Making Content Comprehensible for English Learners: The SIOP® Model

fifth edition

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Preface

Even though the Sheltered Instruction Observation Protocol (now known as SIOP) has been used in schools for almost 20 years, it has never been more relevant than it is today with the emphasis on rigorous academic standards for all students such as the Common Core State Standards (CCSS) and Next Generation Science Standards (NGSS). Teachers—now more than ever—need a proven approach for making instruction understandable for English learners while at the same time developing their academic language skills. The SIOP is a mechanism for helping students reach high academic standards, and many of the features of SIOP are reflected in the standards, such as the emphasis on speaking and listening skills.

We hope that you will use this book (paper or electronic, depending on the book you've chosen) as a guide for lesson planning and teaching. SIOP teachers tell us that it is a resource they turn to again and again as they plan and carry out effective lessons, so we encourage you to highlight sections, mark pages with sticky notes, and fill margins with application ideas. We've written the book in a teacher-friendly way, and our hope is that it will become a valuable resource to you as you strive to become a high-implementing SIOP teacher. As you read, you will find lesson plans, teaching ideas, and many effective activities for working with English learners. Our recent research confirms that the SIOP Model makes a positive difference academically for all students, so what works well for English learners will work equally well with others in your classroom.

It is hard to believe that so many years have passed since we first began our journey with the SIOP Model. Back then, it would have been difficult to fathom that today, the SIOP Model would be implemented in schools throughout all 50 states in the United States, and in numerous countries. Whether you are already familiar with the SIOP Model or are just now learning about SIOP, we hope that you will find this fifth edition to be informative, helpful, and, most importantly, beneficial to the English learners and other students with whom you work. When we began our research, we recognized the need for a comprehensive, well-articulated model of instruction for preparing teachers to work with English learners. From this need, the SIOP was created. Now, with the widespread use of the SIOP Model, we have since written more than a dozen additional books on topics related to teaching English learners and SIOP implementation. (See Appendix D.)

Our work on the SIOP Model started in the early1990s when there was a growing population of English learners, but no coherent model for teaching this student population. We began our efforts by reviewing the literature and examining district-produced guidelines for English learners to find agreement on a definition of sheltered instruction, also known as SDAIE (Specially Designed Academic Instruction in English) in some regions. A preliminary observation protocol was drafted and field-tested with sheltered instruction teachers. A research project through the Center for Research on Education, Diversity, & Excellence (CREDE) enabled us to engage in an intensive refinement process and to use the SIOP Model in a sustained

professional development effort with teachers on both the East and West Coasts. Through this process of classroom observation, coaching, discussion, and reflection, the instrument was refined and changed, and it evolved into the Sheltered Instruction Observation Protocol, or as it has come to be known, SIOP® (pronounced sī-ŏp). SIOP offers teachers a model for lesson planning and implementation that provides English learners with access to grade-level content standards, including the Common Core and Next Generation Science Standards. By providing this access, we help prepare students for life after high school in colleges or careers as well.

Although a number of approaches to teaching English learners have emerged over the years, at present, SIOP remains the only research-validated model of sheltered instruction. Our studies have appeared in numerous peer-reviewed professional journals. In fact, because of its applicability across content areas, the national Center for Research on the Educational Achievement and Teaching of English Language Learners (CREATE) used the SIOP Model as a framework for comprehensive school-wide intervention in its research aimed at improving the achievement of English learners in middle school. The SIOP Model is now being implemented at all levels of education from pre-K to community colleges and universities. It is used in sheltered content classes (also called integrated ELD in some states), dual language programs, content-based ESL classes, special education instruction, and general education classrooms.

Since the first edition of this book was published, we have continued to develop and refine the SIOP Model, but we have not changed the eight components and 30 features. They have withstood the test of time. In our work with thousands of teachers and administrators throughout the country, our own understanding of effective sheltered instruction and the needs of English learners has grown substantially. We believe, and research on SIOP confirms, that when teachers consistently and systematically implement the SIOP Model's 30 features in lessons for English learners and English speakers alike, the result is high-quality, effective instruction and improvement of student achievement.

As the authors of this book, we have approached our teaching, writing, and research from different yet complementary fields. Jana Echevarría's research and publications have focused on issues in the education of English learners, and on English learners with special education needs, as well as on professional development for regular and special education teachers. MaryEllen Vogt's research and publications focus primarily on improving reading instruction, including improving comprehension in the content areas, content literacy for English learners, and teacher change and development. Deborah Short is a researcher and former sheltered instruction teacher with expertise in second language development, academic literacy, methods for integrating language and content instruction, materials development, and teacher change.

The strength of our collaboration is that we approach the issue of educating English learners from different perspectives. In writing this fifth edition of *Making Content Comprehensible for English Learners: The SIOP® Model*, we each provided a slightly different lens through which to view and discuss instructional situations. But our varied experiences have led us to the same conclusion: Educators need a resource for planning and implementing high-quality lessons for English learners and other students—lessons that will prepare students eventually for college and careers—and SIOP is fulfilling this need.

What's New in This Edition

In this fifth edition, we have added a number of features based on the feedback we have received from educators who use SIOP. In particular, we have digitized the book in order to put more resources at your fingertips. There are embedded links to video clips of lessons and interviews and to lesson plan templates. Cognizant of the importance of instructional technology today, we have added sections on "Teaching with Technology" to the chapters describing the SIOP components. Further, we have made the book more interactive with opportunities for you to assess and reflect on what you are learning as you read and apply the ideas in this book.

Specifically, the changes to chapters include the following:

Chapter 1 Introducing the SIOP® Model

- Updated demographics and research throughout
- Updated discussion of English learners' backgrounds and academic performance
- Updated discussion of current educational trends, including the Common Core State Standards and the Next Generation Science Standards
- Up-to-date discussion of academic language and literacy
- New video links inserted throughout to illustrate chapter discussion
- New Reflect and Apply eText feature
- Revised discussion questions
- New end of chapter Review & Assessment quiz in eText

Chapter 2 Lesson Preparation

- Updated research throughout
- Enhanced sections discussing content and language objectives and how to write them
- New figures related to Lesson Preparation
- Revised Teaching Scenarios and lesson plan
- New Reflect and Apply eText feature in which readers explain their ratings of teachers' lessons
- New feature: Teaching with Technology
- New video links inserted throughout to illustrate chapter discussion
- Revised discussion questions
- New end of chapter Review & Assessment quiz in eText

Chapter 3 Building Background

- Substantive discussion of three categories of academic vocabulary
- New feature: Teaching with Technology
- New video links inserted throughout the e-Text to illustrate chapter discussion
- New Reflect and Apply eText feature where readers explain their ratings of teachers' lessons

- Revised discussion questions
- New end of chapter Review & Assessment quiz in eText

Chapter 4 Comprehensible Input

- Updated research throughout
- New feature: Teaching with Technology
- Revised Teaching Scenarios lessons to reflect NGSS standards.
- New video links inserted throughout to illustrate chapter discussion
- New Reflect and Apply eText feature where readers explain their ratings of teachers' lessons
- Revised discussion questions
- New end of chapter Review & Assessment quiz in eText

Chapter 5 Strategies

- Updated description of strategic processing
- Reorganized classification of learning strategies
- New feature: Teaching with Technology
- New video links inserted throughout the eText to illustrate chapter discussion
- New Reflect and Apply eText feature where readers explain their ratings of teachers' lessons
- Revised discussion questions
- New end of chapter Review & Assessment quiz in eText

Chapter 6 Interaction

- Updated research throughout
- New video links inserted throughout to illustrate chapter discussion
- Revised discussion of the features including examples of the Common Core State Standards
- New feature: Teaching with Technology
- New Reflect and Apply eText feature where readers explain their ratings of teachers' lessons
- Revised discussion questions
- New end of chapter Review & Assessment quiz in eText

