to guide your thinking. Record your predictions.
Read	Read the text, alone, with the teacher, with a partner, or with a small group. Use sticky notes to indicate where your questions were answered and where your predictions were confirmed or disconfirmed.
Respond	Discuss with a small group or the whole class: Which questions were answered? Where in the text? Which predictions were confirmed or disconfirmed? Where? Develop new questions for the next section/chapter of text.
Summarize	Summarize, orally or in writing, what you have learned, alone, or with a partner or small group.

- Explain what the Question Can is for and model how to write questions, at varied levels (see Table 5.2 for active verbs at varied levels of cognition). Encourage multilingual learners to write questions for the Question Can in their home language, if they choose to do so.
- Plan time each day for answering students' questions; sometimes other students can answer questions, too, which can foster class discussion.
- Multilingual learners and students who struggle may benefit from question frames that they can use to ask their questions. You can create strips and go over them with students. For example, here are some possible question frames that students could use:
  - *Can you please explain _____? I still don't understand it*
  - *Will you please tell me again what _____ means?*
  - *I'm confused about _____. Will you please help me understand it better?*
  - *I need to practice _____. Can you tell how I should do that?*

Differentiating for Multilevel Classes

- Almost by definition, during SIOP lessons, scaffolding leads to differentiated instruction**.** One way to scaffold strategy practice for multilingual learners' varied language development needs is through Strategic Sentence Starters (Olson, Land, Anselmi, & AuBuchon, 2011, p. 251). Giving students sentence starters or frames provides the support many need to be able to participate in literature and content area discussions. The following examples could be printed on small "cue cards" that students select and use, as needed (see Table 5.4).

TABLE 5.4 Strategic Sentence Starters

Learning Strategies & Language Learning Strategies	Sentence Starters
Planning and Goal Setting	*My purpose is . . .* *My top priority (or most important job) is . . .* *I will accomplish my goal by . . .*
Tapping Prior Knowledge	*I already know . . .* *This reminds me of . . .* *This relates to . . .*
Asking Questions	*I wonder why . . .* *What if . . . ?* *How come . . . ?*
Making Predictions	*I'll bet that . . .* *I think . . .* *If . . . ., then . . . .*

(continued)

TABLE 5.4 Strategic Sentence Starters *(continued)*

Learning Strategies & Language Learning Strategies	Sentence Starters
Visualizing	*I can picture . . .* *In my mind, I see . . .* *If this were a movie, I'd be seeing . . .*
Making Connections	*This reminds me of . . .* *I experienced this once when . . .* *I can relate to this because once . . .*
Summarizing	*The basic gist is . . .* *The key information is . . .* *In a nutshell, this says that . . .*
Monitoring	*I got lost here because . . .* *I need to reread the part where . . .* *I know I'm on the right track because . . .*
Clarifying	*To understand better, I need to know about . . .* *Something that is still not clear is . . .* *I'm guessing that this means _____, but I need to know . . .*
Reflecting and Relating	*So, the big idea is . . .* *A conclusion I'm drawing is . . .* *This is relevant to my life because . . .*
Evaluating	*I like/don't like _____ because . . .* *My opinion is _____ because . . .* *The most important message is _____, because . . . . . .*

> When multilingual learners are learning new tasks during SIOP lessons, their affective filter is lower, because they understand the expectations, make connections to what they know, and have multiple ways to self-monitor their understanding.
>
> Dr. Nicole Teyechea McNeil
> Senior Learning Specialist
> Arizona

The Lesson

The Rainforest (Grade 7)

The three classrooms described in the teaching scenarios in this chapter are heterogeneously mixed with native-English speakers, fluent English proficient speakers (redesignated English learners), and multilingual learners who have mixed levels of English fluency. The middle school is in a suburban community, and native-Spanish speakers make up approximately 40% of the student population.

The following teaching scenarios take place during the first day of a multi-day unit on the interdependence of organisms in an ecosystem. Mrs. Fletcher, Miss Lee, and Mr. Montoya are each using the same article about the depletion of the rainforests taken from a science news magazine designed for middle school students. The following state standards for Science, Reading, and Language Arts guided the development of the teachers' lessons:

- Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound, and the evidence is relevant and sufficient to support the claims.

Teaching Scenarios

To demonstrate how Mrs. Fletcher, Miss Lee, and Mr. Montoya planned instruction for their students, including their multilingual learners, we look at how each designed a lesson on the rainforest, using the magazine article to introduce the topic to students.

Mrs. Fletcher

Mrs. Fletcher began her lesson by distributing the rainforest article to the students and asking them to read together the title, "The Deforestation of our Rainforests." She then directed them to predict from the title and opening photograph what they thought the article would be about. Several students had difficulty with the word *deforestation*, so Mrs. Fletcher reminded the class that the prefix *de-* means *removal* or *take away.* Next, Mrs. Fletcher began reading the article, stopping once to ask the class, "What do you think will happen to the plants and animals in this rainforest? What evidence did you hear to support your predictions?" When she had finished orally reading the article, she asked the students if they had any questions.

One of the students asked, "Why do people burn the rainforests if it's so bad?" Mrs. Fletcher replied that the wood is very valuable, and people want to make money from the sale of it. Because there were no further questions, she asked each student to write a letter to the editor of the local newspaper explaining why we, as humans, should save the rainforest ecosystem. She also reminded students to give specific examples from the article. Several of the students began writing, while others reread the article to find information to include in their letters. A few appeared confused about how to start, and Mrs. Fletcher helped them individually. When the class had finished writing their letters, Mrs. Fletcher asked for volunteers to read their papers aloud. After a brief discussion of the letters, Mrs. Fletcher collected them and dismissed the students for lunch.

Check your understanding: On the SIOP form in Figure 5.2, rate Mrs. Fletcher's lesson on each of the Strategies features.

FIGURE 5.2 Strategies Component of the SIOP® Model: Mrs. Fletcher's Lesson

4	3	2	1	0
13. Ample opportunities provided for students to use **learning strategies**		Inadequate opportunities provided for students to use **learning strategies**		No opportunity provided for students to use **learning strategies**
4	**3**	**2**	**1**	**0**
14. **Scaffolding techniques** consistently used, assisting and supporting student understanding (e.g., think-alouds)		**Scaffolding techniques** occasionally used		**Scaffolding techniques** not used
4	**3**	**2**	**1**	**0**
15. A variety of **questions or tasks that promote higher-order thinking skills** (e.g., literal, analytical, and interpretive questions)		Infrequent **questions or tasks that promote higher-order thinking skills**		No **questions or tasks that promote higher-order thinking skills**

Miss Lee

Miss Lee introduced the magazine article by presenting a 15-minute lecture on the rainforest and by showing a variety of photographs of the rainforest ecosystem. She then divided the students into groups of four or five and asked one person in each group to read the magazine article to the other group members. When the students were finished reading, Miss Lee distributed worksheets. The students were first instructed to define words from the article, including *deforestation, biome, ecosystem*, and *organisms*. While Miss Lee circulated, students independently wrote answers to the following questions:

1. How much of the Earth's surface is covered by rainforests?
2. What percent of the Earth's species are found in the rainforest?
3. What are three products that come from the rainforests?
4. Why are the rainforests being burned or cut?
5. Who are the people that are doing the burning and cutting?
6. One of the birds found in the rainforest is a _____.
7. Global warming is believed to be caused by _____.
8. I hope the rainforests are not all cut down because _____.

In addition to the rainforest article, Miss Lee encouraged students to use the class computers to search the Internet for the answers to these questions. She told them to type in "rainforest" on a search engine to begin their search, and to keep track of the websites they explored.

When the students had finished writing their responses, they compared them to their group members' answers. Miss Lee directed the class to use the article to fix any answers the group thought were incorrect. She explained that they needed to come to agreement and record their group answer on a clean handout. For question #8, students were to determine the best answer of the group members' responses.

Check your understanding: On the SIOP form in Figure 5.3, rate Miss Lee's lesson on each of the Strategies features.

FIGURE 5.3 Strategies Component of the SIOP® Model: Miss. Lee's Lesson

4	3	2	1	0
13. Ample opportunities provided for students to use **learning strategies**		Inadequate opportunities provided for students to use **learning strategies**		No opportunity provided for students to use **learning strategies**
4	**3**	**2**	**1**	**0**
14. **Scaffolding techniques** consistently used, assisting and supporting student understanding (e.g., think-alouds)		**Scaffolding techniques** occasionally used		**Scaffolding techniques** not used
4	**3**	**2**	**1**	**0**
15. A variety of **questions or tasks that promote higher-order thinking skills** (e.g., literal, analytical, and interpretive questions)		Infrequent **questions or tasks that promote higher-order thinking skills**		No **questions or tasks that promote higher-order thinking skills**

Mr. Montoya (see Figure 5.5 for Mr. Montoya's lesson plan)

Mr. Montoya began his lesson by orally reviewing his lesson's content and language objectives, and by introducing the unit theme, Interdependence of Organisms in an Ecosystem. To connect with the previous days' lessons, Mr. Montoya wrote *ecosystem* on the whiteboard and gave students three minutes to review their notes with a partner and write their definition of *ecosystem* on an assigned spot on the whiteboard. The teacher and students then quickly checked the definitions for accuracy, and each pair was asked to identify an ecosystem that they had learned about previously.

Mr. Montoya then showed a picture of a rainforest on the smartboard, along with the vocabulary word, *rainforest*. He then separated the compound word into "r*ain* + *forest*" and asked students to predict what might be unique about rainforests as compared to other forests. After listening to a few of the students' ideas, Mr. Montoya projected a picture of a forest with pine trees and repeated his questions about how a forest and rainforest might differ.

Mr. Montoya then went online and brought up a three-dimensional map of the world that showed countries where there are rainforests. He introduced the vocabulary word, *deforestation,* showing a picture taken from the air of a rainforest with a large area that had been deforested. He asked students what they thought the word, *deforestation*, might mean. Students grappled with the parts of the word for a few minutes before Mr. Montoya defined the prefix *de-* as meaning *away from* or *opposite of*.

Students thought for a minute before Mr. Montoya reminded them about a vocabulary word that he wrote on the whiteboard *desalinate*, that they had learned earlier in the unit. He asked the class for a definition, and several students replied with, *removing salt from sea water*. He then referred students to the definition of *deforestation* in the article: *the action of clearing a wide area of trees.* One student said, "That's the opposite of planting trees. They're cutting them down in the rainforest. Why are they doing that?"

After distributing the magazine article on the tropical rainforest to his class, he engaged his students in a SQP2RS activity (Squeepers: See Table 5.3). Students, with partners, surveyed the section of the article they were going to read, for one minute, and in small groups, they generated several questions that they thought would be answered by reading the assigned section of the article. Students then referred to the lesson objectives, their questions, and the text, and determined 4–5 main concepts they predicted they would learn about the tropical rainforest. Each group shared their questions and predictions with the class, as Mr. Montoya charted them under two columns: *Questions We Have* and *Predictions: What We Will Learn.*

Mr. Montoya then read aloud the first two paragraphs about the rainforest ecosystem while the students followed along in their copies of the text. At the end of the two paragraphs, students were asked to determine if any of their questions on the chart paper had been answered and if any of their predictions had been confirmed or disconfirmed. With partners, students were directed to indicate with small sticky notes where this information could be found in the article. Referring again to the chart, Mr. Montoya placed a plus (+) sign next to each prediction that had been confirmed by the text reading; a minus sign (−) indicated a prediction that was disconfirmed; and a question mark (?) was used for any prediction that had not been answered to this point in the article.

A few additional questions and predictions were generated by the class prior to Mr. Montoya's directions to quietly read the next section of the text (about six paragraphs) with a partner or a triad. In their small groups, students ascertained whether

their earlier predictions, as posted on the chart paper, were confirmed or disconfirmed. They also shared the evidence they had found in the article while reading.

Mr. Montoya led the class in a brief discussion of any unknown terms from the article, including further clarification of *deforestation*. In their small groups or with partners, the students then reviewed the questions that had been posted earlier to see if they had found answers during their reading. They also checked their predictions according to the process Mr. Montoya had previously modeled. Next, students individually wrote summary sentences, including the key vocabulary, about what they had learned, using their generated questions and predictions as a guide.

Toward the end of the class, Mr. Montoya displayed on the whiteboard the following questions:

1. Why are we dependent on the rainforests for our survival on Earth?
2. What is the ozone layer and why is it important?
3. Compare and contrast the arguments of foresters and environmentalists, as described in the article. With which argument do you most agree? Why? What in the text convinced you of one position or the other?

After reading the questions aloud, and having students read them with their partners, in their first languages and/or in English, Mr. Montoya turned to homework. He provided students with a copy of three of the questions and encouraged students to write them in their L1 if desired. He assigned a brief written response to each question, again in the L1, if they wished to. He announced that these questions and the topic of the ozone layer would be discussed further during the next day's class, and they would eventually have a classroom debate about question #3. Before the bell, Mr. Montoya reviewed each of the three content and language objectives with his students. On a sticky note, students self-assessed the degree to which they met each of the objectives, with a: 1 = *I understand it well*; 2 = *I think I understand it, but I still have questions*; 3 = *I don't understand it yet and need some help.* They put their names on the sticky note and each gave the exit ticket to Mr. Montoya as they exited the classroom.

Check your understanding: On the SIOP form in Figure 5.4, rate Mr. Montoya's lesson on each of the Strategies features.

FIGURE 5.4 Strategies Component of the SIOP® Model: Mr. Montoya's Lesson

4	3	2	1	0
13. Ample opportunities provided for students to use **learning strategies**		Inadequate opportunities provided for students to use **learning strategies**		No opportunity provided for students to use **learning strategies**
4	**3**	**2**	**1**	**0**
14. **Scaffolding techniques** consistently used assisting and supporting student understanding (e.g., think-alouds)		**Scaffolding techniques** occasionally used		**Scaffolding techniques** not used
4	**3**	**2**	**1**	**0**
15. A variety of **questions or tasks that promote higher-order thinking skills** (e.g., literal, analytical, and interpretive questions)		Infrequent **questions or tasks that promote higher-order thinking skills**		No **questions or tasks that promote higher-order thinking skills**

FIGURE 5.5 **SIOP® Lesson Plan: Tropical Rainforests (Science) Grade 7**

Mr. Montoya's Lesson Plan

Key: SW = Students will; TW = Teacher will; HOTS = Higher-Order Thinking Skills

State Content and Language Standards:

- Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- Trace and evaluate the argument and specific claims in a text, assessing whether the reasoning is sound, and the evidence is relevant and sufficient to support the claims.

Key Vocabulary: review *ecosystem*; introduce *rainforest; deforestation;*

Visuals/Resources: Article on deforestation of tropical rainforests; photographs of depleted rainforests and from space depicting hole in the ozone layer; chart paper and markers
HOTS: (1) Surveying, self-questioning, predicting, summarizing; (2) Determining key vocabulary meaning from the prefix (*de-*); comparing forests to rainforests
Connections: Prior Knowledge/Building Background/Previous Learning: TW review SQP2RS's previously learned steps; review *ecosystem*; review examples of ecosystems

Content and Language Objectives:

- Content Objective: SW analyze the impact of deforestation of tropical rainforests on the environment.
- Language Objectives:
  - SW ask questions and predict key concepts prior to reading about tropical rainforests.
  - SW read and write summary sentences about deforestation in the rainforests, using key vocabulary: *ecosystem, rainforest, deforestation.*

Supplementary Materials:

- Pictures of depleted rainforests from space, rainforest with deforestation, Colorado forest, map of rainforests
- Homework handout with three questions
- Chart paper/markers with Squeepers T-chart: Questions We Have; What We Will Learn
- Science magazine with rainforest article

Sequence of Instruction

Introduce Objectives:

1. TW post and orally explain content and language objectives.

Building Background/Review of Past Learning:

2. TW review term: *ecosystem*
3. TW review and ask students (with partners) to briefly describe ecosystems learned to this point.
4. TW review SQP2RS process for reading expository texts
5. TW show pictures of rainforests on smartboard with the vocabulary word; write r*ain* + *forest*; ask students to look at the compound word and predict what is unique about rainforests as compared to other forests (show picture of forest with pine trees); show map via the Internet of countries where there are rainforests. Show picture of rainforest with a large swath that has been deforested. Introduce meaning of *deforestation* (review *desalinate* as a clue to meaning)

(continued)

FIGURE 5.5 **SIOP® Lesson Plan: Tropical Rainforests (Science) Grade 7 *(continued)***

Read the Article:

6. Partners with Squeepers: Survey article; generate 2–3 questions about deforestation; record 2–3 predictions about what will be learned in article.
7. Small group discussions about generated questions/predictions
8. Whole class: TW chart questions and predictions from each group in 2 columns (*Questions We Have* and *Predictions*: *What We'll Learn*)
9. TW read aloud two paragraphs; SW check questions/predictions to this point.
10. Small Groups: SW continue to read article (alone, with partners, or in small group) to answer their questions & confirm/disconfirm predictions; encourage L1 usage as needed.
11. TW circulate, monitor; read with individuals, if needed.
12. Individuals: SW use sticky notes to: (a) indicate answers found in text; (b) note where predictions were confirmed or disconfirmed
13. Whole class: Return to charted questions and predictions
14. Individuals or partners: Writing of summaries; TW monitor; summaries turned in
15. Introduce handout with three questions; go over them with class.
16. Review content and language objectives.
17. Exit tickets (sticky notes) for level of understanding for each objective: 1 = *I've got it!*; 2 = *I think I've got it, but I still have questions*; 3 = *I need more information or review*

Homework questions:

1. Why are we dependent on the rainforests for our survival on Earth?
2. What is the ozone layer?
3. Compare and contrast the arguments of foresters and environmentalists, as described in the article. With which argument do you most agree? Why? What in the text convinced you of one position or the other?

Review & Assessment Throughout Lesson

- Review of Squeepers procedures
- Review of *ecosystem* and examples
- Questions and predictions about the rainforest posted on chart paper
- Students' identification of answers to questions with sticky notes
- Students' identification of where predictions were confirmed or disconfirmed (placement of sticky notes)
- Group discussions around answers to questions
- Summary sentences and use of key vocabulary
- Selection of question for next day's debate
- Exit tickets

Discussion of Lessons

Look back at your rating form and think about the reasons you scored the lessons as you did. What evidence is in the scenarios? Read on to see our analyses.

13. *Ample Opportunities Provided for Students to Use Learning Strategies*

    Mrs. Fletcher: 3

    Miss Lee: 2

    Mr. Montoya: 4

- **Mrs. Fletcher's** lesson received a "3" for the inclusion of learning strategies. She began the lesson by asking her students to make predictions from the title of the article. In addition to the predictions, the teacher also modeled a language strategy, using word structure (the prefix *de-*) to help determine the meaning of *deforestation*, and encouraged students to confirm and expand their understandings of the topic on the Internet.

  Mrs. Fletcher's lesson would have been more effective had she included a graphic organizer or other means for students to organize the information they were learning. She also could have periodically stopped her oral reading to reinforce important concepts, clarify confusing points, and discuss predictions that were confirmed or disconfirmed. Even though Mrs. Fletcher had the students write a letter to the editor, providing students with a chance to demonstrate their understanding, she missed the opportunity to model summarizing as a language learning strategy.
- **Miss Lee's** lesson received a "2" for the inclusion of strategies. She encouraged her students to evaluate and determine importance during the discussions of the answers to the questions on the worksheet. Students were required to support their responses, clarify misunderstandings, and reach consensus on the answers before turning in their papers. However, rather than presenting all the information orally, she could have discussed the photographs and generated student predictions and questions about the content of the pictures.
- **Mr. Montoya's** lesson received a "4" for the inclusion of strategies. He began the lesson by asking students to recall a language learning strategy he had taught them earlier, using word structure to determine word meaning. He then provided practice with five metacognitive strategies when he engaged his students in the SQP2RS/Squeepers activity. As Mr. Montoya led his students through the activity, he modeled and provided support in how to survey text, generate questions, make predictions, confirm or disconfirm predictions based on text information, and summarize.