Chapter 7 Practice & Application

- Updated research throughout
- New Reflect and Apply eText feature where readers explain their ratings of teachers' lessons
- New feature: Teaching with Technology
- New video links inserted throughout to illustrate chapter discussion
- Revised Teaching Scenarios
- Revised discussion questions

- New end of chapter Review & Assessment quiz in eText

Chapter 8 Lesson Delivery

- Revised chapter objectives
- Updated research throughout
- Additional ideas for differentiation
- Revised Teaching Scenarios
- New Reflect and Apply eText feature where readers explain their ratings of teachers' lessons
- New feature: Teaching with Technology
- New video links inserted throughout to illustrate chapter discussion
- Revised discussion questions
- New end of chapter Review & Assessment quiz in eText

Chapter 9 Review & Assessment

- New discussion exploring the relationship between classroom context and assessment
- New questions to consider during progress monitoring students' reading development
- Expanded discussion on issues related to the formal and informal assessment of English learners
- New Reflect and Apply eText feature where readers explain their ratings of teachers' lessons
- New feature: Teaching with Technology
- New video links inserted throughout to illustrate chapter discussion
- Revised discussion questions
- New end of chapter Review & Assessment quiz in eText

Chapter 10 Issues of Reading, RTI, and Special Education for English Learners

- Updated discussion of reading and assessment issues for English learners,
- New section on the Common Core State Standards or other state English Language Arts Standards
- New Reflect and Apply eText feature
- Revised, comprehensive section on English learners and special education
- Updated research throughout
- New video links inserted throughout to illustrate chapter discussion
- Revised discussion questions
- New end of chapter Review & Assessment quiz in eText

Chapter 11 Effective Use of the SIOP® Protocol

- Updated and revised discussion of best practices in using the SIOP protocol and the use of SIOP scores
- New section: Using Non-Numeric Scores

- New video link to illustrate chapter discussion

Chapter 12 Frequently Asked Questions: Getting Started with the SIOP®

- New video links inserted throughout to illustrate answers to some of the frequently asked questions

Appendix B

- New lesson plan format

Appendix C

- Updated discussion of SIOP research

Appendix D

- Updated list of resources for further information, including books, journal articles, book chapters, and downloadable research briefs https://siopblog.wordpress.com/
- Web site with information about SIOP professional development, http://siop.pearson.com
- Web site for accessing SIOP Blogs https://siopblog.wordpress.com/

Highlights in the Book

- **Content and language objectives.** One of the most important aspects of SIOP is the inclusion of both content and language objectives for each and every lesson. Many teachers have found writing these objectives to be challenging, even as they acknowledge their importance both for their own planning and for their students' understanding of the lesson's content goals and language focus. Therefore, you will find an expanded section in Chapter 2 (Lesson Preparation) that provides specific guidance for writing a range of language objectives, along with recommendations for how to effectively present them orally and in writing to students.
- **Discussion of the eight components and 30 features of the SIOP.** Each chapter begins with discussion of a component of the SIOP and its various features. For example, the discussion of lesson planning is found in the first half of Chapter 2. As you read about each feature in this section, think about how it would "look" in an actual classroom setting and how teachers might use this information to prepare effective sheltered lessons.
- **Teaching scenarios.** The second half of each component chapter includes teaching scenarios. In these vignettes, teachers, who are teaching the same grade level and content, attempt to include the focal SIOP features, but with varying degrees of success. At the end of each teaching scenario, you will have the opportunity to use that component section of the SIOP to rate the effectiveness of the lesson in implementing these particular SIOP features. For example, as you read the teaching scenarios in Chapter 2, think about how well the three

teachers included the features of the Lesson Preparation component in their planning and introduction of the lesson to the class. Note that the illustrated lessons throughout the book range from elementary to high school and they cover a variety of content areas and student language proficiency levels. Many lessons reflect the Common Core State Standards (CCSS) or Next Generation Science Standards (NGSS) and specific standards are cited in several lessons.

- **Discussion of the three teaching scenarios.** Following the description of the three teachers' lessons, you will be able to see how we have rated the lessons for their inclusion of the SIOP features of effective sheltered instruction. We provide detailed explanations for the ratings and encourage you to discuss these with others in order to develop a degree of inter-rater reliability. In the eText, the Reflect and Apply feature allows you to explain your rating of each teacher's lesson in writing and print a copy for use during discussions in teacher preparation courses, in professional development sessions, or in learning groups at your school site.
- **Teaching with Technology vignettes.** New to this edition, each chapter has an added vignette that is related to the teaching scenarios. In the vignettes, the school's technology integration specialist, Ms. Palacios, suggests ways to enhance the target lessons by integrating specific technology applications. **Please note**: Due to the evolving nature of the Internet, it is a challenge to ensure that all of the links and Web programs listed in this chapter feature are updated and functional when you read the technology vignettes. While specific tools or services may appear in the narrative, we have also included the general term for each tool. If a specific service does not work or is no longer available, search with the general term for the tool and you should be able to find a comparable Web site.
- **Teaching ideas.** In this section in Chapters 2–10, you will find a variety of ideas and activities for implementing the eight SIOP components. Most of the ideas are appropriate for students in grades K–12, unless identified otherwise. Some activities may be familiar because you use them in your own classroom. We hope you'll be motivated to try the others because they represent best practice—those ideas and activities that are included have been found to be especially effective for English learners and learners still developing academic literacy skills.
- **Differentiating ideas for multi-level classes.** In this section found in Chapters 2–9, we show ways to differentiate instruction for various levels of language proficiency and academic skills.
- **Summary.** Each chapter has easy-to-read bulleted information that highlights the chapter's key points.
- **Discussion questions.** Based upon input from educators who have used this book, we have revised some of the discussion questions found at the end of each chapter to better reflect actual classroom practice with SIOP. We hope these questions will promote thinking about your own practice, conversations during professional development, and opportunities for portfolio reflection for preservice and inservice courses.

- **End of chapter Review & Assessment quiz in eText.** Readers who use an electronic version of the text will be asked to assess their understanding of the chapter through an end-of-chapter quiz.
- **The SIOP protocol.** In Appendix A, you will find both an extended version of the SIOP protocol and a two-page abbreviated protocol. The eight components and 30 features of the SIOP Model are identical in both instruments and they are included as options for your personal use.
- **SIOP lesson plan formats.** We have been asked frequently for assistance with lesson planning for SIOP. In this edition, we have included four different lesson plan formats for lesson plans (see Appendix B); we hope you will find one that is useful for you. In Chapters 2 and 5, you will also find complete plans for two of the lessons featured in the teaching scenarios (for Ms. Chen and Mr. Montoya). These lesson plans are written with different formats, grade levels, and subject areas.
- **Discussion of reading and assessment issues, and special education for English learners.** In our work with the SIOP Institutes and in district trainings, we have heard many educators ask questions about English learners who have reading or learning problems and are struggling academically because of them. Based on the published report of the National Literacy Panel on Language-Minority Children and Youth (August & Shanahan, 2006), the Response to Intervention (RTI) initiative, the Common Core State Standards, and the Next Generation Science Standards, we have updated Chapter 10 with information and recommendations that we hope you will find helpful in SIOP program design and implementation for students with special needs. (More detailed information can be found in Echevarría, Richards-Tutor & Vogt, 2016.)
- **SIOP research.** In Appendix C, you will find an overview of the findings from the original SIOP research as well as a discussion of the findings of several national research studies on the SIOP. If you are involved in a research study in your school, district, state, or university and have findings that contribute to the research literature on SIOP, we would greatly appreciate hearing about them.

Overview of the Chapters

The following section briefly describes each of the chapters in this new edition.

- The first chapter in the book introduces you to the pressing educational needs of English learners and to the SIOP Model of sheltered instruction. Issues related to English learner diversity, school reform accountability, No Child Left Behind, the Common Core State Standards and the Next Generation Science Standards, English learner programming, and academic language are also discussed.
- In Chapters 2 through 9, we explain SIOP in detail, drawing from educational theory, research, and practice to describe each component and feature. Teaching scenarios that are drawn from classroom lessons of sheltered instruction teachers follow. The features of the SIOP that pertain to each chapter are included

for the lesson descriptions in the teaching scenarios. After you read about each of the teachers' lessons, use the SIOP protocol to rate on the 4 to 0 rubric the degree to which the features are present. The eText provides an opportunity to explain your rating in writing and print a copy for use during discussions in teacher preparation courses, in professional development sessions, or in learning groups at your school site. The classroom scenarios reflect different grade levels and content areas in the chapters and are linked to core curriculum objectives. All the classrooms include English learners, and many also include native English speakers. Some have newly arrived English learners, known as newcomers.

- In Chapter 10, we discuss the special needs of English learners who have reading problems and/or learning disabilities. You may wish to read this chapter before you delve into SIOP, especially if you have had little experience teaching English learners. It will assist you in situating the SIOP in "real" classrooms with English learners who have a wide variety of academic and literacy abilities and needs.
- Chapter 11 provides a discussion of scoring and interpreting the SIOP protocol, explaining how the instrument can be used holistically to measure teacher fidelity to SIOP and strategically to guide the teacher in planning lessons for one or more targeted SIOP components. A full lesson from one research classroom is described and rated, revealing areas of strength and areas for improvement that can guide the teacher in future planning and teaching.
- Chapter 12 provides ideas and recommendations for implementing SIOP in the classroom, and in schools and districts. Frequently asked questions are included to guide you as you begin working with SIOP.
- In the Appendices, you will find the Sheltered Instruction Observation Protocol (SIOP®), both the comprehensive and the abbreviated versions. You will also find four lesson planning formats to guide your lesson design and implementation. Further, we have included an appendix that details SIOP research to date and another that lists a variety of resources including additional SIOP books, research articles, book chapters, research briefs, and SIOP internet resources. The book concludes with a Glossary of terms related to the instruction of English learners.

Acknowledgments

Many educators throughout the United States have contributed to this book through their work as SIOP teachers, bilingual specialists, curriculum coordinators, school and district administrators, and professional developers. We thank them for their insights and critical analyses of SIOP and protocol. Further, we appreciate the contributions of those who have participated in the SIOP Institutes and professional development throughout the country (for more information, see http://siop.pearson.com/). At each of these Institutes and trainings, we gain new understanding about our work from those who participate in them.

We also thank the many teachers and administrators in whose schools we have conducted research on the SIOP Model, both past and present. Their willingness

to let us observe and discuss their teaching of English learners has enhanced our understandings and validated our work. The contributions of these fine educators to the ongoing development of SIOP are many, and we are grateful for their continued interest and encouragement. Our colleagues and fellow researchers on these projects deserve our gratitude as well.

Two talented educators worked with us on the preparation of the manuscript for this book: Daniel Scibienski (ellconsulting.org), a SIOP teacher experienced with technology infusion, who created Ms. Palacios, the technology integration specialist you will meet in the chapters; and Dr. Laurie Weaver (Professor, Bilingual and Multicultural Studies, University of Houston-Clear Lake in Texas), a SIOP expert who created the Checking Your Understanding questions for the eText. We thank them for their contributions, and most especially, for being long-time SIOP supporters. In their respective roles as educators, both have created useful SIOP tools that enhance implementation of the model.

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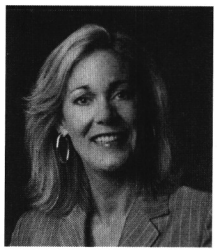
je mev djs

About the Authors



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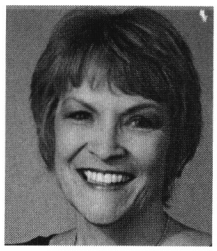
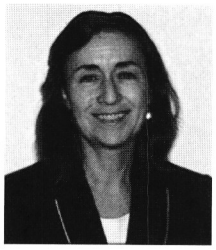


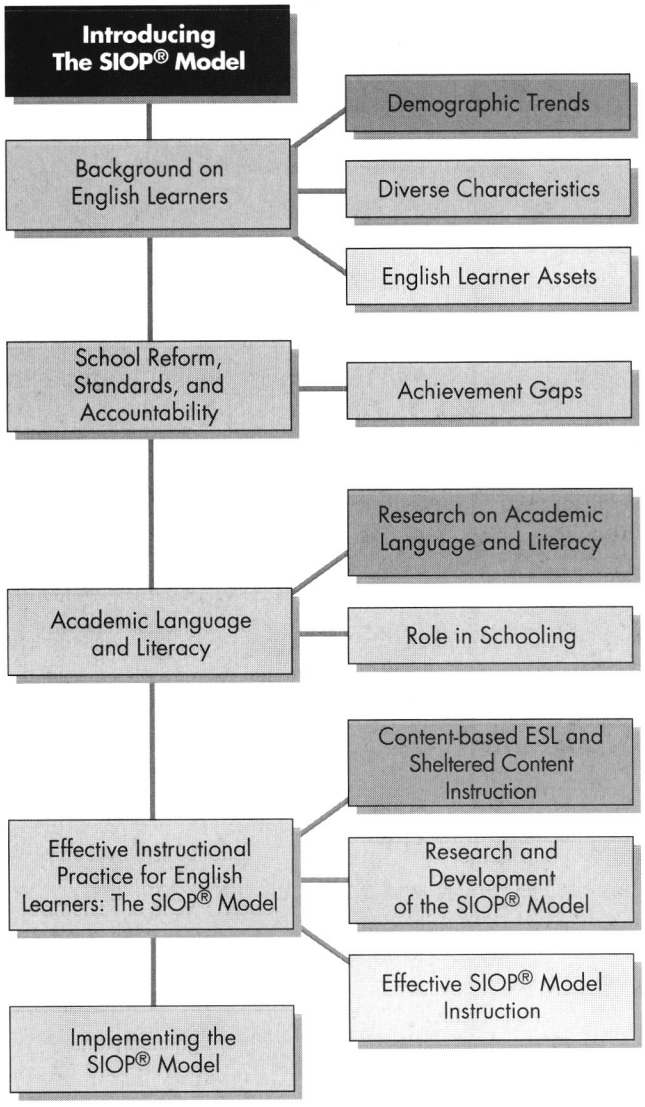
MARYELLEN VOGT, Ed.D., is Professor Emerita of Education at California State University, Long Beach. Dr. Vogt has been a classroom teacher, reading specialist, special education specialist, curriculum coordinator, and teacher educator. She received her doctorate from the University of California, Berkeley. Dr. Vogt is an author of over 60 articles and chapters, and is co-author of 17 books for teachers and administrators,. Her research interests include improving comprehension in the content areas, teacher change and development, and content literacy and language acquisition for English learners. Dr. Vogt has provided professional development in all 50 states and in several other countries, including Germany, where she was invited to serve as a Visiting Scholar (for SIOP) at the University of Cologne. She was inducted into the California Reading Hall of Fame, received her university's Distinguished Faculty Teaching Award, and served as President of the International Reading Association.