14. *Scaffolding Techniques Consistently Used, Assisting and Supporting Student Understanding*

Mrs. Fletcher: 2

Miss Lee: 3

Mr. Montoya: 4

- **Mrs. Fletcher's** lesson received a "2" for scaffolding. Mrs. Fletcher attempted to scaffold by reading the entire article to the students. This reduced the reading demands of the text, but the scaffolding could have been more effective if she had begun reading the article to the students, and then had them complete the reading with a partner or small group. Also, there may have been some students who would have benefitted from reading with the teacher in a small group. Further, Mrs. Fletcher missed opportunities to scaffold when she simply assigned the letter to the editor without showing sample letters, providing words and phrases that might be found in such letters, and allowing students to work with

partners on their letters. Another scaffolding technique is to encourage students to work with an "editing partner," who can look over a piece of writing before it's shared publicly. Also, including a "silent-reading practice run" before a read-aloud helps pronunciation, increases fluency, allows for simple editing help from another student, and reduces stress for the readers.

- **Miss Lee's** lesson received a "3" for scaffolding. She effectively scaffolded student learning in three ways. First, the photographs she displayed during her brief lecture provided support for students who had little background knowledge about the topic of rainforests. Second, by having the students complete the reading in their groups, the reading demands were reduced. Depending on the length of the article, she might have encouraged the reading involvement of more than one student in each group if she had suggested, for example, a "Page, Paragraph, or Pass" approach. With this activity, each student decides whether they wish to read a page, a paragraph, or pass on the oral reading. Multilingual learners and reluctant readers may feel more comfortable having the option of choosing whether and how much they'll read aloud to their peers.

  Miss Lee also scaffolded the students' answering of the questions on the handout. They had to answer the questions independently, but then were allowed to compare their responses to those of the other students and decide on the correct answers together. This provided students the opportunity to demonstrate individual learning of the rainforest material, and also gave them the chance to negotiate their understandings with their peers (a language learning strategy).
- **Mr. Montoya's** lesson received a "4" for scaffolding. He incorporated and modeled a variety of techniques that provided support with key vocabulary and the academic content. He used several grouping configurations during the lesson, including whole class, small groups, triads, partners, independent work. Students had the opportunity to confer with each other, receiving support and assistance if necessary, including in their first language. Mr. Montoya also carefully modeled the process for the students prior to requiring application. The reading demands of the article were reduced when students were allowed to read it in pairs or triads, and to ask questions and write in the first language, if they chose to do so.

15. *A Variety of Questions and Tasks That Promote Higher-Order Thinking Skills*

Mrs. Fletcher: 1

Miss Lee: 2

Mr. Montoya: 4

- **Mrs. Fletcher's** lesson received a "1" for higher-order thinking. She missed several opportunities to use higher-order questioning to engage her students' thinking. After students made some predictions, she could have probed with questions such as, "What made you think that?" or "Tell me more about that." Toward the end of the lesson, when one student asked why people still burn the rainforests, Mrs. Fletcher might have used the student's question to develop inquiry skills, and the resulting questions could have motivated the letters to the editor. Instead, the letter-writing activity, while potentially meaningful and thought

provoking, seemed somewhat removed from the article and brief discussion the class had about the rainforests. It's important to remember that assigning a higher-order thinking task is just the first step for this SIOP feature. Enabling all students to accomplish the task meaningfully is the goal.

- **Miss Lee's** lesson received a "2" for questioning. Although she incorporated questioning into her lesson by using the handout, the questions were mostly written at the literal level, with answers that could be found easily in the rainforest article. The activity would have required greater cognitive work on the part of the students if Miss Lee had written questions at various levels. Question 8 was the only one that required actual application and evaluation of the content concepts.

  In addition, although Miss Lee tried to incorporate technology into her lesson, she did not provide enough guidance to help students find the information they needed in a timely fashion. She could have worked with students who were interested in using the Internet to refine their search procedures; generate some of their own questions about the rainforest; and use several key words to yield the information they were seeking while narrowing the field of potential websites.

- **Mr. Montoya's** lesson received a "4" for questioning. He incorporated questioning throughout the lesson, first during review and instruction of key vocabulary, the SQP2RS (Squeepers) activity, when students generated their own questions based on the text information, and made predictions as to what they would learn. Note the varied levels of the homework questions: The first question requires analysis and evaluation; the second question is a literal-level question, and the third requires application, synthesis, and evaluation. Mr. Montoya effectively reduced the text's difficulty through the Squeepers activity, not by lowering the cognitive demand of the lesson (see Figure 5.5 for the lesson plan).

Final Points

As you reflect on this chapter and the impact of learning strategies, scaffolding, and higher-order thinking questions and tasks, consider the following main points:

- Promoting critical and strategic thinking for all students is important, including multilingual learners. Learning is made more effective when teachers actively assist students in developing a variety of learning strategies, including those that are cognitive, metacognitive, language based, and socio-affective. Learning strategies promote self-monitoring, self-regulation, and problem-solving abilities.
- Students with developing English proficiency should be provided with effective, creative, and generative teaching while they are learning the language. Therefore, it is imperative that all teachers provide them with sufficient scaffolding, including verbal supports such as paraphrasing, frequent repetition, and opportunities to clarify in their first language; procedural supports, such as teacher modeling with think-alouds, one-on-one teaching, and opportunities to work with more experienced individuals in flexible groups; and instructional supports such as the appropriate use of graphic organizers, and content and text adaptations.

Through appropriate and effective scaffolding, multilingual learners can participate in lessons that involve strategic and critical thinking.

- We frequently remind teachers, "Just because students don't read well doesn't mean they can't think!" A similar adage to this might be said of multilingual learners: "Just because students don't speak English proficiently doesn't mean they can't think!" Therefore, SIOP teachers include in their lesson plans a variety of higher-order thinking questions and tasks.

Discussion Questions

1. In reflecting on the content and language objectives at the beginning of the chapter, are you able to:
   a. Identify and build on students' strategy use during content lessons: cognitive, metacognitive, language learning, and socio-affective?
   b. Select effective teaching techniques for verbal, procedural, and instructional scaffolding?
   c. Write questions or tasks that are differentiated for students' English proficiency levels and are at different levels of cognition?
   d. Include in a lesson plan, instruction and practice with one or more learning strategies, scaffolding for those who need it, and higher-level questions and tasks?
2. We know that grade-level instruction without scaffolding will probably be unsuccessful for multilingual learners. Think of a content topic that you teach to multilingual learners and other students. What types of scaffolds must you put in place for your students to successfully access the lesson's content and language objectives?
3. Here's a factual question a teacher might ask based on a social studies text: "Who was the first president of the United States?" Given the topic of the presidency, what are several additional questions you could ask that promote higher-order thinking? Why is it important to use a variety of questioning strategies with multilingual learners? Use the Process Verbs and Products (Table 5.2) to guide the development of your questions.
4. The answers to higher-order thinking questions may involve language that is beyond a student's current level of English proficiency. Discuss the advantages of encouraging multilingual learners to use their first language when answering questions at higher levels of cognition. Search for translation websites or apps to assist you and students in translating students' responses in their home languages.
5. Using the SIOP lesson you have been developing, add meaningful activities that augment learning strategies. Determine how to scaffold multilingual learners' access to your objectives. Write several higher-order thinking questions or tasks for your lesson plan.

CHAPTER

6

Interaction

CONTENT OBJECTIVES

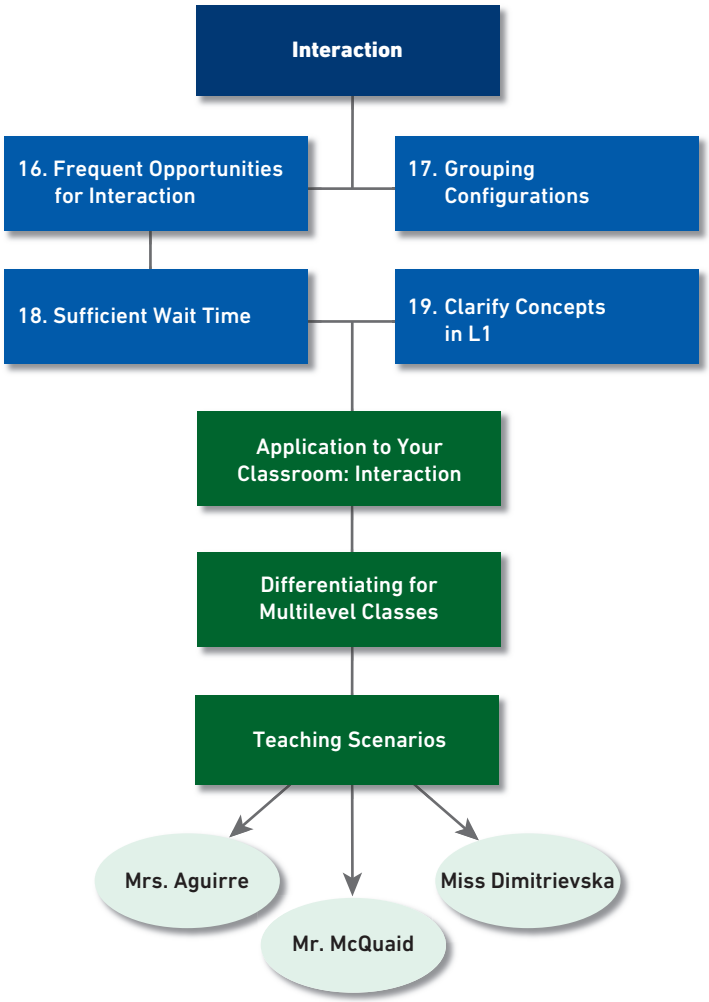
This chapter will help you to . . .

- List ways that collaborative conversations and discussions are aligned with the Interaction component.
- Design grouping structures that support a lesson's content and language objectives.
- Identify techniques to increase wait time.
- Identify resources to support students' use of their home language.

LANGUAGE OBJECTIVES

This chapter will help you to . . .

- Describe techniques to reduce the amount of teacher talk in a lesson.
- Practice asking questions that promote student elaboration of responses.
- As part of a lesson plan, add structured time for partner and small-group productive work.



All teachers are language teachers.

Content teachers have made a significant investment in preparing to teach a specific subject area such as science, math, social studies, music, and so forth, so it's natural that their focus is on teaching the content topics in their area of expertise. Elementary teachers also teach a variety of subjects and tend to focus on the topic at hand, whether it is teaching a science lesson or poetry. However, few would disagree that language permeates all topics and subject areas. Every subject has specific academic language that students need to learn and practice using, such as *identify branches of government* for social studies and *plot points on a graph* for math. In addition, general academic terms are not unique to a specific discipline but are used across content areas, such as *relative*, *surface*, and *determine*. This type of language use is challenging for all students (Scheppegrell, 2020), but especially for multilingual learners. Academic language development is the responsibility of general education teachers, even when multilingual learners have access to support from ESL/ELD specialists.

Talking, listening, and thinking are a powerful combination of processes associated with learning, and each strengthens the others (City, 2014; Vygotsky, 1978). Online learning has increased the amount of time students spend communicating with electronic devices rather than face to face and has, overall, diminished multilingual learners' oral participation. Students have limited exposure to extended discourse given that much social and school interaction takes place via devices. The style of communication used is typically abbreviated messages that lack pragmatics (linguistic context clues such as nonverbal cues, turn-taking, and negotiating meaning) and are delivered while multitasking rather than focusing on the discussion (Rosen, 2012). At the same time, state standards call for students to engage in substantive, collaborative discussions around text and concepts. The only opportunity many students have for quality talk around texts and topics is in the classroom.

Short and Echevarría (2016) discuss a number of benefits of collaborative academic discussions. As students talk about a topic, they have the opportunity to try out new words, grammatical structures, and language functions (see Chapter 2 for examples of language functions). They also learn from peers who have more advanced language proficiency, those "more capable others" who provide support for multilingual learners' understanding (Vygotsky, 1978). Participation in discussions with peers provides the language practice time that multilingual learners need. Conversation time increases significantly when working in partners or small groups since students have fewer opportunities for practice when working with the whole class.

> "SIOP teaching has shifted my practice from delivering content to facilitating experiences where students process the content by using language."
>
> Tan Hunh, Secondary Language Specialist, Thailand

To understand and use academic English, multilingual learners need to be provided with a classroom environment that facilitates interaction by helping students acclimate to the type of interaction desired. Many multilingual learners may not be accustomed to interactive lessons where they are expected to work with a partner or in groups, briefly speaking in turn-and-talk or more extensively in preparing for a class presentation. Haneda and Wells (2012) emphasize the importance of creating an engaging environment that encourages discussion to allow multilingual learners to practice their linguistic skills.

In addition, increased student interaction and discussion requires structured opportunities for practice in all subject areas throughout the school day, not just during a designated English language development (ELD) time. The integration of language development across the curriculum is vital and is recognized by some states as part of their instructional framework (see California Department of Education, 2014). As students are learning in and through a new language, English, teachers must create ample opportunities to practice using *academic* language, not just social language. It is recommended that multilingual learners have daily opportunities to talk about content in pairs or small groups, practicing and extending material already taught (Baker et al., 2014). ■

For many teachers it may be challenging to move from presenting whole-class instruction to providing the kinds of small-group opportunities needed for students to have high-quality discussions. Sharing responsibility for learning with students working in small groups or with partners is an adjustment for many teachers, but it can make a significant impact on learning. Researchers have found that multilingual learners are more engaged academically when working in small groups or with partners than they are in whole-class instruction or individual work (Brooks & Thurston, 2010). In this chapter, we present ways that teachers can use interaction to launch students to higher levels of English proficiency, improve academic outcomes, and meet standards. Later in the chapter, you will see examples of first-grade teachers in a dual immersion program who implement the features of Interaction with varying degrees of effectiveness.

Background

"Use it or lose it" is a saying that conveys what we know from our own experience in learning a second language. If one doesn't practice using the language, it is difficult to maintain it. But what about learning a language in the first place—does speaking it help to develop the language? The answer is a resounding "Yes!" The role that conversation plays in the process of second language teaching and learning is clear. But discussion also offers important benefits for learning in general. As Gerald Graff puts it, "Talk—about books and subjects—is as important educationally as are the books and subjects themselves" (Graff, 2003, p. 9).

The issue is, why are there so few opportunities for students to interact in typical classrooms? Studies indicate that in most classrooms, teachers dominate the linguistic aspect of the lesson, leaving students severely limited in terms of opportunities to use language in a variety of ways (Cazden, 2001; Goodlad, 1984; Marshall, 2000). In a classroom observation study, there was evidence of "academic dialog and discussion" in only .5% of the 1500 classrooms observed (Schmoker, 2006). It goes without saying that teachers have extensive knowledge to share and discuss with students, but consistent teacher dominance reduces the opportunities students have to participate fully in lessons by discussing ideas and information, and practicing English as they express their understandings, opinions, and answers.

There are many benefits to having students actively engaged in interaction around subject matter. Some include:

- **Deeper understanding of text, including vocabulary learning.** When teachers use thoughtful questioning to promote discussion, it encourages students to think critically about the passage. In doing so, students also think more deeply about the meaning of the words they encounter (Wasik & Iannone-Campbell, 2012). Also, new understandings are co-constructed through interactions (McIntyre et al., 2010).
- **Oral language development.** Findings of the National Literacy Panel on Language-Minority Children and Youth (August & Shanahan, 2006) confirmed the important relationship between oral proficiency in English and reading and writing proficiency. Specifically, reading comprehension skills and writing skills are positively correlated with oral language proficiency in English (Geva, 2006). In a recent review of the research on the Science of Reading for multilingual learners, Goldenberg (2020) points out that explicit instruction and structured practice are needed for advancing oral language proficiency. Solid reading comprehension is the foundation for achievement in nearly every subject area in school, and writing proficiency in English is an essential skill as well.
- **Student agency.** Students become more independent, confident learners when they are active participants in the class. They benefit by taking control of their own learning process and learn to work well with others through productive groups. In the process of interacting with peers, they hone their critical thinking skills because it puts them in the position of developing their own opinions and articulating their understanding of material instead of simply receiving and restating information given by the teacher (Hendy & Cuevas, 2020).
- **Brain stimulation.** Interesting, engaging activities, including discussions, play an important role in learning. When students are engaged and their brains are activated, more of the pleasure structures in the brain fire than when students are simply asked to memorize information (Jensen & McConchie, 2020; Poldrack et al., 2001).
- **Increased motivation.** Providing opportunities for interactions with others in pairs or small groups has a positive impact on students. In fact, the more opportunities a teacher can provide for multilingual learners to use their second language safely, with a lowered affective filter, the more motivated these students

> "If it never shows up in a student's oral language, it will never show up in a student's written language, therefore interaction is imperative!"
>
> Andrea Rients, Professional Learning Coordinator, Minnesota

will be to participate (Mellon, et al., 2018). Using a conversational approach has been found to create positive changes in multilingual learners' attitudes toward school and academic motivation (Davin, 2013).

- **Reduced risk.** The typical question-answer sessions in which teachers call on students may be threatening to some students, particularly those who are unprepared to respond or who are uncomfortable with speaking in whole-class settings. Some students have difficulty focusing on the content in this situation because it triggers the brain's "threat response" (Jensen & McConchie, 2020). Having students talk in pairs or in small groups minimizes the risk and allows ideas to flow more easily. However, some students may need support to engage in academic discussions (TESOL, 2018).
- **More processing time.** Many students benefit from having time to process information presented by the teacher, especially multilingual students who are learning new information in a new language. Some multilingual learners may be mentally translating the information, and they need time to do so. SIOP teachers purposely present information (or reading passages) in chunks, then turn the talk over to students by asking them to actively process and discuss the information, such as by summarizing it with a partner, answering questions, or jointly completing a written task. This process makes learning large amounts of information more manageable. Teachers might teach students to go through the following questions to help process the information (see Chapter 5 for a discussion of metacognitive strategies):
  - *Does this make sense to me? Do I understand the language and the ideas presented?*
  - *Does it connect with something I already know?*
  - *What questions do I have?*
  - *Am I ready to repeat what the teacher did or said or will it require a lot of practice?*

To illustrate the importance of more student participation, we find that it is both interesting and helpful to analyze actual transcripts from lessons that demonstrate the kind of teacher dominance that is common in classrooms. The transcripts in Figures 6.1 and 6.2 are from a pilot SIOP study in sixth-grade social studies classes. The teachers were videotaped teaching the same content about consumerism to multilingual learners, with the first using a traditional approach found in general education classes and the second using the SIOP Model. Both classes had approximately 25 students, and in this lesson students were learning how to read labels on clothing and directions on a bottle of antiseptic.

As you read through the transcript, note the amount of teacher talk compared to student talk in each lesson. Also, focus on the quality of student responses in each.

In examining the exchanges, what did the teacher do when students gave partial or incorrect answers? He answered the question himself. He also tended to finish sentences for the students and accept any form of comment without encouraging extended expression. In this case, there were several missed opportunities where the teacher could have encouraged a more balanced exchange between himself and

FIGURE 6.1 Typical Lesson

TEACHER: Look at the piece of clothing at the bottom. It says *(he reads)*, "This shirt is flame-resistant," which means what?	STUDENT: Could not burn.
TEACHER: It will not burn, won't catch fire. Right *(continues reading)*. "To retain the flame-resistant properties"—what does "to retain" mean?	STUDENT: Won't catch fire.
TEACHER: To keep it. All right. *(He reads)* "In order to keep this shirt flame–resistant wash with detergent only." All right *(he reads)*. "Do not use soap or bleach. Tumble dry. One hundred percent polyester." Now, why does it say, "Do not use soap or bleach"?	STUDENT: *(unintelligible)*
TEACHER: It'll take off the what?	STUDENT: 'Cause it'll take off the . . .
TEACHER: It'll take off the flame-resistant quality. If you wash it with soap or bleach, then the shirt's just gonna be like any old shirt, any regular shirt, so when you put a match to it, will it catch fire?	STUDENTS: *(fragmented responses)*
TEACHER: Yes. 'Cause you've ruined it then. It's no longer flame-resistant. So the government says you gotta tell the consumer what kind of shirt it is, and how to take care of it. If you look at any piece of clothing: shirt, pants, your shirts, um, your skirts, anything. There's always going to be a tag on these that says what it is made of and how you're going to take care of it. Okay. And that's for your protection so that you won't buy something and then treat it wrong. So labeling is important. All right. Let's review. I'll go back to the antiseptic. What did we say indications meant? Indications? Raise your hands, raise your hands. Robert?	STUDENT: No.
TEACHER: What is it for, when do you use this? Okay. What do directions, what is that for, Victor?	STUDENT: What's it for.
TEACHER: How to use. Okay, so indications is when you use it *(holds one finger up)*, directions is how you use it *(holds another finger up)*, and warnings is what?	STUDENT: How to use . . .
TEACHER: How you don't use it. This is what you don't do.	STUDENTS: *(various mumbled responses)*

the students. In the segment that begins with the teacher asking, *"What do directions . . . what is that for, Victor?"* the non-SIOP teacher answered for students (Victor and others). He did not encourage students to express their thoughts completely; he accepted partial and mumbled answers. Second, he answered for the students, dominating the discussion. Note the length of teacher utterances compared to those of students.