DEBORAH J. SHORT, Ph.D., founded and directs Academic Language Research & Training, a consulting company, and provides professional development on sheltered instruction and academic literacy worldwide. Formerly, she was a Division Director at the Center for Applied Linguistics, Washington, DC, where she directed quasi-experimental and experimental studies on English learners funded by the Carnegie Corporation of New York, Rockefeller Foundation, and U.S. Department of Education, among others. Her publications include journal articles, the SIOP® Model book series, and several ESL textbook series for National Geographic/Cengage. She taught English as a second/foreign language in New York, California, Virginia, and the Democratic Republic of the Congo. She has served on the Board of Directors of the TESOL International Association and has presented research in the United States, Canada, New Zealand, Brazil, Europe, and the Middle East.

CHAPTER 1

Introducing the SIOP® Model



Learning Outcomes

After reading, discussing, and engaging in activities related to this chapter, you will be able to meet the following **content** and **language objectives**.

Content Objectives

List characteristics of **English learners** that may influence their success in school.

Distinguish between **content-based ESL** and **sheltered instruction**.

Explain the research supporting the **SIOP** Model.

Language Objectives

Discuss the benefits and challenges of school reform and its effects on English learners.

Develop a lexicon related to the SIOP Model.

Compare your typical instruction with SIOP instruction.

"Hola prima," called Graciela to her cousin, Jocelyn, on the playground. "¡Ayúdame con mi tarea!" Graciela asked her cousin for help with a homework assignment. "Cúal es el problema?" replied Jocelyn. Graciela went on to explain that she had to write a paper about recycling. She had to write an action plan, but she didn't know what an action plan was.

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The two girls are cousins from Central America who had entered fourth grade in Bray Elementary School together seven months earlier. They had been placed in different classes in this suburban setting, but because the fourth-grade science teachers all assigned the same project, Jocelyn knew how to help her cousin. She explained that her class had already started to work on that project. They had looked through the trash can in the lunchroom and found many things that could be recycled. They were creating a bulletin board with vocabulary and pictures about recycling. They had watched two videos, one about neighborhood families recycling and one about a recycling plant. They were going to make paper the next day. "We have to make a poster with our partner telling why it is important to recycle," Jocelyn told her cousin. "We made a list in class of reasons, and I decided to try to stop pollution in the sea. Ms. Sylvan showed us two posters from last year's class. Then she bookmarked some Web sites for me to look at. Some of them are in Spanish and you can listen to people talking about pollution and recycling. What did you do in class?"

Graciela explained that one day the teacher had talked to them for a long time about what recycling is and why it is important. "She told us to take notes when she talked, but it was hard. She talked too fast and she didn't write anything on the board. Then we read a few pages in our science textbook and answered questions yesterday. Today she gave us this sheet and told us to start writing our ideas." Graciela showed her cousin the assignment:

> Think of a recycling project. What needs to be improved in your school or town? Write an action plan proposing that the school board or the town council take steps to alleviate the problem or introduce a new program.

Jocelyn shook her head slowly as she looked at the paper. "I know what we can do. Let's go ask Ms. Sylvan. She just came out of the cafeteria." ●

Graciela and Jocelyn have experienced different teaching styles in their fourth-grade classrooms. Graciela's teacher uses a teacher-directed approach with an emphasis on mini-lectures and textbook reading. She provides little **scaffolding** for her English learners—indeed, little scaffolding for any of her students. Recycling, a topic that can connect science, engineering, and the environment, lends itself easily to visuals, hands-on materials, field trips, and more, but it is not brought alive in her classroom. Nor was a model for the action plan presented. Ms. Sylvan, on the other hand, provides a range of activities that help children understand the concept of recycling and see its application in their everyday lives. Her lessons built background and vocabulary for the fourth-graders and gave them hands-on experiences. She tapped into the students' different learning modes and supported her English learners with access to Web sites in their **native language**.[1] Her lessons reveal a great deal of preparation that will lead to the success of all her students.

Jocelyn is luckier than a number of English learners. She has a teacher who provides effective instruction as she learns content through English, a new language. If more teachers learn the techniques that Ms. Sylvan uses, then many more English learners will have a chance to develop academic literacy in English and be successful in elementary school. But it will take significant effort on the part of schools, districts, and universities to make this happen for Graciela and other students like her.

Background on English Learners

Demographic Trends

Graciela is one of many English learners in our schools. In fact, she represents the fastest growing group of students. In eight years, from 2002–03 to 2010–11, the population of students participating in English learner programs in pre-K–12 schools increased about 14%, but the total pre-K–12 population, which includes these students, grew only 2%. In 2010–11, nearly 10% of the students in U.S. schools were English learners, equaling almost 4.7 million students out of a total enrollment of close to 49.5 million (National Center for Educational Statistics [NCES], 2013a).

However, it is important to recognize that the reported number refers to the *identified* English learners in language support programs. In some situations, students are no longer in English learner programs because they have completed the available course levels, yet they have not met the criteria to be redesignated as a former English learner (Parish et al., 2006). The number would be much higher, perhaps doubled, if we also add in the students who have passed their proficiency tests but are still struggling with *academic* English, the language used to read, write, listen, and speak in content classes to perform academic tasks and demonstrate knowledge of the subject standards.

The results of the 2013 American Community Survey estimated that 13% of the U.S. population was foreign born. Further, immigrants and their children who have been born in the United States represent about 25% of the population. Within the U.S. population of all people age 5 or older, 21% spoke a language other than English at home. Children age 5–17 make up about 17% of the U.S. population, and

[1] For more information about a unit on recycling designed for classes with English learners, see Syvanen, 2000.

within this group, 21% are reported as speaking a language other than English at home and 4.8% are reported as not speaking English very well (the U.S. Census Bureau's classification of limited English proficiency).[2] In 2013, one in four children under the age of 18 lived in immigrant families (Zong & Batalova, 2015). Furthermore, over 75% of English learners in our elementary schools were born in the United States; that is, they are second- or third-generation immigrants (Fix & McHugh, 2009).

The states with the highest numbers of **limited English proficient** individuals in 2010 were California, Texas, New York, Florida, Illinois, and New Jersey. These six states accounted for 67% of the limited English population in the United States. The top six states with the highest growth in limited English proficient individuals from 1990 to 2010 were not the same; these new destination states were Nevada, North Carolina, Georgia, Arkansas, Tennessee, and Nebraska (Pandya, Batalova, & McHugh, 2011).

The distribution picture is a little different when we consider the English learners in our pre-K–12 schools. The states with the highest percentages of English learner students (more than 10% of the enrollment) are Alaska, California, Colorado, Hawaii, Nevada, New Mexico, Oregon, and Texas. The top six states that have experienced the greatest percentage growth in pre-K–12 English learner enrollment from 2002–03 to 2010–11 are Arkansas, California, Hawaii, Kansas, Nevada, and South Carolina, (NCES, 2013a).

Changes in the geographic distribution of English learners to these new destination states present many challenges to the numerous districts that have not served large numbers of these students before. Academic programs are typically not well established; sheltered curricula and appropriate resources are not readily available; and, most important, many teachers are not trained to meet the needs of these second language learners.

Diverse Characteristics

In order to develop the best educational programs for English learners, we need to understand their diverse backgrounds. These learners bring a wide variety of educational and cultural experiences to the classroom as well as considerable linguistic differences, and these characteristics have implications for instruction, **assessment**, and program design. Further, they bring linguistic assets and other funds of knowledge that we ought to acknowledge. When we know students' backgrounds and abilities in their native language, we can incorporate effective techniques and materials in our instructional practices.

All English learners in K–12 schools are not alike. They enter U.S. schools with a wide range of language proficiencies (both in English and in their native languages) and much divergence in their subject matter knowledge. In addition to the limited English proficiency and the approximately 180 native languages among the students, we also find diversity in their educational backgrounds, expectations of schooling,

[2] Calculations for children age 5–17 not speaking English very well are based on data found at *http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ACS_13_5YR_B16004&prodType=table* (retrieved April 13, 2015).

FIGURE 1.1 Diverse Characteristics of English Learners

English Knowledge

- Exposure to English (social and academic)
- Familiarity with Roman alphabet and numbers
- Proficiency in spoken English
- Proficiency in written English
- English being learned as a third or fourth language

First Language (L1) Knowledge

- Oral proficiency in L1
- Literacy in the first language

Educational Background

- On-grade level schooling in home country
- On-grade level schooling in U.S. schools (in L1 or English)
- Partial schooling in L1
- No schooling in L1
- Partial schooling in English
- No schooling in English
- Long-term English learner

Sociocultural, Emotional, and Economic Factors

- Poverty level
- Mobility and absenteeism
- Exposure to trauma, violence, abuse, and other serious stressors
- Refugee or asylee status
- Parents' educational background

Other Educational Categories

- Special education
- Tier 2 or Tier 3 (Response to Intervention)
- Migrant
- Reclassified English learner
- Gifted and talented

socioeconomic status, age of arrival, personal experiences while coming to and living in the United States, and parents' education levels and proficiency in English. Some English learners are newcomers (i.e., new arrivals to the United States), some have lived in the United States for several years, and some are native born.

Figure 1.1 shows some background factors that should be considered when planning programs and instruction so English learners can succeed in school. Some important points to keep in mind follow:

- Some immigrant English learners had strong academic backgrounds before coming to the United States. Some are at or above equivalent grade levels in certain subjects—math and science, for example. They are literate in their native language and may have started studying a second language. Much of what these learners need is **English language development (ELD)** so that as they become more proficient in English, they can transfer the knowledge they learned in

their native country's schools to the courses they are taking in the United States. A few subjects not previously studied, such as social studies, may require special attention. These students have a strong likelihood of achieving educational success if they receive appropriate English language and content instruction in their U.S. schools.

- Some other immigrant students had very limited formal schooling—perhaps due to war in their native countries or the remote, rural location of their homes. These students have little or no literacy in their native language, and they may not have had such schooling experiences as sitting at desks all day, changing classrooms for different subjects, or taking high-stakes tests. They have significant gaps in their educational backgrounds, lack knowledge in specific subject areas, and need time to become accustomed to school routines and expectations. These English learners with limited formal schooling and below-grade-level literacy are most at risk for educational failure.
- There are also English learners who have grown up in the United States but who speak a language other than English at home. Some students in this group are literate in their home language, such as Mandarin, Arabic, or Spanish, and will add English to their knowledge base in school. If they receive appropriate English language and content instruction, they, too, are likely to be academically successful.
- Some other native-born English learners who do not speak English at home have not mastered either English or their native language. There is a growing number of English learners in this group who continue to lack proficiency in English even after five, six, or more years in U.S. schools. These students are referred to as *long-term English learners* (Menken & Kleyn, 2010). They typically have oral proficiency in English, but lack English reading and writing skills in the content areas. They struggle academically (Flores, Batalova, & Fix, 2012; Olsen, 2010) and often are unable to pass state tests required for reclassifying as fully English proficient (Saunders & Marcelletti, 2013).

Watch this video to hear Mark Poulterer and Dr. Robert Jimenez talk about the variety in the educational and cultural backgrounds of their students. Note the ways they work to reduce student anxiety in classroom settings. How do you reduce anxiety for your students?

Sociocultural, emotional, and economic factors also influence English learners' educational attainment (Dianda, 2008).

- Poorer students, in general, are less academically successful (Glick & White, 2004) than all others.
- Undocumented status affects socioeconomic and postsecondary educational opportunities for some students and sometimes diminishes their motivation in high school.
- Mobility and absenteeism can impinge on school success: Students who had moved were twice as likely not to complete high school as those who had not faced such transitions (Glick & White, 2004). Students who are chronically absent are more likely to demonstrate poor academic performance (Balfanz & Byrnes, 2012).
- Post-traumatic stress, violence, abuse, family reunification, and experiences as a refugee or asylee are all issues that may lead an English learner to struggle in school.

- The parents' level of education also influences their children's success. Parents with more schooling are typically more literate and have more knowledge to share with their children, whether through informal conversations or while helping with homework.

Some students are dually identified, which has implications for educational services. For example, besides being English learners, some students have learning disabilities or are gifted and talented.

- English learners tend to be over- or underrepresented in special education because a number of districts struggle to distinguish between a delay in developing second **language proficiency** and a learning disability. Even when students are appropriately identified, some districts have difficulty providing effective services to bilingual special education students. Federal regulations require students to receive instructional hours for language development as well as for identified special education needs (U.S. Department of Justice, Civil Rights Division, & U.S. Department of Education, Office of Civil Rights, 2015).
- Some English learners and former English learners who score poorly on reading assessments may need additional services to improve their reading achievement, such as Tier 2 or Tier 3 in a **Response to Intervention (RTI)** program. While we believe that the SIOP Model we present in this book is the best option for Tier 1 instruction and may help avoid Tier 2 and 3 placements (see Echevarría, Richards-Tutor, & Vogt, 2015), not all schools utilize SIOP instruction.
- Some students are migrant English learners who move from school to school in the same year, jeopardizing their learning with absences and potentially incompatible curricula and assessments across districts or states.
- Some students have abilities that fit the criteria for gifted and talented services, but schools struggle to identify (and then instruct) them, particularly if they have low or no proficiency in English and speak a language other than Spanish.

English Learner Assets

When planning programs and instruction for English learners, we sometimes focus solely on what they are not yet proficient in and fail to consider the assets they bring to school. These assets are related to language and cultural practices in the home. For example, children learn to make guesses and predictions at home that act as precursors to **academic language** development in school, where they learn to call these notions *estimates, hypotheses*, or *theories* depending on the subject area. Similarly, in some **cultures** older children mentor younger siblings in performing chores and other tasks. Teachers can build on these relationship roles to construct collaborative learning environments in the classroom.

Teachers need to be aware of the language and literacy skills their students have and use outside of school. Figure 1.2 identifies some that are particularly relevant.

- **Oral language skills in the native language**—Many aspects of the native language learned at home through oral interaction can apply or transfer to learning academic English (August & Shanahan, 2006; Genesee et al., 2006; Guglielmi, 2008). These include phonemic awareness and phonics, vocabulary cognates, knowledge of affixes and roots, and listening comprehension strategies.

FIGURE 1.2 Linguistic and Sociocultural Assets of English Learners

- Oral language skills in the native language
- Literacy (reading and writing) skills in the native language
- Out-of-school literacy skills
- Language brokering roles
- Cultural funds of knowledge
- Life experiences

- **Literacy (reading and writing) skills in the native language**—Knowing how to read and write in the native language facilitates learning those skills in a second or new language (August & Shanahan, 2006; Genesee et al., 2006). Consider someone who can read and find the main idea in a native language text. That learner has mastered the cognitive reading strategy already. She or he may need to learn the words and syntax of English, but not how to find the main idea.
- **Out-of-school literacy skills**—Students use literacy outside of school, sometimes for family purposes (e.g., making a shopping list, reading a utility bill) and sometimes for personal reasons (e.g., using social media). These practices help them understand that literacy is used for different purposes and is found in different formats (Alvermann & Moore, 2011; Skerrett & Bomer, 2011).
- **Language brokering roles**—School-age English learners often assume the role of language broker in families where the adults do not speak English well (Cline, Crafter, O'Dell, & de Abreu, 2011). Students learn to engage with others using English, experiencing different interaction patterns, and being responsive to others' utterances. They learn to turn-take, ask for clarification, paraphrase, interpret, and translate.
- **Cultural funds of knowledge**—In their homes, students participate in language and cultural practices and activities that can be shared in the classroom. Teachers may learn about these funds through home visits and interviews. They may plan authentic classroom tasks around these funds that connect with the curriculum and invite parents as guest speakers (Gonzalez, Moll, & Amanti, 2005).
- **Life experiences**—Our students do not enter schools as blank slates. Many have had life experiences that are pertinent to the curricula. Some students farmed in their native countries and know about plant growth, animal reproduction, and more. Some students' families had market stalls, and the children learned about supply and demand, revenue and debt. They have lived in different climatic zones and biomes or have traveled across countries and continents. These children have much to offer to the instructional process.