It is easy to imagine how students could become uninterested, passive learners in a class in which the teacher accepts minimal participation and does most of the talking. Students learn that they can disengage because the teacher will continue with the "discussion."

The SIOP teacher let the students have time to express their thoughts. For example, when a student says, *"It kills . . . It kills germs"* the teacher could have completed the sentence for the student, but she waited for him to finish his thought. Also, the SIOP teacher encouraged and challenged the students more than the non-SIOP teacher did by asking twice, *"What else?"* Finally, the SIOP teacher called on students who volunteered to talk and repeated what they said so that the class could hear a full response (e.g., Veronica).

The SIOP teacher allowed for a balance of teacher-to-student talk and encouraged student participation, which can be seen visually in the student column. She asked questions, provided wait time for students to respond, and restated or elaborated on their responses. In this case, what did the teacher do to elicit answers to the question? She scaffolded the answer by encouraging the students to think about it, prompting them to give their responses.

FIGURE 6.2 SIOP Lesson

TEACHER: Most clothing must have labels that tell what kind of cloth was used in it, right? Look at the material in the picture down there *(points to picture in text)*.[1] What does it say, the tag right there?	STUDENT: The, the, the . . .
TEACHER: The tag right there.	STUDENT: *(Reading)* "Flame-resis . . . "
TEACHER: Resistant.	STUDENT: "Flame-resistant. To retain the flame-resistant properties, wash with detergent only. Do not use soap or bleach. Use warm water. Tumble dry."
TEACHER: "One hundred percent . . . " [The teacher then explained that they would be doing an activity in which they would read labels for information]	STUDENT: "Polyester."
TEACHER: Now, most clothes carry labels, right? *(pointing to the neck of her sweater)*. They explain how to take care of it, like dry clean, machine wash, right? It tells you how to clean it. Why does this product have to be washed with a detergent and no soap or bleach?	STUDENT: Because clothes . . .
TEACHER: Why can't you use something else?	STUDENTS: *(several students mumble answers)*
	STUDENT: *(says in Spanish)* Because it will make it small.
TEACHER: It may shrink, or *(gestures to a student)* it may not be . . . what does it say?	STUDENT: It's not going to be able to be resistant to fire.
TEACHER: Exactly. It's flame-resistant, right? So, if you use something else, it won't be flame-resistant anymore. How about the, uh, look at the *antiseptic (holds hands up to form a container)*—the picture above the shirt, the antiseptic?	STUDENT: Read it?
TEACHER: Antiseptic *(Teacher reads)* and other health products you buy without a prescription often have usage and warning labels. So what can you learn from this label? Read this label quietly please, and tell me what you can learn from the label. Read the label on that antiseptic. *(Students read silently.)*	STUDENT: It kills, oh I know.
TEACHER: What can you learn from this label?	STUDENT: It kills germs.
TEACHER: Steve?	STUDENT: Yeah, it kills germs.
TEACHER: It kills germs. You use it for wounds, right? What else?	STUDENTS: *(various enthusiastic responses)*
TEACHER: One person at a time. Okay, hold on. Veronica was saying something.	STUDENT: It tells you in the directions that, you could use it, that like that, 'cause if you use it in another thing, it could hurt you.
TEACHER: It could hurt you. Okay, what else? Ricardo?	STUDENT: If you put it in your mouth, don't put it in your mouth or your ears or your eyes.
TEACHER: Very good. Don't put it in your mouth, ears, and eyes. Okay, for how many days should you use it? No more than what?	STUDENT: No more than 10 days.
TEACHER: So don't use it—you have to follow what it says—so don't use it more than 10 days. Now, the next activity you're going to do . . .	STUDENT: Ten days.

[1] The teacher explained then that they would be doing an activity in which they would read labels for information.

As a novice SIOP teacher, there were other ways she could have encouraged more student participation such as by having students turn and talk. After she explains that they'll be doing an activity she says: *"Now, most clothes carry labels, right?* (pointing to the neck of her sweater)." At that point, she could have had students turn to one another and discuss the purpose of labels and what their own experience with reading labels has been. At another point, she might have had students work in small groups of three or four to generate questions about the instructions on the antiseptic bottle, then ask other groups to answer them. Nonetheless, even the level of interaction seen here prompted more student engagement and participation, evidenced by the amount of student talk as well as

enthusiasm displayed. When she said, *"It kills germs. You use it for wounds, right? What else?"* many students were eager to speak and the teacher said, *"One person at a time. Okay, hold on. Veronica was saying something"* Contrast their level of participation with that of students in the non-SIOP lesson.

The features of SIOP within the Interaction component are designed to provide teachers with concrete ways of increasing student participation and developing English language proficiency.

SIOP®

SIOP® FEATURE 16:

Frequent Opportunities for Interaction and Discussion Between Teacher/Student and Among Students, Which Encourage Elaborated Responses About Lesson Concepts

This SIOP feature includes two important aspects of oral language development. First, it emphasizes the importance of balancing linguistic turn-taking between the teacher and students, and among students. It also highlights the practice of encouraging students to elaborate their responses rather than accepting yes/no and one-word answers, even from the youngest learners and beginning English speakers.

Research supporting interactive approaches includes the following:

1. There has long been recognition that language, cognition, and reading are intimately related (Tharp & Gallimore, 1988; Verhoeven, et al., 2019). As one acquires new language, new concepts are developed. Think about your own language learning with respect to understanding computer functions. Each new vocabulary word and term you learn and understand (e.g., *grid system* and *site map*) is attached to a concept that in turn expands your ability to think about how a computer works. As your own system of word-meaning grows in complexity, you are more capable of using the self-directed speech of verbal thinking (*"Remember to add a hyperlink."*). Without an understanding of the words and the concepts they represent, you would not be capable of thinking about (self-directed speech) or discussing (talking with another) computer functions.
2. Multilingual learners require explicit instruction in how English works coupled with structured opportunities to practice using language (Goldenberg, 2020). The level of oral English language instruction and support provided needs to match the level of challenge encountered by multilingual learners, particularly in language-intensive subjects. As Goldenberg (2020) points out, texts and words in early literacy development don't need the same level of oral language support that is required by more complex texts. As multilingual learners advance through the grades, the oral English skills required to navigate grade-level texts and the disciplinary knowledge students need to comprehend texts become increasingly complex and demanding.
3. Interactive approaches are effective in promoting meaningful language learning opportunities for multilingual learners (Cazden, 2001; Echevarría & Short, 2010). Frϕytlog and Rasmussen (2020) cite empirical research that links productive dialogues to academic achievement in math and science, logic and reasoning, English,

> "We must let students verbalize in order to internalize! It is important for students to synthesize information in their own words in order to learn the material."
>
> Andrea Rients, Professional Learning Coordinator, Minnesota

and reading comprehension. Teaching approaches that emphasize oral language development, active student involvement, and meaningful discussions around academic topics and texts are referred to as *collaborative discussions*, *academic conversations* (Zwiers & Crawford, 2011) or *instructional conversations* (ICs) (Saunders & Goldenberg, 1999). Research on ICs suggests that when learners are grappling with a question to answer, exploring a concept for understanding, or trying to solve a problem, they are more successful if there is an opportunity to engage in dialogue with another learner (Frøytlog & Rasmussen, 2020; Hendy & Cuevas, 2020). Conversational approaches such as ICs differ from typical teaching because most instructional patterns in classrooms involve the teacher asking a question, the student responding, and the teacher evaluating the response and asking another question (Cazden, 2001). In contrast, an instructional conversation uses extended expression around text and topics, which fosters text comprehension and language proficiency. Figure 6.3 illustrates the contrast in these approaches.

A rich discussion, or conversational approach, has advantages for teachers, too. Through discussion teachers can more naturally activate students' background knowledge as they are encouraged to share their knowledge of the world and their lived experiences, and to connect these to the lesson. Also, positive interactions between teachers and students foster a culturally responsive, supportive environment. Studies have shown improvements on practically every measure schools care about: higher student academic engagement, attendance, and grades; fewer disruptive behaviors and suspensions; and lower school dropout rates (Quin, 2016). When teachers connect with students, are respectful toward them, and convey genuine interest, students engage more academically because they want to please their teacher (McGrath & Van Bergen, 2015).

Finally, when working in small groups with each student participating in the discussion, teachers can listen in and are better able to determine individual levels of understanding, information that needs to be clarified, and academic language that requires review and practice. In a study with multilingual learners (Porath, 2014), the teacher learned that by talking less and listening more, she was able to gain deeper insight into her students' learning needs and strengths.

FIGURE 6.3 Contrast Traditional Instruction with Instructional Conversations

Traditional Instruction	Instructional Conversation
Teacher-centered	Teacher facilitates
Exact, specific answers evaluated by the teacher	Many different ideas encouraged
No extensive discussion	Oral language practice opportunities using authentic language
Skill-directed	Extensive discussion and student involvement
Easier to evaluate	Draw from prior background knowledge
Check for understanding	Student level of understanding transparent
Mostly literal level thinking and language use	Fewer black-and-white responses
	Mostly higher-level thinking and language use

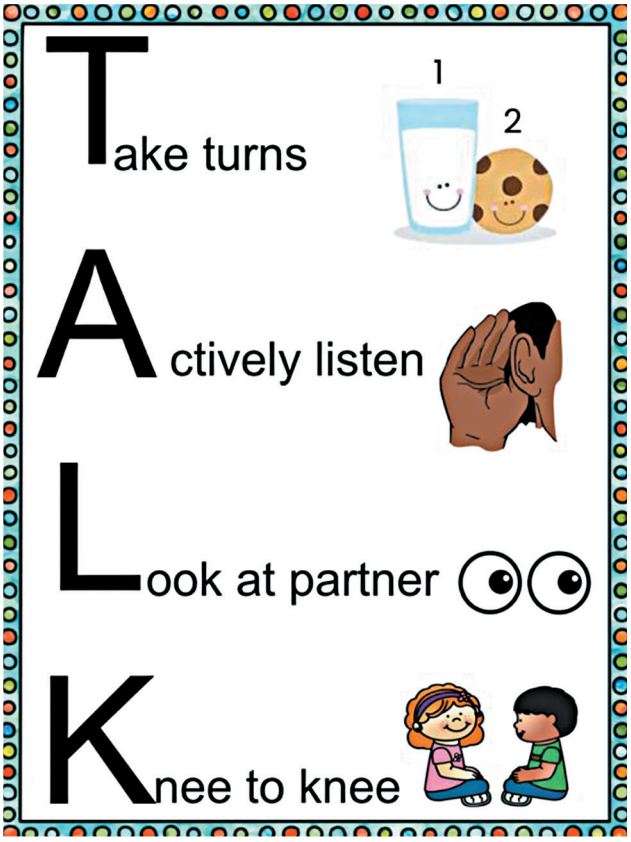
Effective SIOP teachers:

1. Create a classroom environment that promotes discussion. Think about your own behavior when you're with a group of peers either at a social gathering or at work. When are you comfortable contributing to the discussion? It's less likely that you'll participate if you feel intimidated by the others, if you don't know them well, or if you're concerned that you'll misspeak, be criticized, or be ignored. Just like you, multilingual learners avoid situations where they feel vulnerable or inadequate when participating in a group discussion. SIOP teachers create an accepting, inclusive classroom environment where all students are comfortable contributing in class. Following are some tips for creating an environment that fosters discussion:
   - Learn each student's name. Making students comfortable begins with knowing how to pronounce each student's name correctly and calling them by name. There is a growing awareness of the importance of honoring students' identity and fostering a sense of belonging by using their name correctly. A resource on the topic can be found at https://www.mynamemyidentity.org/ and there are children's books on the topic such as *Always Anjali* and *The Name Jar*.
   - Get to know their students. Each one comes to school with interests, likes, dislikes, talents, and strengths. Find out about your students and make it a habit to ask about each one: *"How was your baseball game?" "Is your mom feeling better?" "I see that you cut your hair. It looks nice."* These interactions take only seconds, but they establish a valuable connection with each student. Also, while circulating during group work, teachers pay attention to students' comments about their interests, their experience, and so forth.
   - Respect students' differences. Not all students are comfortable participating in groups. Extroverts tend to prefer the social aspects of relationships such as talking and working in collaborative groups. Introverts, those quiet or shy students, are temperamentally prone to be reflective and prefer working alone or with a partner rather than in a large group. Therefore, teachers shouldn't, for example, urge introverted students to speak up in front of the whole class or encourage them to be "more outgoing." Some of the considerations about personality differences have cultural and linguistic implications as well. Beginning multilingual and newcomer students may resemble introverts in their behaviors. For instance, newcomer students may appear shy and reticent because they are unfamiliar with American educational practices such as working collaboratively with peers and participating in discussions. Beginning English speakers will likely be reserved about speaking English aloud and shouldn't be forced to speak before they are ready, especially in front of the class. SIOP teachers respect student differences and, to the extent possible, provide opportunities for each to shine in their own way.
2. Create a safe learning environment. One of the best ways to create a caring community of learning is to teach students to interact respectfully and productively with one another (see communication norms, below). When SIOP teachers have multilingual learners and English speakers work together in small groups, it fosters mutual respect among students from different cultures and ethnicities.

Developing relationships tends to break down walls and open communication as students learn about and from one another.

3. Communicate high expectations. Most of us are drawn to a person who believes in us. SIOP teachers let each student know that they believe they can be successful, which enhances the teacher-student relationship: *"I see you finished that assignment. I knew you could do it," "Thank you for being on time again today. I know it's tough for you sometimes,"* or *"I see you used the sentence structure we practiced. Your English is improving!"* Let students know you are in their corner.
4. Encourage multilingual learners to use all their linguistic and cognitive resources while working with peers. While they speak, write, ask questions, discuss topics, and complete tasks, they may switch between English and Spanish (or another language). As discussed in other chapters, SIOP teachers acknowledge the linguistic assets multilingual learners possess.
5. Plan and organize their lessons in ways that promote student discussion. During planning, time is allotted for extended discussion, and during lessons SIOP teachers strive to provide a more balanced linguistic exchange between themselves and their students. It can be particularly tempting for teachers to do most of the talking when students are not completely proficient in their use of English, but these students are precisely the ones who need opportunities to practice using English the most. Being exposed to and interacting with language that is just beyond their independent speaking levels move students to higher levels of language proficiency, so grouping is part of the planning process. (See the discussion of Feature 17.)
6. Explicitly teach communication norms. Rules and routines for engaging in high-quality discussions are taught to students and are reviewed frequently to ensure that students engage together productively. Students take turns, stay on topic, actively listen, build on one another's comments, and are respectful of others (Short & Echevarría, 2016). Students learn to use sentence frames such as, *"I see your point but I respectfully disagree because_____"* to ensure that they consider one another's ideas and perspectives without making disparaging remarks. It's wise to start teaching rules and norms from the outset so young children learn to communicate effectively, as seen in the classroom poster in Artifact 6.1. Notice how students are strategically assigned to a partner and the poster is posted for students to see and move into pairs seamlessly.
7. Structure groups for success. SIOP teachers consider the purpose of the interaction and structure groups accordingly: partner work, small-group activities, or individual tasks. SIOP teachers make sure that group assignments include significant attention to oral academic language development such as creating opinion pieces, preparing to make presentations on topics, and participating in debates (Goldenberg, 2020). Teachers encourage the use of substantive language linked to the core curriculum to attain the desired outcome: gains in oral language. Too often groups are unstructured, and while there are opportunities for speaking and listening, it is not always productive talk that is moving learning forward. Make expectations for productive group work practices clear to students for best results.

ARTIFACT 6.1 TALK Poster and Partner Assignments for Productive Interaction



Permission from Tara Richner

8. Encourage extended expression from students when discussing the lesson's material. When SIOP teachers use techniques to elicit more elaboration from students, multilingual learners move beyond simple yes or no answers and short phrases. Some of these techniques include asking students to expand on their answers by saying *"Tell me more about that"* and by asking direct questions to prompt more language use such as *"What do you mean by . . . ?"*; *"Can you give me another example?"*; or *"I see your point. Can you cite evidence for it?"* Another technique is to provide further information through questions such as *"How do you know?" "What are the facts that support your ideas?" "Why is that important?"* SIOP teachers ask questions at students' levels of proficiency that prompt them to probe for evidence, negotiate meaning, clarify ideas, give and justify opinions, make well–reasoned statements, and more.
9. Use techniques such as offering restatements to scaffold replies: *"In other words . . . is that accurate?"* and frequently pausing to let students process the language and formulate their responses. If an English learner is obviously unsure about what to say, SIOP teachers call on other students to extend the response: *"Bibi said . . . what can you add to that?"* or *"Felix, can you help Salome with her answer?"*

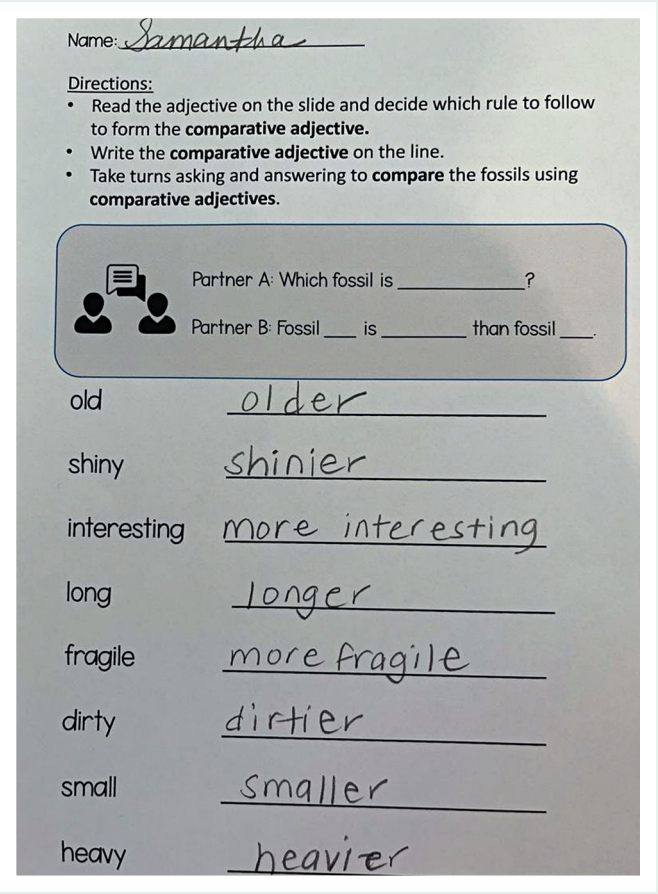
10. Provide language frames to model expression. Multilingual learners can often comprehend more than they can express in English, so SIOP teachers create language frames, also called *sentence frames*, to scaffold speaking for students. Language frames are also useful for student-to-student interaction to scaffold discussion. There are a number of examples provided in Chapter 5 and later in this chapter, but it's important to use language frames effectively. Some tips to keep in mind include:

    - **Avoid artificial use of frames.** The intent of frames is to provide students with support so that they can express their ideas more coherently, using correct sentence structure and vocabulary. After repeated use, students internalize the vocabulary and sentence structures and they become part of their linguistic repertoire. However, sometime teachers mistakenly insist that every student repeat a frame when answering questions or giving their ideas/opinions rather than letting students express themselves naturally, using frames as needed for support. It defeats the purpose of encouraging language growth when students are required to robotically repeat the same frame. For example: *I think* _____ *because* _____. *The evidence is* _____. While this frame is helpful for getting students started and for students who need the support, having every student's contribution follow this same pattern is not the way authentic discussion occurs. What is intended as a beneficial support ends up being a case of parroting sentences.
    - **Remove frames, as needed.** Language frames are a scaffold and just as scaffolding is removed from a building once it is no longer needed, frames should be removed once students are proficient enough to use authentic language. One teacher reported that she encourages her advanced speakers and English-fluent students to use their own expressions rather than the frames she provides for others. She said she found that using frames sometimes stunted students' expression and their flow of ideas. Ultimately, all students should have the option of expressing themselves as they like.
    - **Differentiate frames to match students' proficiency levels.** Although frames are designed to help students use appropriate academic language, they restrict students' expression and growth when they are too simple or too difficult. (See the section, Differentiating for Multilevel Classes, for examples.)