School Reform, Standards, and Accountability

Our English learners enter U.S. schools in an academically demanding era. Schools have been increasing the academic rigor of instruction since the No Child Left Behind (NCLB) Act of 2001, and most English learners do not have time to learn English before they study the different subject areas in English. NCLB holds

schools accountable for the success of all of their students, and each state has standards for at least mathematics, reading, language arts, English language development, and science. Further, all states implement high-stakes tests based on these standards.

NCLB has had positive and negative impacts on educational programs (Dianda, 2008). On the positive side, the education of English learners is part of school improvement conversations, with attention being given to providing better educational opportunities for the learners and monitoring their language proficiency growth and academic progress. More schools regularly analyze assessment data to determine the progress of their efforts and adjust programs, instruction, and resources as indicated. More funding is available to help practicing teachers strengthen their instruction so students develop academic literacy skills and can access core content. Schools can tap federal and state funds to provide sustained professional development opportunities, including job-embedded coaching. Some states have also allocated additional resources for English learner programs, such as grants for specialized services for newcomers and students with interrupted educational backgrounds (Short & Boyson, 2012).

Unfortunately, the number of English learners has increased without a comparable increase in **ESL** or bilingual certified teachers. Despite the demographic trends, only six states require specific coursework for all teacher candidates on topics like ESL methods and second language acquisition: Alaska, Arizona, California, Florida, Pennsylvania, and New York (National Comprehensive Center on Teacher Quality, 2009). As a result, most mainstream teachers are underprepared to serve ELs when they exit their preservice institutions (McGraner & Saenz, 2009).

Negative effects of NCLB include penalties to schools and older students. Schools have been labeled "low performing" or "needs improvement" if their subpopulation of English learners does not attain testing achievement targets set for **native English speakers** on tests that have not been designed or normed for English learners (Abedi, 2002). This is especially problematic because most students are tested in English before they are proficient in the language. After three subsequent years of such labels, many schools face corrective action. Teachers report pressure to "teach to the test," which reduces their implementation of creative lessons, project-based learning, and interdisciplinary units (Short & Boyson, 2012).

Additional reforms have taken place in terms of **standards-based** instruction and **assessment**, with the goal of preparing all students for colleges and careers. As of the 2014–15 school year, more than 40 states, the District of Columbia, and several U.S. territories have adopted a common set of K–12 English language arts/literacy and mathematics standards, called the **Common Core State Standards** (National Governors Association & Council of Chief School Officers [NGA & CCSSO], 2010a, 2010b). Educators in these states have modified their curriculum frameworks to ensure the required standards are included. On the one hand, if the standards are implemented as envisioned, high school graduates will be autonomous learners who effectively seek out and use resources to assist them in daily life, in academic pursuits, and in their jobs. On the other hand, the standards have been problematic for some English learners because the developers did not address English learners' second language development needs. For instance, although there are standards related to foundations of literacy in grades K–5 (e.g., standards related to phonics), there are none

in grades 6–12. This oversight ignores the needs of newly arrived adolescent English learners who are not literate when they enter secondary school.

A set of K–12 science standards has also been written and adopted by about a quarter of the states and the District of Columbia (as of the 2014–15 school year). In contrast to the CCSS, the authors of these **Next Generation Science Standards** (NGSS Lead States, 2013) did consider the second language acquisition process in their guiding principles and proposed practices for science and engineering.

The states that have adopted the Common Core language arts and mathematics standards have also had to revise their state assessments for these areas.[3] Many of these states have decided to use one of two new national assessments that were initially developed with federal funding. Both are computerized, which has implications for newly arrived English learners who may not yet have the technical skills to perform the online tasks. One of these, **SBAC** (Smarter Balanced Assessment Consortium), uses adaptive technology whereby the next question posed to a student is determined by the accuracy of the prior question's response. In the 2014–15 school year, SBAC consortium members included 21 states and the U.S. Virgin Islands. Students in 13 states participated in the other assessment, **PARCC** (Partnership for Assessment of Readiness for College and Careers) in the 2014–15 school year.

These computerized assessments also have some features that may assist English learners such as a translated pop-up glossary, a highlighter tool, and a digital notepad. The language arts tests are planned to measure all four language domains (reading, writing, listening, and speaking) so students will have opportunities to demonstrate their knowledge in several ways. The assessments include multiple choice items but also have short constructed responses and essays.

Achievement Gaps

These challenging academic standards and new assessments have not resulted in closing the achievement gap between English learners and non-English learners. While the number of students with limited proficiency in English has grown exponentially across the United States, their level of academic achievement continues to lag significantly behind that of their language-majority peers. Consider the following statistics:

- On the National Assessment for Educational Progress (NAEP) exams for reading in 2013, English learners performed poorly at the fourth and eighth grades (National Center for Education Statistics [NCES], 2013b).
  - In fourth grade, the achievement gap between the average scores of **non-English** learners and English learners was 39 points, a larger gap than in 2011. Sixty-nine percent of the fourth-grade English learners performed Below Basic, but only 28% of the non-English learners did. Only 7% of English learners scored as Proficient or Advanced in Reading, whereas 38% of non-English learners were Proficient or Advanced.
  - In eighth grade, the achievement gap between the average scores of non-English learners and English learners was 45 points, also a larger gap than

[3] At the time of this writing, no national assessment has been developed for the Next Generation Science Standards, although some states are revising their state tests to align to these standards.

in 2011. Seventy percent of the eighth-grade English learners performed Below Basic, but only 20% of the non-English learners did. Only 3% of English learners scored as Proficient in Reading, and none as Advanced, while 33% of non-English learners were Proficient and 4% were Advanced.

- The pattern of achievement on the 2013 NAEP mathematics assessment was similar to the results for reading for fourth and eighth graders (NCES, 2013b).
  - In fourth grade, the achievement gap between the average scores of non-English learners and English learners was 25 points, slightly higher than in 2011. Forty-one percent of the fourth-grade English learners performed Below Basic, but only 15% of the non-English learners did. Further, only 14% of English learners performed at Proficient or Advanced levels, while 44% of non-English learners reached those higher levels.
  - In eighth grade, the achievement gap between the average scores of non-English learners and English learners was 41 points, slightly better than in 2011. Sixty-nine percent of the eighth-grade English learners performed Below Basic, but only 24% of the non-English learners did. Further, only 5% of English learners performed at Proficient or Advanced levels, while 37% of non-English learners reached those higher levels.
- Spanish-speaking students enter kindergarten with a gap in language and math skills compared to **English-only** students. In some states, this gap widens as students progress to fifth grade (Rumberger, 2007); in others, it narrows, but non-English speakers do not come close to catching up (Reardon & Galindo, 2009).
- Since the No Child Left Behind (NCLB) Act was implemented in 2001, there has been an increase in the number of high school English learners *not* receiving a diploma.
  - Some failed high-stakes tests despite fulfilling all other graduation requirements (Alliance for Excellent Education, 2010; Human Resources Research Organization, 2010, reported in Dietz, 2010; McNeil et al., 2008).
  - English learners are more likely to drop out than other student groups (Dianda, 2008; New York City Department of Education, 2011; Rumberger, 2011).

It is suspected that some state policies play a role in the achievement gap as well. Massachusetts, Arizona, and California, for example, limit the number of years that students have access to language support services; the goal is to move students into regular classrooms after one year, even though research strongly demonstrates that students need more time with specialized language support (Saunders & Goldenberg, 2010).

We know that conversational fluency (also known as **social language** or **basic interpersonal communicative skills, BICS**) develops inside and outside of the classroom and can be attained in one to three years (Thomas & Collier, 2002). However, the language that is critical for educational success—academic language (or **cognitive/academic language proficiency, CALP**) (Cummins, 2000)—is more complex and develops more slowly and systematically in academic settings. It may take students

from four to seven years of study, depending on individual and sociocultural factors, before they are proficient in academic English (Collier, 1987; Cook, Boals, & Lundberg, 2011; Hakuta, Butler, & Witt, 2000; Lindholm-Leary & Borsato, 2006; Thomas & Collier, 2002). So programs that do not accommodate the time needed for acquisition of academic language do the students a disservice.

In contrast, when policies and programs that complement the research on second language acquisition are in place, we see more positive outcomes. For example, analyses from New York City and the states of New Jersey, Washington, and California reveal that former English learners outperformed students as a whole on state tests, exit exams, and graduation rates (DeLeeuw, 2008; New York City Department of Education, 2004; State of New Jersey Department of Education, 2006; Sullivan et al., 2005). The results of these studies indicate that when English learners are given time to develop academic English proficiency in their programs and are exited (and redesignated) with criteria that measure their ability to be successful in mainstream classes, they perform, on average, as well as or better than the state average on achievement measures.

Watch this video to hear Dr. Jim Cummins discuss second language development and explain BICS and CALP. Where are your students on the continuum between social language and academic language development?

Academic Language and Literacy

One area where we know that English learners need support is in developing academic language and literacy skills in English. These skills serve as the foundation for school success because we learn primarily through language and use language to express our understanding. Age-appropriate knowledge of the English language is a prerequisite in the attainment of **content standards** because as the grade levels rise, language use becomes more complex and more content area-specific. The skills students need to be college and career ready are more extensive than knowledge of vocabulary words and paragraph formation. They include analytical reading and writing, effective communication and interaction, critical thinking, and creativity. These are the goals of the Common Core State Standards for English language arts/literacy and for mathematics, and of the Next Generation Science Standards. We also find these skills in the standards of states like Texas and Virginia that did not adopt the Common Core.

We argue that academic language is a second language for *all* students. Even native-English speaking students do not enter kindergarten or first grade classrooms using embedded clauses and long, modified noun phrases in their conversations, nor do they analyze text for an author's use of imagery or write problem-solution essays about local issues. They learn these ways of using language for specific purposes over time in school. And school is where children and young adults mostly use academic language.

In *Developing Academic Language with the SIOP Model* (Short & Echevarría, 2016, p. 2), we explain that

> Academic language involves the use of higher-level vocabulary, more complex sentence structures, and more sophisticated forms of expression than is generally found in everyday conversation. It is the type of language students need to discuss complex ideas, articulate a position, summarize material, and contrast

> points of view. . . .[W]hile there is no singular definition, there is consensus that academic language includes the application of reading, writing, listening, and speaking skills to knowledge of vocabulary, language structures, language functions, genres, discourse patterns, and strategic competencies that students need to be successful in school with spoken and written academic text. There is also agreement that academic language demands and linguistic elements vary, at least partially, by subject area.

Research on Academic Language and Literacy

Findings from two major syntheses of the research on academic literacy and the education of English learners are useful to keep in mind as we plan instruction and programs for English learners. The National Literacy Panel on **Language-Minority** Children and Youth (August & Shanahan, 2006) analyzed and synthesized the research on these learners with regard to English literacy attainment. The review conducted by researchers from the former National Center for Research on Education, Diversity & Excellence (CREDE) focused on oral language development, literacy development (from instructional and cross-linguistic perspectives), and academic achievement (Genesee et al., 2006). Both syntheses led to similar findings:

- Processes of second language (**L2**) literacy development are influenced by a number of variables that interact with each other in complex ways (e.g., first language [**L1**] literacy, second language [L2] oralcy, socioeconomic status, and more).
- Certain L1 skills and abilities transfer to English literacy: phonemic awareness, comprehension and language **learning strategies**, and L1 and L2 oral knowledge.
- Teaching the five major components of reading (National Institute of Child Health and Human Development [NICHD], 2000) to English learners is necessary but not sufficient for developing academic literacy. English learners need to develop oral language proficiency as well.
- Oralcy and literacy can develop simultaneously.
- Academic literacy in the native language facilitates the development of academic literacy in English.
- High-quality instruction for English learners is similar to high-quality instruction for other, English-speaking students, but English learners need instructional accommodations and support to fully develop their English skills.
- English learners need enhanced, explicit vocabulary development.

(More information on these findings and their implications for developing academic literacy can be found in California Department of Education, 2010; Cloud, Genesee, and Hamayan, 2009; Freeman and Freeman, 2009; Goldenberg, 2006; and Short and Fitzsimmons, 2007.)

Role in Schooling

Academic language is used in school settings by all students—both native English speakers and English learners alike. However, this type of language use is particularly

challenging for English learners who are beginning to acquire English at the same time that school tasks require a high level of English usage. English learners must develop literacy skills for each content area *in* their second language as they simultaneously learn, comprehend, and apply content area concepts *through* their second language (Garcia & Godina, 2004; Short & Fitzsimmons, 2007).

Specifically, English learners must master academic English, which includes semantic and syntactic knowledge along with functional language use. Using English, students, for example, must be able to

- read and understand the expository prose in textbooks and reference materials,
- write persuasively,
- argue points of view,
- take notes from teacher lectures or Internet sites, and
- articulate their thinking processes—make hypotheses and predictions, express analyses, draw conclusions, and so forth.

In content classes, English learners must integrate their emerging knowledge of the English language with the content information they are studying in order to complete the academic tasks. They must also learn *how* to do these tasks—generate the format of an outline, negotiate roles in cooperative learning groups, interpret charts and maps, and such. These three knowledge bases—knowledge of English, knowledge of the content topic, and knowledge of how the tasks are to be accomplished—constitute the major components of academic literacy (Short, 2002).

There is some general agreement about how best to teach academic language to English learners, including some targeted focus on the lexical, semantic, and discourse levels of the language as they are applied in school settings (Saunders & Goldenberg, 2010). Brown and Ryoo (2008) found that elementary students who learn science content through everyday vernacular before learning the scientific language assimilate the content better. Researchers such as Bailey and Butler (2007) found that there is content-specific language (e.g., technical terms like *latitude* and *longitude*, phrases like "We hypothesize that ...") and general academic language (e.g., cross-curricular words like *effect, cause, however*) that are used across subject areas. Similarly, there are general academic tasks that one needs to know how to do to be academically proficient (e.g., create a timeline, structure an argument) and more specific subject assignments (e.g., explain steps to the solution of a math word problem). Teachers and curricula should pay attention to this full range of academic language. As a result, the enhancement of English learners' academic language skills should enable them to perform better on assessments. This conclusion is bolstered by an older study: Snow et al. (1991) found that performance on highly decontextualized (i.e., school-like) tasks, such as providing a formal definition of words, predicted academic performance, whereas performance on highly contextualized tasks, such as face-to-face communication, did not.