    Language frames are valuable tools that support multilingual learners in expressing their ideas orally and in writing. However, they must be used strategically and for a specific purpose. Artifact 6.2 shows language frames being used specifically for practicing use of comparative adjectives. Partners work together to describe fossils using comparative adjectives, a fun way to integrate academic language practice into a science activity.

It takes time and practice for the techniques discussed in this section to become a natural part of a teacher's repertoire. The teachers with whom we've worked report that they had to consciously work at overcoming the temptation to speak for students or to complete their short responses. Effective interaction between teacher and students and among students should include significant attention to oral academic language development.

ARTIFACT 6.2 Interactive Partner Writing Activity



Name: Samantha

Directions:
- Read the adjective on the slide and decide which rule to follow to form the **comparative adjective.**
- Write the **comparative adjective** on the line.
- Take turns asking and answering to **compare** the fossils using **comparative adjectives.**

Partner A: Which fossil is _____?

Partner B: Fossil ___ is _____ than fossil ___.

old	older
shiny	shinier
interesting	more interesting
long	longer
fragile	more fragile
dirty	dirtier
small	smaller
heavy	heavier

SIOP®

SIOP® FEATURE 17:

Grouping Configurations Support Language and Content Objectives of the Lesson

Learning is enhanced when teachers provide a variety of grouping configurations including whole class, partners, and small group. Most state content standards and ELD standards ask that students engage more directly in learning by having a balance of teacher presentation and productive group work. The benefits of a balanced approach include the following:

- Varying grouping configurations—by moving from whole class to small group, whole class to partners, and small group to individual assignments—provides students with opportunities to learn new information, discuss it with peers, and practice using the lesson's academic language. Organizing students into smaller groups for instructional purposes provides a setting that whole-class, teacher-focused instruction doesn't offer and has been shown to be more effective for students' learning (Gillies, 2014).

> Just like all students, ELLs have different abilities, and different needs. They need to be supported; they need to be challenged. They need to practice English; they need to build comprehension through their L1. They need to learn new information, and they need to communicate their learning. Flexible grouping arrangements allow for us to meet those varying needs. Sometimes we group same-language speakers together, and other times we intentionally separate them. Some lessons may be ideal for grouping based on language level or ability level, while other lessons are prime for heterogeneous groups, where student leaders in each group can help to move the whole class forward. At the end of the day, our students are complex individuals, so sometimes our groupings will to be equally complex. We consider what the greatest need is for each student at that moment, along with what will produce the most learning overall for all students in the class. One student may really need L1 support, while another may need to leave the L1 "nest" and be required to communicate in English. Yet another student really needs to be in a group which will help him to focus and not get distracted. We need to know our kids well

- Transitions between grouping configurations and the interaction within groups provides much-needed movement for learners. Asking students to sit still while performing their work actually increases their cognitive load, since it requires them to concentrate on keeping their bodies still as well as working on the academic task at hand. Sitting quietly is probably not the best condition for learning in school (Langhanns & Müller, 2018).
- Providing opportunities for students to work together in small groups has positive effects on students of all ability levels, but especially lower-ability students (Lou, 2013).
- Grouping multilingual learners with more proficient speakers builds academic and social benefits through their productive work together (Hendy & Cuevas, 2020; TESOL, 2017).
- Each grouping configuration meets specific purposes. Whole-class groups are beneficial for introducing new information and concepts, modeling processes, and review. Flexible small groups allow students to work together, express multiple perspectives, help one another, and enhance collaboration skills. Partnering provides practice opportunities, scaffolding, and assistance from classmates.

While grouping is beneficial, it's important to think about the following information as you plan lessons that include opportunities for students to work in a variety of groups.

- Grouping by ability divides students for instruction based on their perceived capabilities for learning (low group, average group, high group). The effects of ability-based grouping have been studied extensively; however, interest in the effects of ability grouping was heightened with the advent of standards-based education reform. In a review of four decades of research (Rui, 2009), the evidence concludes that heterogeneous-ability grouping was beneficial to low-ability students in terms of enhancing their academic achievement without being detrimental to the high- and average-ability students. An implication from the research is that heterogeneous grouping should be encouraged and promoted, especially in light of "the fact that for more than five decades, ability grouping has resulted in separation of students by race, ethnicity, and socioeconomic status. Many studies have confirmed that minority and low-income students of all ability levels are overrepresented in the lower tracks and underrepresented in the higher tracks" (Futrell & Gomez, 2008, p. 76).
- Multilingual learners, who learn from exposure to good language models, are often shut out of the groups with rich academic learning opportunities. In fact, in some schools, it has become common practice to group multilingual learners with low-achieving students regardless of their academic ability and performance. This practice deprives multilingual learners of the opportunity to learn grade-level academic skills and language.
- When working with low-achieving groups, teachers have been found to talk more, use more structure, ask lower-level questions, cover less material, spend more time on skills and drills, provide fewer opportunities for leadership and independent research, encourage more oral than silent reading, teach less

> as individuals, and as interactive members of our classroom community, to balance all of their needs and create a flexible learning environment that helps to move everyone forward.
>
> Kirstin Miller, High School Newcomer Academy Math Teacher, Kentucky

vocabulary, and allow less wait time during questioning. In addition, they spent twice as much time on behavior and management issues (Oakes, 1985; Vogt & Shearer, 2016).

Differentiating Instruction Through Groups. In small, guided instruction groups, the teacher naturally differentiates instruction as they work on focused skill instruction, language development, and/or assessment of student progress. Small-group instruction provides more opportunity to discuss text (Saunders & Goldenberg, 2007) and increases reading comprehension (Wilkenson, et al., 2015). While the teacher is working with one group, the other students can work on familiar material in small groups, with a partner, or individually, either at their desks or at workstations. Activities may include listening to recorded stories (at listening centers, on computers, or via electronic notebooks), reinforcing skills with computer games, creating graphic representations of vocabulary terms or concepts, summarizing material, practicing word sorts, or reading self-selected leveled readers.

SIOP teachers assign students to flexible groups that may be homogeneous or heterogeneous by gender, language proficiency, language background, and/or ability, and may vary depending on the intent. That is, groups are flexible, changing in composition for meeting different objectives. The decisions teachers make about how to group students should be purposeful, not arbitrary. At times, teachers allow students to choose their own groups, making sure all students are included.

A case can be made for grouping students by how well they speak English during literacy instruction (Uribe & Nathenson-Mejía, 2008), but the teacher needs to be aware of each student's individual skill profile. For example, when working on fluency, multilingual learners with strong decoding skills would not read the same text as a multilingual learner who is still working on mastering phonics. Advantages of grouping multilingual learners together are that teachers can target specific language instruction, and students are more apt to take risks in their second language. However, grouping students from very different grade levels (i.e., second through fifth grade) together based on language proficiency must be avoided because these learners have very different social and academic needs (Uribe & Nathenson-Mejía, 2008).

There are other times that grouping by language proficiency level is useful. For example, if a teacher's goal is for students at beginning levels of English proficiency to practice using a particular language structure such as the present progressive (*-ing*) form within the context of a social studies lesson, then those students may be grouped together for that lesson. Likewise, when developing the skills of students with low levels of literacy, it makes sense to have those with similar ability grouped together for a particular lesson. Assigning all multilingual learners to the same group regularly is *not* good practice. In SIOP classes, multilingual learners are given the same access to the curriculum and the teacher's expertise as English-speaking students.

It is recommended that at least two different grouping structures be used during a lesson, depending on the activity and objectives of the lesson. However, peer discussions need to be structured so that students know their roles and responsibilities, and are supervised appropriately. As more teachers move to implementing small-group structures, we've noticed that in some classes, students are put into groups for

collaborative work, but little is accomplished. Groups are given a worksheet or other activity and are expected to complete it without much teacher input or oversight. Group work requires structure, with the teacher circulating, checking for understanding, prompting, questioning, and clarifying. Also, tasks should be assigned a specific amount of time so that students stay engaged and the pace of the class moves along.

SIOP® **SIOP® FEATURE 18:**

Sufficient Wait Time for Student Responses Consistently Provided

Wait time is the length of time between utterances during an interaction. In classroom settings, it refers to the length of time a teacher pauses between asking a question and soliciting a response. It is helpful to consider wait time as "think time." When SIOP teachers wait and allow learners time to respond to a question, students can better formulate their responses. The amount of time the teacher waits depends on the type of question asked. Recall questions may require about three seconds, but higher-order thinking questions could merit a wait time of seven to ten seconds (TESOL, 2018).

A review of studies on wait time revealed that after a teacher asks a question, students must begin a response within an average time of one second. If they do not, the teacher repeats, rephrases, asks a different question, or calls on another student. Further, when a student makes a response, the teacher normally reacts or asks another question within an average time of 0.9 second (Rowe, 2003). Rather than filling the silence created by wait time, teachers should see the silence as an opportunity for students to process what is being asked of them. Teachers may need to practice using wait time to become comfortable allowing students the time they need (Wasik & Hindman, 2013/2014).

Wait time varies by culture. It is appropriate in some cultures to let seconds, even minutes, lag between utterances, while in other cultures utterances can overlap one another. In U.S. classrooms, the average length of wait time is clearly *not* sufficient and doesn't provide enough think time. Imagine the impact of wait time on multilingual learners who are processing ideas in a new language and need additional time to put their thoughts into words. Research supports the idea of wait time and has found it to increase student discourse and enhance student-to-student interaction (Rowe, 2003; Tobin, 1987).

SIOP teachers are culturally responsive and consciously allow students to express their thoughts fully, without interruption. Many teachers in U.S. schools are uncomfortable with the silence that follows their questions or comments, and they immediately fill the void by talking themselves. This situation may be especially pertinent in SIOP classes where multilingual learners need extra time to process questions in English, think of an answer in their second language, and then formulate their responses in English. Although teachers may be tempted to fill the silence, multilingual learners benefit from a patient approach to classroom participation, in which teachers wait for students to complete their verbal contributions.

While SIOP teachers provide sufficient wait time for multilingual learners, they also work to find a balance between wait time and moving a lesson along. Some students may become impatient if the pace of the class lags. One strategy for accommodating impatient students is to have them write down their responses while waiting, and then check their answers against the final answer.

SIOP®

SIOP® FEATURE 19:

Ample Opportunities for Students to Clarify and Discuss Key Concepts in Ll with Peer, Aide, Teacher, or L1 Text

There is growing awareness that one's language is tied to culture and identity, and restricting use of the student's home language (L1) sends a message that multilingual learners' language and culture are somehow "less-than" that of the United States. Using students' L1 doesn't minimize the importance of learning English. English acquisition is critical for school success, for advancing into college and careers, and for being a contributing member of society. However, using their L1 allows multilingual learners to better express themselves when working with peers, it helps clarify information they don't understand in English, and is a valuable resource for learning. Using the home language also recognizes the asset of multilingualism and honors students' heritage.

It may surprise you to know that the brain doesn't have separate compartments for each language, and development of a language such as Spanish or Farsi doesn't crowd out space for English. As Vogel & García (2017) and others have explained, multilingual students have one complex linguistic system that can have features of one, two, or more languages. Students draw on these linguistic resources to communicate and make sense of instruction. A classroom (or remote teaching) example is when the teacher reads a story aloud in English and pauses at various points in the text for students to talk together. When the students do "turn and talk," they are invited to share their thoughts in their home language or English—or a mix of both—with their paired same-home-language partner. Sometimes certain words or expressions in one language convey a precise meaning better than another, or the context may dictate a preference. For instance, if the book read aloud is about soccer, when a multilingual learner turns to their partner to discuss a portion of text, they may begin speaking in English but switch to Spanish for a description of the way a goal was scored. The student is using the full complement of their linguistic repertoire in the discussion. It is a misconception to think that combining languages indicates confusion.

Teachers should not discourage the practice of translanguaging or restrict use of students' first language at school or at home. Obvious exceptions would be, for example, tasks that require the use of English such as oral presentations or assignments designed to practice using academic English.

Although SIOP instruction involves teaching subject-matter material in English, SIOP teachers provide support for the academic learning of multilingual learners by clarifying key concepts in students' L1 if they are bilingual, or through an

instructional aide or peer. There are also many resources available in students' home languages including topical materials in multiple languages, websites, and apps with translation capabilities, online bilingual dictionaries, and more.

Application to Your Classroom: Interaction

In the section that follows, you will find some teaching ideas to help you with preparing SIOP lessons for your class that include opportunities for Interaction.

- **Instructional Conversations (ICs).** A proven approach for advancing multilingual learners' literacy skills (Saunders & Goldenberg, 2010), ICs may be used across content areas, but most research has been conducted with literacy. A typical IC process is as follows:

  a. The teacher begins by briefly introducing the group to a theme or idea related to the text, and then relating the theme to students' background experiences: *Today we're going to talk about taking care of siblings. Do you take care of a brother or sister, or do they take care of you?* (Students share their experiences)

  b. Next, the teacher shows the text to be read and asks prediction questions: *We're going to read this book called,* A Trip to the Library. *What do you think it will be about? What do you predict will happen when the brother and sister get to the library?*

  c. As the text is read, the teacher "chunks" the text into sections to provide maximum opportunity for discussion, constantly relating the theme and background experiences to a text-based discussion: *That's an interesting turn of events. How would you feel if you were the brother? What did it say about him in the text? Let's read that part again. Have you ever had a similar experience?*

  d. Students are asked to support their comments with evidence from the text: *What do you think he'll do next? What does the book say that makes you think he'll do that? What about his sister? Show us in the book why you predict that that will happen next.*

  Questioning and discussion in the group is naturally differentiated as the teacher prompts students using language and questions they comprehend. Students in IC lessons may be grouped heterogeneously by language levels so that less proficient students are exposed to more advanced language in a context that promotes comprehension. You may also choose to group readers at lower levels with stronger readers, which provides them the opportunity to talk about ideas and use language in discussion that they may not be able to read independently. Further, some experts advocate for student-led IC groups where they create their own conversational goals, lead the conversations, and work together to create a tangible product from their discussions such as a T-chart (Mellon, Hixon, & Weber, 2019).

- **Blogging for Students.** A number of tools are available for remote teaching or homework, and blogging is one such tool. Whlie blogs may prove challenging for

young children, they are tools worth exploring for a number of reasons. Class blogs offer a safe playground for preparing students to be responsible digital citizens. while offering them chances to interact, read, write, and give meaningful feedback. Platforms like *Fan.school* allow students to share their voices with a larger audience than just the teacher. Blogging platforms meant for students have multiple layers of built-in security features. The teacher can set controls to preview all posts and comments before they are published. Student information such as names and posts can be kept private behind a password. Further, a blogging platform can be used to teach students how to provide constructive feedback and how to write for a specific audience. Often, publishing for peers—whether within the same school or to an international pen pal—adds extra motivation for students to improve their writing skills.

- **Show What You Know** (Vogt & Echevarria, 2022). This activity encourages interaction among class members as they work together to become "experts" on a topic, such as MyPlate (U.S. Department of Agriculture). Working in groups, students learn about a topic, e.g., proteins, with the teacher making sure that there is a mix of English proficiency levels in each group so that more proficient students can support the reading and writing of less proficient English speakers. Students in each group use the information to create a poster that explains the food group (e.g., what proteins are, how they contribute to good health, examples of various types of protein, etc.). Each group of "experts" will Show What They Know by teaching the rest of the class about their food group. After presenting what they know to the class, their poster is added to the whole-class My Plate chart. This activity provides students with an opportunity to practice all domains of English: listening, speaking, reading, and writing. Also, they become expert in a topic as they do so!
- **Dinner Party** (Vogt & Echevarria, 2022). An activity appropriate for all grade levels and most content areas is called Dinner Party (or Birthday Party for K–2). As an example, during reading instruction, students would respond to the prompt: "Suppose you could have a dinner party for authors or poets that we have studied. Who would you invite? Why would you select them? What would be the seating order of the guests at your table, and why would you place them in that order? What do you think the guests would talk about during dinner? Include specific references to the authors' lives and works in your response." The purpose is for students to act out the questions by assuming personas, such as characters in novels, scientists, historical figures, or artists. During each Dinner Party, specific content from texts must be included and the characters must respond to each other as realistically and accurately as possible.
- **Dialogue Journals.** The time-tested activity of using Dialogue Journals provides students with an opportunity to interact through writing about topics of interest or those related to lessons. In elementary classrooms, journaling is typically between teacher and student as they share ideas. Students learn from teachers as they model appropriate written text, and teachers learn about their students' ideas and ways of expressing themselves. In secondary classes, students may be

paired together, or students may use the journal as a diary. In either case the teacher participates in the dialogue every so often to make a connection with the student and to monitor their writing. The teacher's response also models correct writing for the student.

Differentiating for Multilevel Classes

Most classes with multilingual learners are made up of students with multiple proficiency levels. The Interaction component lends itself well to meeting the variety of instructional needs and proficiency levels of students in your classrooms. Several ideas for making instruction meaningful include the following:

- **Match language frames to students' proficiency levels.** Frames are designed to help students use academic language, and with minimal tweaking, teachers can provide a more simplified frame for beginning speakers and more complex sentence structures and vocabulary for more advanced speakers.

  In identifying scientific relationships, for example, beginning speakers benefit from a frame such as, *This is an example of* _____ *(predation, mutualism, competition, parasitism)*, which provides sentence structure and words from which to choose. Teachers offer more advanced speakers an open-ended frame that requires them to explain the procedure on their own or make connections such as,

  This is an example of _____. *The* _____ *is* _____ *and the* _____ *is* _____ *based on* _____.

  These frames provide structure that allows students to express their understanding of the lesson's content at their level of English proficiency. The sample frames for discussing scientific relationships can be easily modified for several levels of proficiency by adding or deleting words. Differentiating frames by proficiency level isn't hard or time-consuming for teachers to do, and the effort is well worth it. Practice with the right frame may advance students' English acquisition by allowing them to use language that is appropriate for their level. Be sure to use frames for practicing a variety of language functions, such as cause/effect, problem/solution, and so forth. (See Short & Echevarria, 2016, *Developing Academic Language Using the SIOP Model,* for more sample language frames and functions.)

- **Use Book Creator.** Creating e-books lends itself well to differentiating since students work at their level of proficiency. They produce e-books by adding photos, making text boxes, editing the text, and adding voice recordings. Book Creator can be used across content areas and is applied in this example to a first-grade math lesson. Practicing strategies for addition and subtraction, pairs of students use the app on a tablet to take photos of different combinations of math manipulatives, such as 8 red tiles + 8 blue tiles = 16 (double the fact strategy). They import photos and create captions for each photo, including an equation. The process of creating an e-book facilitates discussion among the students.

To extend the activity and challenge students, students may create word problems for other students to solve. For additional oral language practice, the teacher can show students how to use the voice recording option to narrate the process of solving equations. The student-created e-books can be transferred into the *iBooks* app, which allows teachers to share student work with parents during conferences.

- **Differentiate wait time.** Practice allowing more wait time for beginning English speakers and those students who require a little extra time for processing information. More advanced speakers will likely require less wait time. However, don't forget that all students benefit from think time to ponder questions or new information.

The Lesson

Addition and Subtraction (First Grade)

The first-grade teachers in this chapter, Mrs. Aguirre, Mr. McQuaid, and Miss Dimitrievska, work in a dual language (DL) program that offers literacy and content teaching in two languages, English and Spanish. In this suburban school, the three first-grade teachers' classes have an even distribution of Spanish-speaking students, with each class having approximately 35%. Although some of these students are at the intermediate level of English proficiency, most Spanish speakers are at the beginning stages of acquiring English. A few of the native-English-speaking students have beginning Spanish proficiency but most do not know Spanish.

The program follows a 50-50 model where native English speakers and native Spanish speakers are integrated for at least 50% of instructional time at all grade levels. All students receive instruction in the partner language at least 50% of the instructional day. English is the language of instruction in the lessons described. As is typical in dual language programs, students are strongly encouraged to use the language of instruction during the specific block of time allotted for that language, whether Spanish or English. Teachers are strict about their own consistent use of the target language so that they provide a strong language model for students; however, if students do not yet have the language to express themselves, they can respond in the other language. The teacher then often restates what the student has said in the target language.

The teachers in this school plan math units around their state math standards. In the math lessons described, all classes are working on the standard: *Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., by knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).*

(continued)

Addition and Subtraction (First Grade) *(continued)*

The lessons described are part of a unit, and students have already learned and practiced the mechanics of addition and subtraction. In these lessons, the emphasis is on being aware of the most efficient strategy to use in solving word problems. The teachers co-plan lesson objectives each week so that they are teaching essentially the same content across the classes. In the scenarios that follow, the objectives are:

Content Objectives (CO): Students will solve addition and subtraction problems efficiently using strategies.

Language Objectives (LO): Students will orally express their reasoning when solving problems.

As you will see, although the objectives are the same, the teachers each have their own ways of teaching the lessons.

Teaching Scenarios

Mrs. Aguirre

As was her practice, Mrs. Aguirre began by reading aloud the lesson's content and language objectives that were written on the board. She told the class that they would use counting strategies to solve addition and subtraction problems. She asked them to think about how objects can be used to find solutions.

Using an interactive whiteboard, Mrs. Aguirre put up 2 rows of circles. The circles were in groups of 5, each group a different color. She began by placing 5 red circles and 3 blue circles on the top line (8). Below she placed 5 red circles and 4 blue circles (9). She asked the students how many circles there were all together (17). A number of students raised their hands and she called on two to give their answers. After showing several more problems on the board (e.g., $7 + 7$ and $9 + 6$), she asked students how they were able to figure out the answers. She drew sticks with students' names on them from a can and called on those students to explain. If a student didn't respond right away, Mrs. Aguirre didn't want to put them on the spot, especially if they were a Spanish speaker, so she drew another name. If she felt confident the student knew the answer but was reticent about speaking in English, she would allow the answer to be given in Spanish and then asked another student to translate. Most students were able to articulate in English a process such as adding the groups of 5 red circles first, then adding the blue circles (e.g., $5 + 5$, then add $10 + 3$ and $13 + 4 = 17$). She asked the class repeatedly if anyone had a question.

Once Mrs. Aguirre thought that students knew how to complete addition problems, she repeated the procedure with subtraction problems; e.g., she showed 17 circles and asked what the amount would be left if she took away 5. She demonstrated taking away on the interactive whiteboard.

Next, she called on individuals to play the role of "teacher." Four students were selected for this part of the lesson. Each took a turn putting up circles on the

FIGURE 6.4 **Interaction Component of the SIOP® Model: Mrs. Aguirre's Lesson**

4	3	2	1	0	
16. Frequent opportunities for **interaction** and discussion between teacher/student and among students, which encourage elaborated responses about lesson concepts		**Interaction** mostly teacher-dominated with some opportunities for students to talk about or question lesson concepts		**Interaction** teacher-dominated with no opportunities for students to discuss lesson concepts	
4	**3**	**2**	**1**	**0**	
17. **Grouping configurations** support language and content objectives of the lesson		**Grouping configurations** unevenly support the language and content objectives		**Grouping configurations** do not support the language and content objectives	
4	**3**	**2**	**1**	**0**	
18. Sufficient **wait time for student responses** consistently provided		Sufficient **wait time for student responses** occasionally provided		Sufficient **wait time for student responses** not provided	
4	**3**	**2**	**1**	**0**	**N/A**
19. Ample opportunities for students to **clarify and discuss key concepts in Ll** with peer, aide, teacher, or L1 text		Some opportunities for students to **clarify and discuss key concepts in L1**		No opportunities for students to **clarify or discuss key concepts in L1**	

interactive whiteboard and adding to or taking away a certain number to create a problem. The class had to solve the problem.

For the final twenty minutes of the lesson, students took out their math texts and solved a variety of addition and subtraction problems found in the book. At the end of the lesson, they turned in their written work.

Check your understanding: On the SIOP form in Figure 6.4, rate Mrs. Aguirre's lesson on each of the Interaction features.

Mr. McQuaid

Mr. McQuaid's classroom is arranged in pods of four desks together, which allows students to easily work with their "elbow partner" in pairs or as a small group of four in their pod. The lesson began with Mr. McQuaid having the class chorally read the content and language objectives. Mr. McQuaid asked students to turn to their partners—English speakers paired with Spanish speakers—and tell each other three counting strategies that they had learned. Then he asked several groups which ones they identified. Groups reported out the strategies using doubles $(2 + 2)$, counting by 5s or 10s, and counting on.

After reviewing strategies, Mr. McQuaid showed a counting rack on the document viewer that had two parallel rods with 10 beads, 5 red and 5 white. There was space on each rod to move the beads back and forth. He moved the beads to form

groups and said, "This is how many I have on my rack (8 on top and 9 below). Talk to your partner about how many are on the rack." Then he asked how they solved the problem. One group said that they used their double facts. He asked the class, "What is this double fact?" and they replied together that $8 + 8 = 16$. He pointed out that they would then add 1 to make 17.

Mr. McQuaid continued with several more problems on the screen, showing a variety of combinations of beads. He asked the class to work in groups of four to solve the problems efficiently and explain how they arrived at their solutions. Moving from pairs to small groups provided linguistic support for the Spanish speakers in the group in case they needed clarification. With each problem Mr. McQuaid called on different groups to report out how they arrived at their solution, which provided accountability for the groups. If a group had difficulty articulating the strategy used, he asked, "Who can help your friends?" and another student would explain the strategy.

Then Mr. McQuaid told the class that they would use the racks with a partner and solve word problems together. He called a student to the front of the room, and they modeled the procedure for working together. The student held the rack, and the teacher took a card out of a plastic bag and read the problem: "I have 9 people on the bus and 10 get on. How many are there?" The student put 9 beads on the top row and 10 on the bottom and said, "19." The teacher asked her how she solved it, and she said that $9 + 9$ is a double fact so she had 18 and added 1 more. Then the teacher and student switched roles so that the teacher had the rack and the student selected a card. Mr. McQuaid reminded the students that this wasn't a winning game; it was a game for working together. They needed to share and help each other figure out the most efficient way to solve the problems.

For this activity, Mr. McQuaid again paired Spanish speakers with English speakers. If a Spanish-speaking partner had difficulty understanding something or expressing their ideas, they could ask others in their pod for support. The process of clarifying ideas in both languages deepened students' understanding of math strategies and provided practice in translanguaging for all students.

While partners worked on the game, Mr. McQuaid circulated and assisted students as needed with prompts such as "How many are on the bus? How many got on? How many total? How did you figure it out?" He used a technique of counting to himself to be sure he allowed enough wait time for students to process the question or information. Occasionally, a student asked Mr. McQuaid a question in Spanish and, although he spoke Spanish, he asked the class to translate the question into English and then answer it. At other times, he simply answered the question in English. He was careful to maintain the target language but allowed students to ask and answer questions in their L1 as needed.

After all pairs had had a chance to solve about a dozen problems between them, they followed the same process with subtraction problems. Mr. McQuaid modeled the first problem: "There are 20 on the bus and 8 get off. How many are left? What is a good way to take 8 away?" When the partners had practiced subtraction problems for a while, Mr. McQuaid called them to whole-class formation. He asked for volunteers to come up and explain their reasoning. Various students said that they counted by 5, used double facts, and used counting on.

Finally, Mr. McQuaid gave the students a worksheet that had a number chart and addition and subtraction problems to solve. Students worked individually and

FIGURE 6.5 Interaction Component of the SIOP® Model: Mr. McQuaid's Lesson

4	3	2	1	0	
16. Frequent opportunities for **interaction** and discussion between teacher/student and among students, which encourage elaborated responses about lesson concepts		**Interaction** mostly teacher-dominated with some opportunities for students to talk about or question lesson concepts		**Interaction** teacher-dominated with no opportunities for students to discuss lesson concepts	
4	**3**	**2**	**1**	**0**	
17. **Grouping configurations** support language and content objectives of the lesson		**Grouping configurations** unevenly support the language and content objectives		**Grouping configurations** do not support the language and content objectives	
4	**3**	**2**	**1**	**0**	
18. Sufficient **wait time for student responses** consistently provided		Sufficient **wait time for student responses** occasionally provided		Sufficient **wait time for student responses** not provided	
4	**3**	**2**	**1**	**0**	**N/A**
19. Ample opportunities for students to **clarify and discuss key concepts in Ll** with peer, aide, teacher, or L1 text		Some opportunities for students to **clarify and discuss key concepts in L1**		No opportunities for students to **clarify or discuss key concepts in L1**	

finished at their own pace. At the conclusion of the lesson, Mr. McQuaid reviewed the content and language objectives and asked students to hold thumbs up if they met the objectives.

Check your understanding: On the SIOP form in Figure 6.5, rate Mr. McQuaid's lesson on each of the Interaction features.

Miss Dimitrievska

Miss Dimitrievska, known to her students as Miss D, began her lesson by saying, "Who can tell me a strategy we know that helps us add and subtract numbers efficiently?" A few students raised their hands, and she called on each one to elicit an answer. She wrote the strategies they named on an interactive whiteboard. Also written on the board were the content and language objectives for the lesson. Miss D read the objectives and, pointing to the strategies listed, said that they would be using those strategies in the lesson.

Miss D had each table captain distribute electronic clicker responders. Then she put a line of 7 cars on the interactive whiteboard (5 yellow and 2 blue) and another line of 5 yellow cars below. She asked the class to figure out how many total cars were on the board. She reminded them to do it efficiently as she pointed to the list of strategies on the board. After a minute she told the students to enter their answers using the clickers. Each student responded and she could see who did and who did not have correct answers. She then told the students to explain to their partner how they arrived at the answer and asked for volunteers to share out. Occasionally she

observed a student having difficulty expressing themselves in English, but she was gratified to see that the partners were able to work it out between themselves. Several students named strategies such as counting on and using doubles. She repeated this process a number of times until nearly every clicked answer was correct.

Then Miss D introduced subtraction in the same way. She showed two lines of balls, took some away and asked the students to solve the problem and enter their answers. Again she had partners articulate their reasoning. She continued with this process until students were solving problems with a high degree of accuracy. Although the students enjoyed using the clickers, at times Miss D asked for the response before some of the multilingual learners had processed the language associated with the problems, especially determining if it was an addition or subtraction problem. Also, they felt a bit rushed when explaining to their partner what strategy they used.

For the next part of the lesson, Miss D gave students plastic bags of beads and written addition and subtraction problems. Working with partners, each pair used the beads to represent the problems and solve them. Miss D circulated to make sure pairs were working cooperatively, solving the problems, and explaining which strategy they used. Some multilingual learners spoke in their home language with their partner and Miss D gently asked students to speak in English.

Finally, students were given a worksheet with both addition and subtraction problems to solve independently. Miss D concluded the lesson by reviewing the content and language objectives and had students respond with their clickers if they had met each one.

Check your understanding: On the SIOP form in Figure 6.6, rate Miss Dimitrievska's lesson on each of the Interaction features.

FIGURE 6.6 Interaction Component of the SIOP® Model: Miss Dimitrievska's Lesson

4	3	2	1	0	
16. Frequent opportunities for **interaction** and discussion between teacher/student and among students, which encourage elaborated responses about lesson concepts		**Interaction** mostly teacher-dominated with some opportunities for students to talk about or question lesson concepts		**Interaction** teacher-dominated with no opportunities for students to discuss lesson concepts	
4	**3**	**2**	**1**	**0**	
17. **Grouping configurations** support language and content objectives of the lesson		**Grouping configurations** unevenly support the language and content objectives		**Grouping configurations** do not support the language and content objectives	
4	**3**	**2**	**1**	**0**	
18. Sufficient **wait time for student responses** consistently provided		Sufficient **wait time for student responses** occasionally provided		Sufficient **wait time for student responses** not provided	
4	**3**	**2**	**1**	**0**	**N/A**
19. Ample opportunities for students to **clarify and discuss key concepts in Ll** with peer, aide, teacher, or L1 text		Some opportunities for students to **clarify and discuss key concepts in L1**		No opportunities for students to **clarify or discuss key concepts in L1**	

Discussion of Lessons

Look back at your rating form and think about the reasons you scored the lessons as you did. What evidence is in the scenarios? Read on to see our analyses.

16. *Frequent Opportunities for Interaction and Discussion between Teacher/Student and Among Students Which Encourage Elaborated Responses About Lesson Concepts*

Mrs. Aguirre: 1

Mr. McQuaid: 4

Miss Dimitrievska: 4

There is growing awareness about the importance of students being actively engaged in learning and having opportunities to interact productively with peers and teachers. However, many teachers struggle to relinquish the "sage on the stage" type of teaching where most often the teacher talks and students listen. In their lessons, these teachers vary the opportunities they provide to their students.

- **Mrs. Aguirre's** lesson received a "1" because the format of her lesson was teacher controlled and did not provide sufficient interaction among the students. Student participation was individual responses to teacher prompts and was largely based on volunteering. This practice tends to mask struggling students and those who do not understand since they are unlikely to volunteer. Usually the students who least need practice using the target language or help with concepts are the ones who volunteer to participate in lessons. It is very difficult to determine the needs of students and gauge their understandings when relying almost solely on volunteer responses.

  Although Mrs. Aguirre made use of technology, she used the interactive whiteboard just as she would a chalkboard. It was essentially a fancy way of writing problems on the board, calling on students individually to answer questions or to pose problems for classmates. She made the assumption that all students understood the lesson's objectives about using strategies to solve problems efficiently based on the participation of a few students.
- **Mr. McQuaid's** lesson received a "4" because he encouraged lots of student-to-student and teacher-to-student interaction. By having the students explain to one another the process they used to solve problems, their thinking was made transparent and the teacher could readily ascertain who understood the strategies and was able to apply them and who needed more support.
- **Miss D's** lesson also received a "4." She used clickers to make sure that each student was engaged and interacting with her in problem solving. It also gave her immediate feedback about how much practice was needed before moving to the next part of the lesson.

17. *Grouping Configurations Support Language and Content Objectives of the Lesson*

Mrs. Aguirre: 0

Mr. McQuaid: 4

Miss Dimitrievska: 4

Whole-class instruction is necessary and effective at times, but it should not be used extensively since it limits opportunities for students to ask questions, discuss ideas, and clarify information. The stated language objective for this lesson was that students would orally express their reasoning when solving problems.

- **Mrs. Aguirre's** lesson used whole-class instruction or individual work exclusively, which did not support the objectives, especially the language objective. Therefore, her lesson received a "0." Only once during the lesson did students have an opportunity to explain the strategies they used to solve problems, and the lack of grouping configurations limited opportunities for students to identify and discuss how they solved problems efficiently. Students who are not proficient in the target language, whether English or Spanish, and those students who struggle academically may find whole-class instruction intimidating, as undoubtedly was the case with Mrs. Aguirre's lesson. Although she asked if students had questions, nobody was willing to speak up in the whole-class setting.
- **Mr. McQuaid** planned a lesson that used a balance of whole-class instruction for introducing the concepts and modeling expectations, and partner and small-group work that allowed students to create and solve problems, to articulate their reasoning, and to use translanguaging when needed. Varying grouping structures allowed for deeper understanding of the concept and also provided practice using academic English. Mr. McQuaid's lesson received a "4" for this feature.
- **Miss D's** lesson also provided optimal opportunity for interaction. She used whole-class instruction, individual response using clickers, and partner work. Miss D's lesson received a "4" on this feature.

18. *Sufficient Wait Time for Student Responses Consistently Provided*

Mrs. Aguirre: 0

Mr. McQuaid: 4

Miss Dimitrievska: 2

- The whole-class, teacher-dominated format of **Mrs. Aguirre's** lesson encouraged those students who were quick to respond (usually native speakers of English) to set the pace. Students who required more time to process information or to think of the words in English were essentially left out of the lesson, however unintentional this was on Mrs. Aguirre's part. When she called on students individually, she tried to spare them embarrassment when they didn't answer promptly by choosing someone else. It would have been more effective to scaffold the student's response with prompts and provide the wait time needed. Mrs. Aguirre's lesson received a "0" for this feature.
- **Mr. McQuaid** interacted with students in a way that allowed time for them to formulate their thoughts and express them in English. Also, working with partners and then sharing out gave additional time to students. Mr. McQuaid recognized that multilingual learners need to have a little extra time when participating in class. His lesson received a "4" for this feature.

- Although English was **Miss D's** second language and she understands multilingual learners' needs, she felt pressure to move the lesson along and didn't always provide sufficient wait time. Therefore, her lesson received a "2" for this feature.

19. *Ample opportunities for students to **clarify and discuss key concepts in L1** with peer, aide, teacher, or L1 text*

Mrs. Aguirre: 1

Mr. McQuaid: 4

Miss Dimitrievska: 1

- Again, the format of **Mrs. Aguirre's** instructional delivery did not allow students the opportunity to clarify concepts or information with others in their home language even if it would have improved their understanding. However, she did allow students to answer in their L1 when called on and had other students translate to the target language. Therefore, her lesson received a "1" on this feature.
- **Mr. McQuaid's** lesson, on the other hand, provided lots of opportunity for student-to-student interaction, and students could use their native language when needed. Students were encouraged to discuss the math problems as well as their thinking about how they arrived at solutions. Participation in either language was accepted. Mr. McQuaid's lesson received a "4" for this feature.
- **Miss D's** lesson also provided opportunities for students to work together and they naturally used their L1 when needed. Use of the native language wasn't forbidden, however Miss D believed that she was helping students by encouraging English. Young learners, and beginning English speakers in particular, benefit from having opportunities to discuss and clarify concepts in the language they understand best. Miss D's lesson received a "1" because opportunities to use L1 were limited, and even when it was clear that students needed support, she relied on peers to "work it out." Miss D couldn't have been certain about how much the Spanish speakers understood and if they needed her to explain further in their L1.

Final Points

As you reflect on this chapter and the benefits of interaction for multilingual learners, consider the following main points:

- SIOP teachers create ample opportunities for multilingual learners to practice using academic English among themselves and with you, the teacher. Students are encouraged to elaborate and extend their comments and responses, not provide one- or two-word answers.
- Standards in all states require that students have opportunities to take part in a variety of rich, structured discussions—as part of a whole class, in small groups, and with a partner.

- Incorporating a number of grouping configurations into lessons facilitates using language in ways that support the lessons' objectives and develop students' English proficiency.
- For many teachers, it is challenging to wait in silence while students formulate their responses. However, it's important to allow for wait time (think time) and not speak up yourself to fill the silence.
- Teachers should use an asset-based approach, which includes valuing the use of multilingual learners' home languages. These students draw on their linguistic repertoire to make sense of information, which enhances learning. Use of their home language does not detract from the importance of learning academic English.

Discussion Questions

1. In reflecting on the content and language objectives at the beginning of the chapter, are you able to:
   - List ways that collaborative conversations and discussions are aligned with the Interaction component?
   - Design grouping structures that support lesson content and language objectives?
   - Identify techniques to increase wait time?
   - Identify resources to support students' use of their home language?
   - Describe techniques to reduce the amount of teacher talk in a lesson?
   - Practice asking questions that promote student elaboration of responses?
   - Include in a lesson plan structured time for partner and small-group productive work?
2. Think of a content concept that you might be teaching. Describe three different grouping configurations that could be used for teaching and learning this concept. How would you organize the students in each group? How would you monitor student learning? What would you want students to do while working in their groups? How would the grouping configurations facilitate learning for multilingual learners?
3. Either record your own classroom while you're teaching a lesson or observe another teacher's classroom for a 15-minute segment. Estimate the proportion of teacher talk and student talk. Given the ratio of teacher–student talk, what are some possible ramifications for multilingual learners in this class?
4. Productive discussions are usually the result of careful planning and preparation. What are some rules of discussion presented in this chapter that you would need to teach or reinforce with your students? What might be an appropriate language objective for a lesson on rules of discussion?
5. Using the SIOP lesson you have been developing, add activities and grouping configurations to enhance interaction.

CHAPTER

7

Practice & Application

CONTENT OBJECTIVES

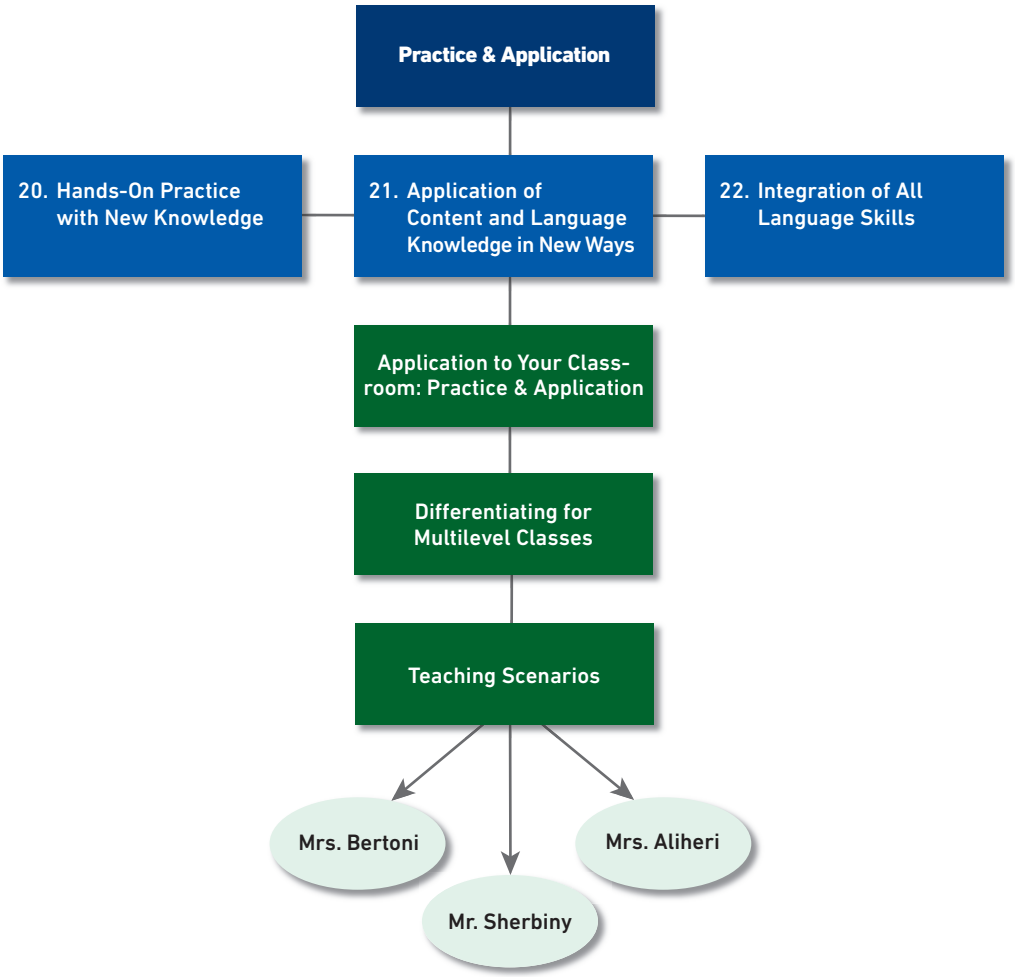
This chapter will help you to . . .

- Identify a variety of ways for students to strengthen their learning through hands-on or kinesthetic practice.
- Create application activities that extend the learning in new ways and relate to content or language objectives.

LANGUAGE OBJECTIVES

This chapter will help you to . . .

- Enhance typical lesson tasks so that different language skills are integrated.
- As part of a lesson plan, write practice and application activities linked to specific lesson objectives.



One common memory that most adults share is of learning to ride a full-sized bike. Even after riding smaller bicycles with training wheels, most of us were unprepared for the balancing act required for us to not fall down when riding a regular bike. If you had a parent or older brother or sister who talked you through the process, showed you how to balance, and perhaps even held on to the bike while you were steadying yourself, your independent practice time with the big bike was probably enhanced. Talking about the experience, listening to someone else describe it, observing other riders, and then practicing for yourself all worked together to turn you into a bicycle rider. That feeling of accomplishment, of mastering something new through practice and applying it to a bigger bike is a special feeling that most of us have experienced as learners. ■

Background

Up to this point in a SIOP lesson, the teacher has introduced content and language objectives, built background or activated prior knowledge, introduced key vocabulary, identified a learning strategy and higher-order questions for students to focus on, developed a scaffolding approach for teaching the new information, and planned for student interaction. In the Practice & Application component, the students have a chance to practice with the new material, and, with careful teacher oversight, demonstrate how well they are learning it. In the same lesson or a subsequent one, the teacher plans a task so students can apply this new knowledge in various ways. It is well established that practice and application help one master a skill (Dean et al., 2012; Rosenshine, 2012). For SIOP instruction, both the practice and application tasks should also aim for practice of all four language skills: reading, writing, listening, and speaking.

This stage of a SIOP lesson is very important for the academic language development of multilingual learners because learning happens in classes through the use and deliberate practice of oral and written language (Saunders & O'Brien, 2006; TESOL, 2018). Students may interact with others or independently, but in order to develop a high level of proficiency in a new language, they must have opportunities for both comprehensible input (Krashen, 1985) and targeted output (Swain, 1985), namely oral and written practice. When teachers plan these activities carefully,

students benefit (Piazza, et al., 2020). So, as you develop lessons, consider the following:

Purpose of the activity. SIOP teachers need to carefully choose the activities they include in their lessons and ensure they connect to the lesson objectives.

- Some activities must strengthen the students' progress in meeting or mastering the content and language objectives. Suppose a language arts content objective calls for sixth graders to write a conclusion that supports the argument they made, and the language arts teacher instructs on ways to write a strong conclusion. After students practice writing a conclusion to some existing texts, an application activity might have them write a post for the class blog on a current event, such as ways to support refugee families in the community.
- Some activities must advance student proficiency in using English. Many SIOP teachers use sentence stems and language frames to help students articulate their thoughts and ideas while they are completing a task. These frames link to language functions, and activities can be created to encourage more sophisticated use of these frames over time. For example, students may progress from expressing an opinion simply, as in *"I believe that__"* to the more detailed *"In my opinion, __is correct/incorrect because__,"* and finally to the complex form *"The scientist cited in this article claims__, but I would argue that__."* Short and Echevarría (2016) present a range of stems organized by language function.
- Some activities may build foundational language knowledge, especially for young learners who enter school with few pre-academic experiences or secondary school newcomers to the United States who have had significant interruptions in their educational backgrounds (i.e., SLIFE newcomers). Remember that many state standards related to foundations of literacy, like phonemic awareness, are found in English language arts for grades K–5 but not for grades 6–12.

Language of the activity. In the past decade or so, research has shown that students can use their home language to support their classroom activities and deepen their knowledge, both of the content topics and the new language they may be studying (Cummins, 2016; Garcia, Johnson, & Seltzer, 2017; NASEM, 2017). The broader use of home language in the classroom as a resource for learning fits within the SIOP classroom and is an aspect of culturally responsive instruction that can take place in face-to-face and online settings (Jeong, Eggleston, & Samaniuk, 2021).

- Suppose a lesson's content objective is *"Students will be able to explain predator and prey relationships."* When the goal is to deepen content knowledge, bilingual or home language resources and translanguaging may help. Small groups or pairs organized by language background could read texts in English and/or their home language about predators and preys, perhaps focusing on a different ecosystem per group, and then share ideas and ask questions of one another in English or the home language. The groups could then report back on their learning in English.

- When the focus is on English language development, the use of the home language might be more limited or structured. We know that deliberate practice is essential for advancing proficiency in a new language. Language practice is not simply a set of vocabulary terms or substitution drills, it is "a much broader range of activities that lead to fluency, accuracy, and automaticity of specific subskills" (TESOL, 2018, p. 21). So, with a language objective such as *"Students will compare characteristics of two habitats,"* teachers would want to have students practice ways to make comparisons in English. For some students, scaffolds like word banks and sentence frames may be needed to bolster their language production. Multilingual learners might translate these supports to ensure comprehension, but they would be expected to speak or write in English to complete the task.

Differentiation of the activity. If the class includes students spanning multiple language proficiency levels, the Practice & Application component of the SIOP Model is the ideal place to differentiate instruction.

- In the language arts lesson mentioned earlier, the final application activity (writing a blog post) might be differentiated. The teacher might facilitate a whole-class brainstorming of ways to support refugee families. Students share ideas, some of which may come from their home or country backgrounds, and the teacher generates a list. If some students use their home language to suggest an item for the list, the teacher seeks a translation or asks a classmate to interpret. Next, the class selects one idea as a model and discusses reasons in favor of the idea as well as possible counterarguments they might want to oppose. The teacher might review language frames and key words to use in a conclusion. Then, some advanced-level students might write individual blog posts, intermediate-level students might write with one partner, and beginners might work with the teacher to prepare a group text.
- Teachers can incorporate project-based learning, community-service opportunities, or other differentiated activities that connect to interests, multiple intelligences, home language experiences, and cultural perspectives (Gay, 2018; Paterson, 2021; Seidlitz & Perryman, 2011; Tomlinson, 2014; Vogt, Echevarría, & Washam, 2015; Ye He, & Faircloth, 2018). As teachers plan these practice and application activities, they should consider the structure of the task and degree of difficulty for the resulting product, the grouping configurations, and the type of feedback that will be provided in light of the students' language proficiency levels and educational backgrounds.

> "Practice and Application is where differentiation takes off! Allowing students the freedom to be creative and showcase their learning in a variety of ways allows for all students in the classroom to take pride in their work and show the amazing talents and assets they bring to the classroom."
>
> Andrea Rients, Professional Learning Coordinator, Minnesota

As you read this chapter, you will discover how sheltered language and content teachers provide multilingual learners with the types of hands-on experiences, guidance, and practice that can lead to mastery of content knowledge and higher levels of language proficiency. The teaching scenarios demonstrate how three high school ESL science teachers, who each have classes with newly arrived students with limited formal schooling, designed and delivered lessons on rotation and revolution.

SIOP® **SIOP® FEATURE 20:**

Hands-On Materials and/or Manipulatives Provided for Students to Practice Using New Content Knowledge

As previously mentioned, riding a bike is usually preceded by practicing with training wheels and working with a more experienced bike rider. Obviously, the more practice one has on the bike, the more likely one is to become a good bike rider.

Madeline Hunter (1982), a renowned expert in teaching methods, coined the term *guided practice* to describe the process of the teacher leading students through practice sessions prior to independent application. In her lesson design, new material should be divided into meaningful parts. After each part is introduced to students, they should have short, intense practice periods with the content. New material needs repeated practice at the start. Previously learned materials should be reviewed periodically with additional practice periods. Throughout, Hunter recommended, teachers should give students specific feedback so they know how well they are doing.

When SIOP teachers provide multiple lesson opportunities for students to practice in relevant and meaningful ways, they have a greater chance of mastering content skills and concepts. This is true for all learners, but is particularly important for multilingual learners who have double the work—they are learning the content at the same time they are learning English. One way to support them is by planning tasks that incorporate hands-on experiences with manipulatives or kinesthetic activities.

- Manipulatives can help multilingual learners connect abstract concepts to concrete experiences. These items may be created, counted, classified, stacked, experimented with, observed, rearranged, dismantled, and so forth. They are commonly used in math and science, but are applicable across the curriculum (See Artifact 7.1.). For example, a summary of a book/chapter/video/experiment/speech or steps in any process can be written on separate strips of paper and students work together to put them in order.
- Physical movement likewise helps students put concepts into gestures and poses. Consider a lesson on the signing of the Declaration of Independence. Students could create a tableau where they sit as the members of the second Continental Congress did, at tables according to their colony, and act out the signing of the document.

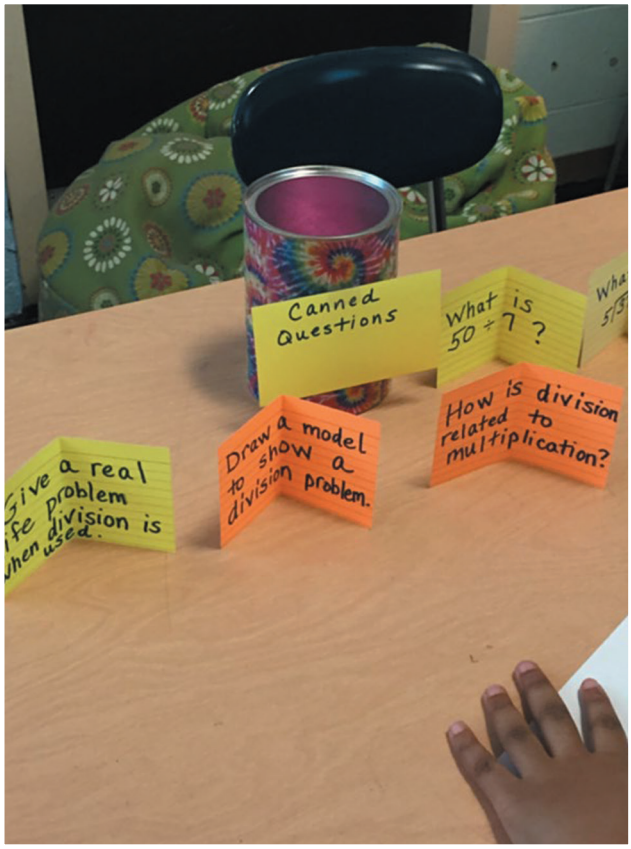
Furthermore, hands-on experiences with manipulatives or kinesthetic activities that require movement reduce the language load for students and are typically more motivating. Students with beginning proficiency in English, for instance, can still participate and demonstrate what they are learning. Multilingual learners may also use their home language while engaging with the activities, although the final product of the task might require English.

Being told how to ride a bike, reading about how to do so, or watching a video of someone else engaged in bike riding is very different from riding down the bike path yourself. Whenever it is possible and appropriate, incorporate hands-on materials and movement into practice activities to boost your students' learning.

ARTIFACT 7.1 Canned Questions

Grade 4 students in small groups pull a "canned question" from the container and respond. Group mates confirm, add on, or give a different answer.

Source: Maggie Brewer, Dual Language Elementary Teacher, Connecticut



On the SIOP rating form, a lesson may receive an N/A for feature #20 if the practice activities have happened in an earlier lesson.

SIOP®

SIOP® FEATURE 21:

Activities Provided for Students to Apply Content and Language Knowledge in the Classroom

We all can recall our own learning experiences in elementary, middle, and high school, and the university. For many of us, the classes and courses we remember best are the ones in which we applied our new knowledge in meaningful ways. These may have included activities such as writing a diary entry from the perspective of a character in a novel, creating a semantic map illustrating the relationships among complex concepts, or completing comprehensive case studies on learners we assessed and taught. These concrete experiences forced us to relate new information and concepts in a personally relevant way. We remember the times when we "got it," and we remember the times when we gave it our all but somehow still missed the target. Hunter (1982) recognized this: "The difference between knowing how something should be done and being able to do it is the quantum leap in learning . . . " (p. 71).

> Although multiple opportunities to practice language are critical for language development, for multilingual learners to be successful academically, they must be able to apply their new language, knowledge, and skills in a variety of ways. Since application activities lend themselves to more engagement, relevance, and higher-order thinking than practice alone, students tend to develop a deeper and more sustained understanding of the language and concepts.
>
> Helene Becker, retired EL Director, Connecticut

When SIOP teachers plan opportunities for students to apply new information to real-life situations, multilingual learners are more motivated and able to deepen their understanding because discussing and "doing" make the content concepts and the language used more relevant. Application can occur in a number of ways; and as mentioned previously, students might use their home language as they engage with the activity, while the final product could be prepared bilingually or in English. Sample activities include

- Write a book jacket synopsis, online review, or blog post for a novel or story read in class or outside of school.
- Generate solutions to real-life engineering problems, such as designing an earthquake-resistant school building or a drought-resistant garden. Encourage solutions that represent multicultural viewpoints.
- Play the role of broadcast news anchor and on-site reporters covering a current event in a country of interest.
- Discuss a scientific theory in class (e.g., "Life exists on a planet in another galaxy.") and then conduct research or write an opinion on the topic in a journal.
- Create a campaign ad, video, or social media posting for an historical leader.

Many teachers have curriculum resources with ideas for activities that apply the content topics being studied, but we must remember that multilingual learners need opportunities to apply their growing language knowledge too. For example, it is recommended that for any application task, these learners be challenged to use newly taught sentence structures, vocabulary, reading strategies, and/or other language skills to engage in and complete their work. When SIOP teachers provide supportive environments, which include scaffolds and models, multilingual learners can produce, practice, and apply new language and vocabulary successfully.

Remember that the art of teaching is guiding students to become independent learners. In Chapter 5 we presented a model for scaffolding that shows how a teacher can gradually increase the students' responsibility for learning and doing, and we argued that collaborative practice and structured conversations along with recursive teaching are important bridging steps between guided practice and independent work. Through collaborative learning, students support one another in practicing or applying information while the teacher assists as needed.

On the SIOP rating form, a lesson may receive an N/A for feature #21 if an application activity will happen in a later lesson.

SIOP®

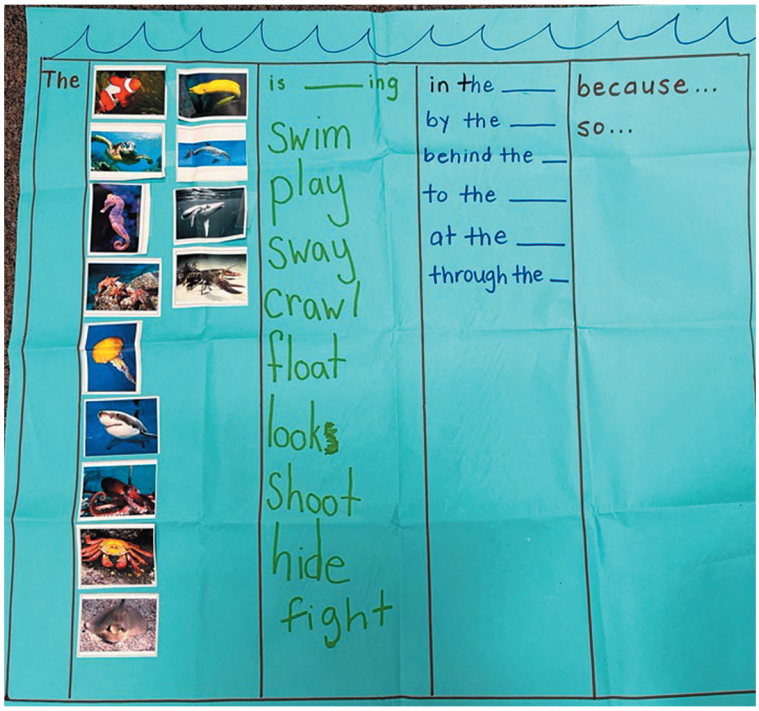
SIOP® FEATURE 22:

Activities Integrate All Language Skills

Reading, writing, listening, and speaking are complex cognitive language processes that are interrelated and integrated. As we go about our daily lives, we move through the processes in a natural way, reading what we write, talking about what we've read, and listening to others talk about what they've read, written, and seen. Most young children become grammatically competent in their home language by age five, and

ARTIFACT 7.2 Oral Language Sentence-Making Chart

Sentence-making chart from a first grade classroom in Oregon with visuals, prepositional phrases, and conjunctions to integrate language practice with content.



their continuing language development relates primarily to vocabulary, more sophisticated grammar usage (e.g., using relative clauses and noun phrases), and functional as well as sociocultural applications of language (e.g., adjusting one's language to a particular audience, developing rhetorical styles) (Peregoy & Boyle, 2017). Proficiency in reading and writing is achieved much later, and differences exist among individuals in levels of competence. Students especially need to learn academic language for school settings where the use of the forms and functions of social language (e.g., simple sentence and question structures) diminish while academic forms and functions (e.g., sentences with embedded clauses and abstract concepts) escalate (see Chapter 1 for a detailed discussion).

Some multilingual learners may achieve competence in the written domains of a second language earlier than in the oral language domains; others may become proficient speakers before they read and write well (August & Shanahan, 2006). But it is important to realize that the language processes—reading, writing, listening, and speaking—are mutually supportive. Although the relationships among the processes are complex, practice in any one promotes development in the others (Baker et al., 2014; Genesee et al., 2006). Research shows that oral and written language can be successfully developed in content area classrooms (Baker et al., 2014; NASEM, 2017).

We also know from research that certain knowledge, skills, and strategies can transfer from multilingual learners' home language to learning and using English. For example, phonological awareness, knowledge of print, listening and reading comprehension skills, and narrative skills that developed through the home language can be applied to English contexts (NASEM, 2017). For that reason, we want to

encourage multilingual learners to use their full linguistic repertoires in our classes (García, Ibarra Johnson, & Seltzer, 2017).

When SIOP teachers create opportunities for multilingual learners to practice and use all four language processes in an integrated manner, they set students up with the means to strengthen their proficiency in English. Throughout the day or class period, effective teachers offer their students varied experiences such as:

- Linking oral discussions of essential questions to reading selections
- Structuring interaction with peers
- Guiding students to use sentence starters and signal words
- Providing students with the chance to listen and react to peers' ideas
- Asking students to write about what is being learned

We do want to clarify two points about language development within the Practice & Application component:

1. Although all identified language objectives in a lesson need to be practiced and applied as the lesson advances, not all language skills that are practiced need to be tied to an objective. In other words, a language objective represents a key skill, language structure, or strategy the teacher plans to teach and intends for students to learn. There may be one domain, for example, that needs attention for a period of time. In a SIOP lesson, the teacher teaches to this objective and assesses, formally or informally, how well students are meeting it. While the objective may focus on one language domain, such as writing, in the course of the lesson, students would have additional opportunities to read, speak, and listen. These should be carefully planned, but need not be assessed in the same way an objective would be.
2. Teachers are sometimes unsure about whether to correct multilingual learners' language errors during practice time. In general, consider students' stages of English language development when deciding whether to correct them. For beginning speakers of English, errors may be developmental and reflect students' home language use (e.g., not remembering to add past tense inflected endings to English verbs). Other errors may deal with placement of adjectives, sentence structure, plurals, and so forth. Research on error correction indicates that impromptu corrections are less effective than setting aside a portion of a lesson to focus on the grammatical forms or usage issues that arise or prompting the learner to self-correct (Lyster & Saito, 2010).

   If errors impede oral communication during a class discussion, you can gently correct students by restating the sentence in proper form. Otherwise, leave the errors alone. If errors are in a written product that is to be displayed, you may want to work with the student to edit it. If you notice, however, that many students make the same error and it does not seem to be due to the language acquisition process, it is reasonable to plan a mini-lesson on the issue for a later class period or provide instruction to a small group while the rest of the class works on another task. What is most important is that you are sensitive to errors that might confuse communication; corrections usually can be modeled in a natural and nonthreatening way.

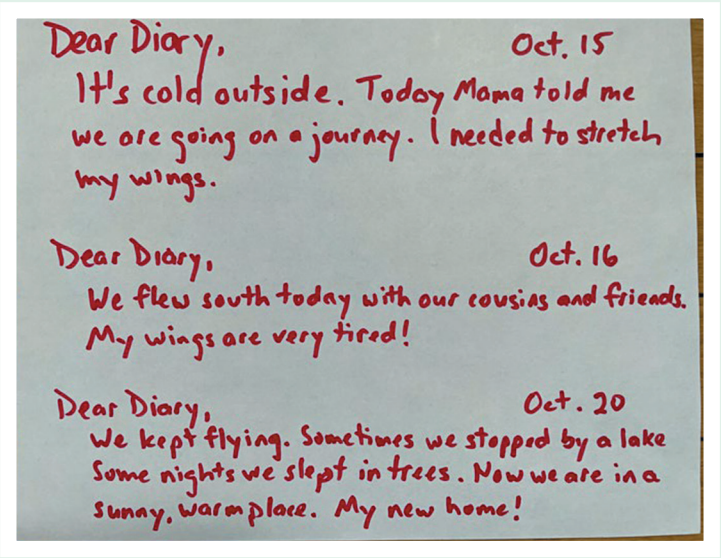
Application to Your Classroom: Practice & Application

In the section that follows, you will find some teaching ideas to help you develop practice and application activities for SIOP lessons:

- **Physical Timeline.** Have students move themselves instead of doing paper-and-pencil tasks for practice. For example, students can form a physical timeline about the Women's Suffrage Movement with their bodies rather than complete a worksheet. Give some students a card displaying a date; others, one displaying an event. The students would organize themselves, first pairing the dates and events, and then forming the human timeline in the front of the room. The date and event partners create a sentence using their terms (e.g., In 1848, the first Women's Rights Convention was held.) and each speaks chorally to the class. To practice more academic language, distribute a few more cards to other students with sequence terms like *"First," "Then," "After That,"* and *"A Few Years Later"* and ask them to find a reasonable spot in the timeline. Then the students in the timeline incorporate the adverbs of time into their explanations as they state their sentences aloud.
- **Games.** Educational, engaging, and fun games provide opportunities to practice or apply new content and language learning. In recent years, popular online game apps and websites, like Kahoot! and Jeopardy have let teachers build game boards to manage the content and language demand. Many allow for differentiation, so less proficient or less knowledgeable students can choose easier questions. More traditional games like Bingo can be used too. For example, students hear a number or word said aloud and then mark its written form on the bingo card; or definitions, synonyms, or antonyms could be read aloud and students would find the corresponding word on the card.
- **Foldables and Cut Paper Shapes.** Folding and/or cutting paper offers a hands-on way for students to organize information. Foldables can be made in various ways. With one foldable type, a sheet of paper is held in a landscape orientation and then folded in half lengthwise (hot dog fold). The front half is then cut into a number of flaps (e.g., three), with the cut going up to the fold. On the outside front, a key word (e.g., *element, compound, mixture*) may be placed on each flap. When each is lifted, a definition may be written on the top half and a picture may be placed on the bottom half. (For examples, see Zike, 2011, 2013.) Teachers can also cut shapes into pieces and distribute them to students who complete a task on their piece and then work with others to make the whole shape. (See, for example, Piece O'Pizza, in Vogt & Echevarria, 2022).
- **Reader's Theater, Role-Plays, and Simulations.** Students can build oral fluency, reinforce content knowledge, and practice language structures and academic vocabulary through Reader's Theater (Short, Vogt, & Echevarría, 2011, pp. 58–60). Teachers create scripts on particular topics to be performed by small groups of students. The teacher may model the script before the students are assigned roles and perform. Role-plays are more informal, with students taking roles and deciding what they want to say while acting out a fictional, historical, or current event. Simulations may place students in real-life situations and have them work together to solve problems or attain a goal.

ARTIFACT 7.3 Character Diary Model

Character Diary model from a SIOP Science Workshop, Virginia.



- **Character Diaries.** Students take the role of a character from a novel, an historical figure, a person in the news, or an object, such as a piece of legislation seeking to become a law. They create several entries in a diary, writing in the voice of that person/item, and including key events. See an example in Artifact 7.3. Teachers may add other requirements to apply specific language objectives such as use of descriptive language, use of past tense or if-then clauses, or use of a key language frame.
- **Audio and Video Software.** Practice and application tasks can be done in the classroom or at home with a variety of software applications like Flipgrid, Voice Thread, and Screencast-o-matic. These tools allow the teacher and students to make a brief video or audio recording and share with another person who can listen, respond, give feedback, or add on. A major benefit for multilingual learners is the opportunity to practice: a recording can be re-recorded easily if a learner wants to make a change.

Differentiating for Multilevel Classes

The Practice & Application component offers teachers a relatively easy way to meet the needs of students with different abilities or proficiency levels in their classrooms. Consider the six options below when you want to adjust activities for your multi-level classes (Echevarría, Short, & Vogt, 2008; Tomlinson & Imbeau, 2010).

1. **Group with a purpose.** Arrange students by language proficiency, home language, learning style or multiple intelligences, demonstrated ability, perceived ability, or another reasoned way that suits the goal of the activity. Mix groups from

> The great benefit of grouping with built-in roles and accountability is that students have to collaborate in solving problems, which is real world and engages the mind of different kinds of styles of learners, from intra-personal to linguistic to kinesthetic. Plus, for students, it's more fun and motivates them to contribute to the team effort.
>
> Scott Wade, High School Newcomer Academy English Teacher, Kentucky

time to time. Rotate roles so the more proficient students produce work or perform first and thus act as peer models for others.

2. **Differentiate the tasks.** Give each group a similar, yet specifically designed and equivalent task, or design one activity at multiple levels of difficulty, such as the scaffolded cloze shown in Figure 7.1, a vocabulary worksheet with a word bank and a companion one without, or a writing assignment with different required lengths or research sources consulted. Explain each group's assignment clearly, making sure it is as demanding as the others. An "easy" task may be as cognitively demanding to multilingual learners with lower English proficiency as a "hard" task is to English speakers. Remember some tasks can be partially or completely done in the students' home languages.
3. **Provide choice of task.** Allow students to use their strengths and preferences in assignments. Understanding of concepts and information can be expressed through art, drama, poetry, oral or video presentation, creating an e-book, and so forth. Some students may opt for a digital or oral presentation to demonstrate their knowledge rather than a written assignment. Less proficient students may be more comfortable with a mode of expression that involves less speaking or extended writing.
4. **Use motivational strategies.** Learn what will motivate your students to perform to their ability. The following may be considered:
   - *Extrinsic:* Actual, physical rewards (points, homework passes, etc.) for accomplishing a task
   - *Intrinsic:* The mental and emotional "reward" for accomplishing a task
   - *Task engagement:* Positive feeling from being part of something that is stimulating, interesting, and do-able
   - *Cooperative, competitive, individualistic:* The three most common classroom goal structures; each has a role, but cooperative goal structures tend to be the most motivational for students
   - *Ego involvement:* Positive feeling about self when able to complete a task
5. **Use leveled questions to engage all learners.** As mentioned previously in Chapter 5, teachers tend to ask higher-level questions more frequently to high-performing students, and more literal-level questions to low-performing students. Instead, know your students' language levels (beginning, intermediate, etc.). Prepare a hierarchy of questions so that students of all proficiency levels are able to participate—simplify word choice and structure in questions for newcomers and beginners. Allocate turns, monitor turn-taking, and make sure you allow enough wait time for less proficient students to respond. Be sure all students are given the chance to be involved and display language supports like sentence frames to aid students in responding.
6. **Select resources for differentiation.** Find texts at different reading levels or in students' home languages on the same or related topics. Use wordless books or photo journals with newcomers. Bookmark websites in English and home language. Although translation websites are not 100% accurate, they are often

FIGURE 7.1 Scaffolded Listening Cloze Dictation Forms

More Proficient Students

Fill in the blanks with the missing words while the teacher reads a passage aloud. You will hear the passage twice.

Gregor Mendel _____ _____ from parent to _____. This _____ is called _____. Mendel used _____ in his _____ experiments. _____ always _____ with the same form of a _____. In one of his experiments, _____. He put the _____ of tall pea plants on the _____ _____ of the short pea plants. He discovered that _____.

Less Proficient Students

Fill in the blanks with the missing words while the teacher reads a passage aloud. You will hear the passage twice.

Gregor Mendel studied how _____ are passed on from parent to _____. This passing on of traits is called _____. Mendel used _____ pea plants in his heredity experiments. _____ plants always produce _____ with the same form of a trait as the parent. In one of his experiments, he _____ _____ pea plants. He put the pollen from the _____ of tall pea plants on the _____ of the flowers of the short pea plants. He _____ that none of the _____ were short.

useful resources. Family and community members may be able to recommend appropriate home language resources.

Two examples of activities follow:

- **Scaffolded Cloze Activities.** Consider a mixed class with students who speak English and multilingual learners. They are studying genetics. The lesson content objective is *"Students will distinguish between dominant and recessive traits"* and the language objective is *"Students will listen and take notes about Mendel's experiments."* For an activity to practice the language objective, a teacher might plan a listening cloze dictation. The English speakers might record what the teacher says as a regular dictation, but the multilingual learners might have two different dictation forms with more or fewer words already written down. (See Figure 7.1.) All the students listen to the paragraph the teacher reads on Gregor Mendel and the study of genetics, and all participate in the listening task, but the task format is differentiated to the students' English abilities. (Note that cloze activities can be a written activity, too, where students fill in words they generate or draw from a word bank.)
- **Information Gap Activities.** These activities, which include Jigsaws, problem solving, and simulations, are set up so each student (generally in a group) has one or two pieces of information about a topic or event, or to help solve a puzzle, but not all the necessary information to get the full picture. Students must work together, sharing information while practicing their language, negotiating, and critical thinking skills. Teachers differentiate by assigning the amount and complexity of the specific pieces of information to students according to their language proficiency, background knowledge, and interests.

The Lesson

Solar System (Ninth Grade Newcomers)

This lesson takes place over two days in an ESL Science Concepts class for newcomer SLIFE students. The students have experienced limited formal schooling in their home countries (less than six years of instruction), have limited literacy in varieties of English and Arabic, and range in age from 15 to 18. They are immigrants and refugees to the United States from Yemen, Lebanon, Sudan, South Sudan, Syria, and Iraq. They have entered high school but have been placed in a specialized, full-day newcomer program for one year. The goal of this class is to develop science academic language and basic middle school science concepts found in the state science standards so that they can take a high school lab science class next year. They are all considered ninth graders because they have no high school credits yet.

The unit being studied this week is the Solar System. On day one, students learned about the planets and the sun in our solar system. This two-day lesson focuses on the locations and movement of the moon and Earth, particularly revolution and rotation. The final lessons extend this basic understanding so students will be able to explain how the Earth's and moon's motions affect the seasons and the tides. The state science standard is "Describe the cyclic pattern of moon phases, eclipses of the sun and moon, and the seasons, using a model of the Earth-sun-moon system."

Teaching Scenarios

Mrs. Bertoni

Mrs. Bertoni had written the lesson agenda on the board: (1) Check homework. (2) Vocabulary: *moon, revolution, revolve, rotation, rotate, axis*. (3) Read chapter pages 83–84. (4) Discussion. (5) Homework assignment. As the students entered the classroom, she asked them to take out their notebooks so she could check their homework. As she circulated, the students talked quietly to one another in Arabic.

The teacher then turned off the lights in the room. She asked students what this made them think of. Several students said "night." She agreed and asked them what they see at night. They said "stars" and "moon"; some in English, others in Arabic. She explained that today they would learn how the moon moves and how the Earth moves. "If it is night, point to the sky and show me where you see the moon." Most students pointed straight up. She asked if the moon was always there, gesturing up too. One student responded in Arabic and a classmate interpreted, "No, it goes around."

Mrs. Bertoni drew a semicircle arc on the board. She drew a full moon at the end on the left side and added arrows to the arc to show the moon moving to the right. She drew a circle to represent the Earth centered below the semicircle. She said, "The moon moves around the Earth" while pointing to the moon and Earth. She asked the class to repeat the sentence and they did. Then she said, "This movement is called

revolution. The moon *revolves* around the Earth." She pointed to the words *revolution* and *revolve* written on the board and asked the students to repeat "The moon revolves around the Earth." She asked one student with more English proficiency to interpret the sentence into Arabic so all would understand. She then drew a sun on the board and made a circle around it that began and ended with Earth. "The Earth revolves around the sun," she said and students repeated.

Next, she drew a line down the middle of the circle representing Earth to indicate the axis (from 1 o'clock to 7 o'clock if this figure were a clock). She explained the Earth leans to the side a little bit (leaning herself as she said this) and turns around an axis. She gestured to the line and indicated the written word *axis* on the board. As she pirouetted, she said, "This turning is called *rotation.*" She had the students repeat the word *rotation* while she pointed to it on the board. She said, "So the Earth rotates around its axis" and pointed to the word *rotate* as well. Students repeated, "The Earth rotates around its axis." She again asked the student with more English proficiency to interpret this sentence into Arabic so all would understand.

Next Mrs. Bertoni asked the students some comprehension questions like "What revolves around the Earth?" and "What does the Earth do?" She accepted brief answers from her newcomer students, like "moon" and "goes around sun." She added the key vocabulary as labels to the drawings on the board and asked the students to copy the annotated illustrations into their notebooks.

After several minutes, Mrs. Bertoni told the students to open their Earth Science textbooks to page 83. She described the photo of the moon and Earth on the page to them. She then read the first paragraph aloud and explained it more simply to the class. She read the next six paragraphs in the same manner. When done with the text, she posed comprehension questions and called on students who raised their hands to answer.

For homework, she asked the students to reread pages 83 and 84 in the text and write down in their notebook one thing they learned.

When students entered the next day, the agenda was posted: (1) Check homework. (2) Write sentences with new vocabulary. (3) Answer comprehension questions. (4) Discussion. (5) Homework assignment. The students opened their notebooks to show Mrs. Bertoni their homework. She asked two students to read aloud what they had learned. She corrected their pronunciation as they spoke.

Next, students were told to write three or four sentences independently using any of the key vocabulary words from this unit. As students worked, she circulated and corrected their sentences. After 10 minutes, she asked four students to write their sentences on the board. One by one they read them aloud, and Mrs. Bertoni pointed out ways she had helped each student improve the grammar or spelling.

For the next activity, she passed out questions related to sun, Earth, and moon movements and had students write responses. They could use their textbook. She again circulated, pointed to paragraphs in the textbook for students to reread, made corrections, and relied on classmates to interpret for struggling students. This activity took longer than she planned so she asked students to finish the task for homework.

Check your understanding: On the SIOP form in Figure 7.2, rate Mrs. Bertoni's lesson on each of the Practice & Application features.

FIGURE 7.2 Practice & Application Component of the SIOP® Model: Mrs. Bertoni's Lesson

4	3	2	1	0	N/A
20. **Hands-on materials and/or manipulatives** provided for students to practice using new content knowledge		**Few hands-on materials and/or manipulatives** provided for students to practice using new content knowledge		**No hands-on materials and/or manipulatives** provided for students to practice using new content knowledge	
4	**3**	**2**	**1**	**0**	**N/A**
21. Activities provided for students to **apply content and language knowledge** in the classroom		Activities provided for students to **apply either content or language knowledge** in the classroom		No activities provided for students to **apply content and language knowledge** in the classroom	
4	**3**	**2**	**1**	**0**	
22. Activities integrate all **language skills** (i.e., reading, writing, listening, and speaking)		Activities integrate some **language skills**		Activities do not integrate **language skills**	

Mr. Sherbiny (see Figure 7.3 for the full lesson plan)

At the beginning of class, Mr. Sherbiny read aloud the lesson's objectives that were written on the board in English and the class chorally repeated them. He explained them in Arabic, his home language.

> **Content Objective:** I will be able to enact, model, and draw examples of revolution and rotation using the Earth, sun, and moon.
>
> **Language Objective:** I will be able to explain the movement of the Earth and moon orally and in writing using the language frames: "The _____ revolves around the _____." And "The _____ rotates on its axis."

Mr. Sherbiny then introduced key terms on the word wall: *revolve* (v)/*revolution* (n), *rotate* (v)/*rotation* (n), *axis* (n), *move* (v)/*movement* (n), *tilt* (n/v), and *moon* (n). Each word or word pair was written in Arabic and English with the part of speech on a large card, and there was a picture associated with each one as well. Using the visuals, he explained the meaning of the words and had students pronounce them aloud. He then asked students for real-life examples of *revolve, rotate*, and *move*. Some offered examples in English, others in Arabic. He next explained why three of the cards listed both a verb and a noun, pointing out the suffixes *-tion* and *-ment* and the root connection between the words. He associated *axis* to math graphs they had studied. He asked students to think-pair-share what they knew about how the Earth moves and how the moon moves. As was the classroom culture, the students could discuss their ideas in their home language or English.

Using three different sized balls labeled Sun, Earth, and Moon, he guided three students in demonstrating revolution and rotation. First, one student held the sun at the front of the room and a second revolved around the sun, as Earth. The class chorally repeated: "The Earth revolves around the sun. One trip around is a revolution." Then, a third student revolved around Earth as the moon. The class chorally repeated, "The moon revolves around the Earth. One trip around is a revolution."

Next Mr. Sherbiny showed the class how the Earth rotates on its axis and introduced the term, *tilt*. The class chorused, "The Earth rotates on its axis. The Earth is tilted. One turn around the axis is a rotation." He had the moon revolve while the Earth rotated with the axis at a slight angle. Finally, he guided the moon to revolve around the Earth while it rotated and revolved around the sun. The students repeated the demonstrations one at a time, and Mr. Sherbiny asked some comprehension questions of the class, some of which tapped prior knowledge. For example, he asked how long it takes for the Earth to revolve around the sun, and how long for the Earth to rotate. The three students performed each demonstration a final time while the teacher led the class in choral explanations, such as "The moon revolves around the Earth," to model the language frames.

Mr. Sherbiny gave each student group a plastic bag with cut-out pictures of the sun, moon, and Earth. He told the groups to manipulate the objects to show revolution and rotation. He asked students to take turns saying the explanation aloud to their group. He circulated and listened in, sometimes asking comprehension questions, sometimes asking students to stand and act out the movements.

The class next read about rotation and revolution from a section of a science textbook written for low literacy students. Before they started, Mr. Sherbiny asked them to raise their hand when they said or heard *revolution*, *revolve, rotation,* or *rotate*. One student read the first paragraph aloud. A second student read that same paragraph a second time. The teacher asked a question or two after each second reading. Most of the students remembered to raise their hands when the key words were read aloud.

After that, the teacher asked each group to create a drawing to show the sun and the movement of the Earth and moon and to write some sentences using the frames in the language objective. He circulated to check their work, and when he approved it, the students copied the drawing and sentences into their notebooks.

To wrap up, students were then asked to think of things in real life that rotate or revolve. They talked in their groups in English and Arabic. After several minutes, Mr. Sherbiny asked the students to draw their example on the board or act it out. They needed to explain it aloud, and some used English, others Arabic. Some examples that students shared were dances, race cars, running around the gym, and an electric fan. The class then revisited the objectives and students indicated how well they had learned each one, rating them by showing 1, 2, or 3 fingers (*1 = I know the concept well*).

At the start of the next day, Mr. Sherbiny asked student pairs to read the objectives to each other: Partner A would read the content objective, Partner B the language one. As a review, students volunteered to act out the key concepts and terms. The other students guessed what was being demonstrated and shared with a partner.

Mr. Sherbiny wrote the question "Why do we have day and night?" on the board. He paired students and asked them to apply what they learned the day before as they discussed the response. After three minutes, he had students share their ideas with the frame *"We have day/night because . . . "* He then asked for volunteers to try to demonstrate day and night on Earth with the different sized balls.

Next, Mr. Sherbiny distributed the classroom iPads and headsets to the student pairs. He introduced the screencasting app on the classroom iPads. He showed students how to screencast, using a photo he had taken of the sun, moon, and Earth cut-outs and playing audio he had recorded about revolution and rotation. He told the students they would take photos, too, and would record their oral explanations using the app to describe the Earth's and moon's movements. He encouraged them

FIGURE 7.3 Mr. Sherbiny's SIOP® Lesson Plan for Grade 9 Newcomer Science Class

STANDARDS:

Science: Develop and use a model of the Earth-sun-moon system to describe the cyclic patterns of lunar phases, eclipses of the sun and moon, and seasons.

ELD: Multilingual learners communicate information, ideas, and concepts necessary for academic success in the content area of Science.

LESSON TOPIC: Solar System—Earth, Sun, & Moon

OBJECTIVES:

Content Objective: I will be able to enact, model, and draw examples of revolution and rotation using the Earth, sun, and moon.

Language Objective: I will be able to explain the movement of the Earth and moon orally and in writing using the language frames: *"The ____ revolves around the ____."* and *"The ____ rotates on its axis."*

LEARNING STRATEGIES: Think-pair-share, double reading, active listening, summarizing

KEY VOCABULARY: *revolve* (v)/*revolution* (n), *rotate* (v)/*rotation* (n), *move* (v)/*movement* (n), *axis* (n), *tilt* (n/v), *moon* (n), *-tion*, *-ment* (post in English and Arabic)

MATERIALS: vocabulary cards; balls to represent sun, Earth, moon; cut-out pictures of the sun, moon, and Earth, iPads with screencast app, headsets, teacher-made screencast

Day 1

MOTIVATION:

Review objectives with class in English and Arabic.

Introduce science vocabulary on cards with visuals and explain parts of speech. Point out suffixes. Have students think-pair-share ideas about Earth and moon movements and generate examples of new vocabulary in English or Arabic.

PRESENTATION:

Have students hold balls representing sun, Earth, moon to demonstrate revolution and rotation. Start with Earth revolving around sun, then moon revolving around Earth. Have students practice the language frame, *"The ____ revolves around the ____."* Also ask students to repeat *"One trip around is a revolution."*

Show *tilt* and *axis* on Earth and demonstrate rotation. Have students practice the language frame, *"The ____ rotates on its axis."* Ask students to repeat "*The Earth is tilted. One turn around the axis is a rotation.*"

Demonstrate rotation and revolution together. First, Earth rotating while circling sun, then add moon revolving around Earth. Check student comprehension and knowledge of Earth and moon movements.

PRACTICE:

Distribute cut-out pictures of Earth, moon, and sun and have student groups practice rotation and revolution at their tables. Encourage use of the language frames. As needed, have students act out movements to show comprehension.

Have class read science text, using the double reading strategy. Select one student to read a paragraph aloud and then another to reread it. Ask all students to raise a hand when they say or hear *revolution, revolve, rotation,* or *rotate*. Ask some comprehension questions after each second reading.

Have students draw and label diagrams in their notebooks of rotation and revolution. Students write some sentences using the language frames.

REVIEW & ASSESSMENT:

Have students talk with table mates in English or Arabic and generate real-life examples of things that rotate and revolve. Students draw their examples on the board or act them out.

Review objectives. Have students self-assess 1, 2, 3 for each objective. (1 finger I know it well, 3 fingers I don't understand.)

Day 2

MOTIVATION:

Have partners review objectives with each other in English or Arabic.

Ask student volunteers to stand and act out the key concepts and terms. The other students guess what is being demonstrated and share with a partner.

(continued)

FIGURE 7.3 **SIOP Lesson: Mr. Sherbiny's Lesson Plan for Grade 9 Newcomer Science Class *(continued)***

PRESENTATION:

Ask student pairs to apply their knowledge of Earth's movements and explain how day and night occur. Use the language frame: *We have day/night because _____.*

Confirm or elaborate student understanding of the day/night phenomenon.

APPLICATION:

Distribute iPads and headsets, and Earth, sun, and moon cut-outs. Model how to use the iPad camera and the screencast app to make a video recording. Play the teacher-made sample recording. Explain purpose is to summarize what students have learned about revolution, rotation, day, and night.

Have student pairs work on making screencasts. Some may want to record once in Arabic and then again in English.

REVIEW & ASSESSMENT:

Exit Ticket: Have students write one thing they still wonder about.

to use the sentence frames still posted from the day before and add more to their oral explanations about day and night. He explained that they could listen to the recording and re-record if they wanted to improve their speech. Students could record in Arabic but he also wanted them to record in English.

The pairs arranged the cut-outs on the table and began taking photos of them with the iPads. The photos saved automatically to the devices and were easily accessed later within the screencasting app. After the photos had been taken, the pairs then spread out across the room and into the hallway to record their explanations. Mr. Sherbiny circulated and encouraged the students, helping with the app's functions if requested and reminding students of the task.

At the lesson's close, the class reviewed the lesson objectives. Before the students left the classroom, they wrote one thing they still wondered about on a notecard.

Check your understanding: On the SIOP form in Figure 7.4, rate Mr. Sherbiny's lesson on each of the Practice & Application features.

FIGURE 7.4 **Practice & Application Component of the SIOP® Model: Mr. Sherbiny's Lesson**

4	3	2	1	0	N/A
20. **Hands-on materials and/or manipulatives** provided for students to practice using new content knowledge		**Few hands-on materials and/ or manipulatives** provided for students to practice using new content knowledge		**No hands-on materials and/ or manipulatives** provided for students to practice using new content knowledge	
4	**3**	**2**	**1**	**0**	**N/A**
21. Activities provided for students to **apply content and language knowledge** in the classroom		Activities provided for students to **apply either content or language knowledge** in the classroom		No activities provided for students to **apply content and language knowledge** in the classroom	
4	**3**	**2**	**1**	**0**	
22. Activities integrate all **language skills** (i.e., reading, writing, listening, and speaking)		Activities integrate some **language skills**		Activities do not integrate **language skills**	

Mrs. Aliheri

After the students entered Mrs. Aliheri's classroom, she turned on the interactive whiteboard and projected a video clip. The students watched the Earth revolve around the sun and the moon revolve around the Earth while a voice explained what they were seeing. Mrs. Aliheri paused the clip and wrote *revolve* and *revolution* on the side of the smartboard. She then continued the clip and the students watched the Earth rotating and listened to the explanation. After that, the teacher wrote *rotate* and *rotation* on the board. Next, the video showed scenes depicting the four seasons and day and night while the voiceover explained how these phenomena are the result of the Earth's revolution and its rotation. Mrs. Aliheri added *seasons, day*, and *night* to the board as well.

"I'm going to play this clip again without the sound," Mrs. Aliheri said. "When you see a revolution, I want you to raise one finger. When you see a rotation, raise two fingers." She replayed the clip and students indicated their understanding. Several were confused between rotation and revolution so she played the clip again with the sound on.

Next, the class opened their textbooks to read the section on the topic. Mrs. Aliheri used a book from the elementary school because the reading level was lower. Although some illustrations depicted young children, she believed the text was better for the students who lacked literacy. She asked students to read the assigned pages with a partner. She circulated, listened, and occasionally corrected pronunciation. After 15 minutes of the partner reading, she asked some comprehension questions. Mostly the same three students raised their hands to respond.

To wrap up the lesson, she distributed one word card each to nine students: *moon, Earth, sun, rotates, revolves, seasons, day, night, around.* She asked them to come to the front of the room and use some of their cards to make a sentence. This proved confusing, so she had certain students put their cards on the board: *Earth, sun, revolves*, *around*. She moved the cards into the following order: *Earth, revolves*, *around*, *sun* and modeled how to turn that into a sentence orally: *"The Earth revolves around the sun*." She then wrote out the sentence. She called up more students to place cards: *night, day, rotates, Earth*. She asked the class for help forming a sentence, but no one was able to perform the task. She asked one student to move the cards into an order she dictated: *Earth, rotates, day, night*. She stated, *"Because the Earth rotates, we have day and night."* She wrote this and had the class copy both sentences into their notebooks.

As class started the next day, Mrs. Aliheri acknowledged that the writing activity the day before did not work well so she had another activity. She passed out a cloze paragraph about the Earth, moon, and sun with a word bank. She asked students to individually complete the paragraph on the worksheet by adding the missing words. After five minutes she called on a few students in turn to read a sentence from the paragraph aloud. She corrected their terms and pronunciation whenever she perceived a mistake.

Mrs. Aliheri then told the class they would do a pop quiz via Kahoot!. The students enjoyed the online tool's game atmosphere. They signed in on class iPads and began the quiz that she had prepared. At the end, she viewed an online form that indicated how students performed on each question. Of her 10 questions, most of the class only had 3 or 4 correct. She told the students to reread the pages in the textbook. They could work with a partner if they liked.

To wrap-up the class, the students took the pop quiz again using Kahoot! More than half of the class still had fewer than 6 questions correct.

FIGURE 7.5 Practice & Application Component of the SIOP® Model: Mrs. Aliheri's Lesson

4	3	2	1	0	N/A
20. **Hands-on materials and/or manipulatives** provided for students to practice using new content knowledge		Few **hands-on materials and/or manipulatives** provided for students to practice using new content knowledge		No **hands-on materials and/or manipulatives** provided for students to practice using new content knowledge	
4	**3**	**2**	**1**	**0**	**N/A**
21. Activities provided for students to **apply content and language knowledge** in the classroom		Activities provided for students to **apply either content or language knowledge** in the classroom		No activities provided for students to **apply content and language knowledge** in the classroom	
4	**3**	**2**	**1**	**0**	
22. Activities integrate all **language skills** (i.e., reading, writing, listening, and speaking)		Activities integrate some **language skills**		Activities do not integrate **language skills**	

Check your understanding: On the SIOP form in Figure 7.5, rate Mrs. Aliheri's lesson on each of the Practice & Application features.

Discussion of Lessons

Look back at your rating form and think about the reasons you scored the lessons as you did. What evidence is in the scenarios? Read on to see our analyses.

20. *Hands-On Materials and/or Manipulatives Provided for Students to Practice Using New Content Knowledge*

Mrs. Bertoni: 0

Mr. Sherbiny: 4

Mrs. Aliheri: 1

- Although **Mrs. Bertoni** visually modeled the movements of rotation and revolution, she did not have the students use manipulatives or do a kinesthetic task. The one time they used a gesture (pointing to the ceiling to indicate the moon's location) was actually a connection to their prior knowledge. The students were mostly passive while they copied her illustration from the board. Listening to a teacher read is not a practice activity. The first day they had no opportunities to practice using the new words orally, and writing vocabulary sentences and answers to reading comprehension questions on the second day did not meet the goal of this feature. Mrs. Bertoni tried to scaffold the information for the students, using the diagram on the board and paraphrasing the text, but she failed to give them any guided or independent work to strengthen their content learning. For newcomers with limited English skills, hands-on activities would have made the new information more concrete and more meaningful. This lesson received a "0" for providing hands-on materials or manipulatives for practice.

- **Mr. Sherbiny** planned and implemented several hands-on practice activities in this lesson. For example, students used manipulatives in small groups to demonstrate revolution and rotation and practiced language frames to explain the concepts. Later, each group made a drawing to show the movements and shared it with the class. Mr. Sherbiny also asked students to listen for key words and raise their hands when they heard them. They used the manipulatives again the second day for their screencast photos. Therefore, Mr. Sherbiny's lesson received a "4" for this feature. Through multiple repetitions and informal assessments, Mr. Sherbiny was able to determine whether students mastered the content and key vocabulary concepts. Such meaningful practice made concrete what could have been abstract for the multilingual learners.
- **Mrs. Aliheri** tried to involve students through movement by having them signal with fingers when they recognized *rotation* and *revolution* in the video clip. She also tried to have students manipulate word cards to make sentences, but her planning was poor, the explanation of the task was unclear, and so the task was fruitless. If she had narrowed the focus, included cards for all the words needed to make a sentence, distributed cards for only one sentence at a time, and modeled for the students from the start, these newcomers might have had a chance at success. Instead, she assumed too much. These low literate students were not ready to form sentences that she alone had in mind with only a partial set of words and the need to add words, such as *because*. Completing the worksheet the next day did not meet this feature either. Her lesson was rated a "1" for providing hands-on materials or manipulatives for practice.

21. *Activities Provided for Students to Apply Content and Language Knowledge in the Classroom*

Mrs. Bertoni: 0

Mr. Sherbiny: 4

Mrs. Aliheri: 0

- Because this was a multiday lesson and the concepts of rotation and revolution were fairly straightforward, time was available for both practice and application. Despite this, **Mrs. Bertoni's** lesson did not include an application activity. As a result, the lesson also received a "0" on the SIOP protocol for applying content and language knowledge. It is doubtful that the multilingual learners had a clear understanding of concepts or that they could apply what they had learned in any meaningful way on their own. The Day 1 homework assignment—to read the chapter independently and to write one thing they learned—is not an application activity. The Day 2 assignment was a continuation of classwork—answering reading comprehension questions. Both tasks were better suited to in-class work so the teacher could support the emerging English literacy skills of these newcomers. No task applied the language or content knowledge from this lesson to a new concept, real-life situation, or their personal experiences.
- **Mr. Sherbiny's** lesson received a "4" for applying content and language knowledge. After the students demonstrated their understanding of the newly learned concepts through practice, he had them apply that knowledge in several ways. They had to think of real-life examples where something rotates or revolves, they

had to explain the day and night phenomenon using their newly acquired knowledge, and they had to apply their knowledge in making a screencast recording. With these underschooled newcomers, it was fitting as well as culturally responsive to have them work in groups and discuss their ideas, in English and their home language. By permitting the use of the home language, Mr. Sherbiny allowed for translanguaging, especially since students could use words and phrases they had not learned in English yet. He often restated in English what a student had said in Arabic, thus acting as a language model for the class, which advanced the students' language skills.

- **Mrs. Aliheri's** lesson did not have an application activity during this 2-day lesson and so received a "0" for this feature. There were very few opportunities for students to practice their language knowledge orally and none to apply it. The video clip introduced the concepts and the reading reinforced them, but students were not asked to apply the concepts in any new manner. Playing Kahoot! as a quiz was an assessment, not an application activity.

22. *Activities Integrate All Language Skills*

Mrs. Bertoni: 2

Mr. Sherbiny: 4

Mrs. Aliheri: 1

- **Mrs. Bertoni's** lesson on rotation and revolution was teacher directed and focused on information presentation. For the most part, the multilingual learners listened to the teacher—when she was drawing on the board, asking questions, reading aloud, or correcting their work. Some students answered her questions, but she did not make sure each multilingual learner had an opportunity to talk about the new concepts. On neither day did they have an academic discussion, just a teacher-dominated Q & A. The first day, students may have followed along with the reading silently, but since she summarized each paragraph, they did not need to practice reading comprehension skills. The second day they read independently to answer questions, but several struggled and did not finish in the class period. The vocabulary sentence activity gave students a chance to write their own sentences, but they worked alone with only her input. Her lesson received a "2" on the SIOP protocol for integrating all language skills.
- **Mr. Sherbiny's** lesson received a "4" on the SIOP protocol for this feature. Throughout this lesson, multilingual learners were listening, speaking, reading, and writing about rotation and revolution. Mr. Sherbiny gave his newcomers with limited formal schooling repeated practice hearing the new words, using the words and language frames while manipulating representative objects, listening for and reacting to key words when heard (raising their hands), reading the text, writing sentences, and making a screencast recording to summarize what they had learned. The language processes were well integrated into the delivery of the space systems content. He used Arabic to explain and clarify information for these newly arrived adolescents, and he made sure they practiced the English words and sentence frames. The teacher facilitated student-to-student interaction and modeled and checked on appropriate language use.

- **Mrs. Aliheri's** lesson on paper included activities that practiced language skills, but the execution was weak. Students watched and listened to a video about rotation and revolution, but the input was confusing to many. They did some partner reading from the textbook both days, but did not comprehend the material well, as evidenced by the Kahoot! quiz results. She wanted students to manipulate word cards and make some sentences, but she did not scaffold the process, and so none of them were able to complete the task. On Day 1, they copied two sentences into their notebooks and on Day 2 they completed a cloze exercise; both were minimal writing tasks for newcomers. This lesson received a "1" for integrating all language skills.

Final Points

As you reflect on this chapter and the impact that practice and application has on learning, consider the following main points:

- With any type of new learning, students need practice and application of newly acquired skills to ensure mastery of content concepts.
- Activities should be designed to help multilingual learners meet or master the content and language objectives. Use of the home language during practice and application activities can act as a scaffold for completing a task or as a resource for acquiring information. Activities can be differentiated to take into account students' proficiency levels, needs, and interests.
- You should plan a variety of activities and materials that include manipulatives or movement to enable students to forge connections between abstract and concrete concepts in a less language-dependent way.
- When you create application activities to extend learning, be sure to relate the activities to both the language and the content objectives.
- Because students have different preferred learning styles, when teachers use different modalities for instruction and encourage students to practice and apply new knowledge through multiple language processes, they have a better chance of meeting students' needs and furthering both their language and content development.

Discussion Questions

1. In reflecting on the learning outcomes in the content and language objectives at the beginning of the chapter, are you able to:
   a. Identify a variety of ways for students to enhance their learning through hands-on or kinesthetic practice?
   b. Create application activities that extend the learning in new ways and relate to language or content objectives?
   c. Enhance typical lesson tasks so that different language skills are integrated?
   d. As part of a lesson plan, write practice and application activities linked to specific lesson objectives?

2. Compare and contrast the following two teachers' approaches to teaching a lesson on coordinate planes and slope.
   a. One teacher's approach involves a lecture, graphs of lines with differing slopes, and a formula to calculate slope. Students are then tested about their knowledge of slopes by drawing lines on graphs after being given a slope and *y*-intercept.
   b. The other teacher's approach begins with students angling their textbooks to different heights and rolling their pencils down to determine how the angle affects speed. She introduces the word *slope* and asks students to describe bike riding up and down hills. Groups generate ideas as to why knowing a slope is important. She then has the students practice drawing some lines on graphs and explains the formula, $y = mx + b$. Groups then use mapping software to view 3D images of a ski resort and determine the slopes of several ski runs.

   Which approach to teaching this content concept is most appropriate for multilingual learners? How do you know? Be as specific as you can.
3. One way to ensure practice and application of new knowledge is through project-based learning. Develop a unit project that students in one of your courses can build incrementally as the series of lessons progresses over several days or weeks. Identify the steps to completion that students will accomplish in each lesson of the unit. Try to collaborate across departments, such as ESL and history or physical education and science. Plan a culminating presentation or performance that will enhance language practice.
4. Multilingual learners benefit from the integration of reading, writing, listening, and speaking during a lesson. What adjustments and techniques can a teacher use to provide successful experiences for students with limited English language proficiency while they read, write, listen, and speak about new information they are learning? Include specific activities and examples in your answer.
5. English language arts, mathematics, and science teachers are responsible for incorporating rigorous state standards in their instruction. How is it possible to provide direct application and hands-on practice for lessons? What can teachers do to alleviate the conflict between "covering the content" and giving multilingual learners time to practice the language along with the content?
6. Using the SIOP lesson you have been developing, write some activities for students to practice and then apply the key language and content concepts.