The emphasis on teaching academic language is also reflected in the national ESL standards (Teachers of English to Speakers of Other Languages, 2006). Four of the five *Pre-K–12 English Language Proficiency Standards* specifically address the academic language of the core subject areas. Standards 2, 3, 4, and 5 state: "English

language learners communicate information, ideas, and concepts necessary for academic success in the area of _____ [language arts (#2), mathematics (#3), science (#4), and social studies (#5)]." By 2015, 36 states, the District of Columbia, and the Northern Mariana Islands had adopted **English language proficiency standards** (ELP) similar to TESOL's, known as the WIDA standards (WIDA, 2012). Almost all of these entities use the companion English language proficiency test, *ACCESS for ELLs*® (ACCESS: Assessing Comprehension and Communication in English State to State for English Language Learners), to guide and measure annual gains in English language proficiency (WIDA, 2005–11).

Reflect and Apply

Click here to reflect on out-of-school factors that affect language acquisition and developing academic literacy for all learners.

Effective Instructional Practice for English Learners: The SIOP® Model

One positive outcome of the student performance measures put into place in response to the NCLB legislation is that schools have focused on the development of academic language and literacy skills in students who struggle academically, including English learners. Schools have sought to improve the educational programs, instructional practices, and the curricula and materials being offered to these students. Opportunities for ongoing professional development are moving teachers in the right direction. However, we have a long way to go, as the data and research findings about the poor performance of English learners on accountability measures presented in this chapter reveal.[4]

Content-based ESL and Sheltered Content Instruction

Currently, in the United States, content-based English as a second language (ESL) and sheltered instruction are acknowledged methods for developing academic English and providing English learners access to core content coursework in grades K–12. Ideally, these two approaches work in tandem: one, with a primary focus on academic (and where needed, social) language development; the other, on content standards and topics. In the ESL classes, the curricula are tied to the state standards for English language proficiency, the students are all English learners, and the teacher is ESL or bilingual certified. In sheltered content instruction classes, the curricula are tied to the state subject area standards, such as the Common Core and NGSS, and the students may be all English learners or mixed with native English speakers. The teachers have elementary or secondary content certification plus an endorsement or certification in ESL or **bilingual education** (see Figure 1.3).

In content-based ESL, material from multiple subject areas is often presented through thematic or interdisciplinary units. For example, in an upper elementary

[4] Recent policy reports and federal guidance accentuate the need for better programming and attention to academic language and literacy development. See, for example, Baker et al., 2014; Council of Great City Schools, 2009; and U.S. Department of Justice, Civil Rights Division, & U.S. Department of Education, Office of Civil Rights, 2015.

FIGURE 1.3 Content-based ESL/ELD and Sheltered Content Instruction

	Content-based ESL/ELD	Sheltered Content Instruction
Main focus	Academic English language development (and social language for beginners)	Subject-area knowledge (typically for the grade level unless students have significant limited schooling)
Standards	English language proficiency and English language arts	State content standards (all subjects)
Additional instructional goal(s)	Integration of subject-area topics, vocabulary and classroom tasks; filling gaps in educational backgrounds	Integration of academic language as used in the specific subject area
Student population	English learners	English learners, or English learners with native English speakers and/or former English learners
Teacher population	ESL or bilingual certified or endorsed; sometimes English language arts certified plus specialized training in content ESL/sheltered instruction)	Content certified with ESL or bilingual certification or endorsement; sometimes content certified plus specialized training in sheltered instruction)
Other information	The numbers of hours for instruction per week may be reduced as student proficiency levels rise.	These courses are often a bridge to general education content courses while students are still developing academic English skills. Sometimes known as structured English immersion

classroom, one theme might be "The Marketplace," and lessons could include objectives drawn from economics, science, geography, social studies, and mathematics. Students might create maps showing how goods move from farms and manufacturing plants to city markets; design a brochure to sell a good or service; use online reference materials to learn about the supply and demand of certain goods; or develop a business plan for a good or service they would like to sell. They might study persuasive language to advertise their good or service. English learners may contribute valuable insights to this topic because some have lived in places where their parents or neighbors moved goods to market. Some may have experienced the effects of adverse weather on the production of foodstuffs or the effects of poor infrastructure on the transportation of goods.

In a secondary classroom, the theme might be "The Impact of the Transcontinental Railroad." Students might read authentic documents, such as letters written by Chinese immigrants who worked on the railroad (in translation) and diary entries by Americans who migrated west; create online maps of the progress of the railroad; watch video clips depicting changes to the Native Americans' and cattle ranchers' lives; and calculate the railroad's economic impact (decreased travel time, improved movement of goods, etc.). They would thus explore objectives from language arts, social studies, geography, and math.

In general, content-based ESL/ELD teachers seek to develop the students' English language proficiency by incorporating information from the subject areas that students are likely to study or from courses they may have missed if they are new immigrants. Whatever subject matter is included, for effective content-based ESL instruction to occur, teachers need to provide practice in academic skills and tasks common to regular, grade-level classes (Short, 2002).

In sheltered content classes, teachers deliver grade-level objectives for the different subject areas to English learners through modified instruction that makes the information comprehensible to the students while promoting their academic English development. In elementary schools, sheltered instruction is generally taught by classroom teachers rather than ESL specialists and can be offered to students with any level of English proficiency. A goal is to teach content to students learning English through a developmental language approach.

Effective sheltered instruction is *not* simply a set of additional or replacement instructional techniques that teachers implement in their classrooms. Instead, it draws from and complements methods advocated for both second language and mainstream classrooms. For example, some techniques include cooperative learning, connections to student experiences, **culturally responsive** activities, targeted vocabulary development, slower speech and fewer idiomatic expressions for less proficient students, use of visuals and demonstrations, and use of adapted text and supplementary materials (Short & Echevarría, 2004).

In the 1990s, there was a great deal of variability in the design of sheltered instruction courses and the delivery of sheltered lessons, even among trained teachers and within the same schools (August & Hakuta, 1997; Echevarría & Short, 2010). Some schools, for instance, offered sheltered courses in only one subject area, but not in other core areas. It was our experience as well that one sheltered classroom did not look like the next in terms of each teacher's instructional language; the tasks the students were to accomplish; the degree of interaction that occurred between teacher and student, student and student, and student and text; the amount of class time devoted to language development versus content knowledge; the learning strategies taught to and used by the students; the availability of appropriate materials; and more. In sum, there was no model for teachers to follow and few systematic and sustained forms of professional development.

This situation, along with the underachievement of English learners, was the impetus for our research: to develop a valid, reliable, and effective model of sheltered instruction.

Research and Development of the Sheltered Instruction Observation Protocol (SIOP®) Model

We developed the Sheltered Instruction Observation Protocol (SIOP®) Model as an approach for teachers to integrate content and language instruction for students learning through a new language. Teachers would employ techniques that make the content concepts accessible and also develop the students' skills in the new language. We have been fortunate in securing funding and the participation of many schools and teachers since 1996 to research, develop, and refine the SIOP Model. Details of the SIOP Model research studies can be found in Appendix C

Watch this video and listen to Dr. Jana Echevarría and Dr. Deborah Short describe findings from several SIOP research studies. Consider how you might research SIOP implementation in your setting. https://www.youtube.com/watch?v=JbbGlklFLw0

of this book and in Short, Echevarría, and Richards-Tutor (2011). We present a brief overview here.

The first version of the Sheltered Instruction Observation Protocol (SIOP) was drafted in the early 1990s. We used it exclusively as a research and supervisory tool to determine if observed teachers incorporated key sheltered techniques consistently in their lessons. This early draft, like subsequent ones, integrated findings and recommendations from the research literature with our professional experiences and those of our collaborating teachers on effective classroom-based practices.

The protocol evolved into a lesson planning and delivery approach, known as the SIOP Model (Echevarría, Vogt, & Short, 2000), through a seven-year research study, "The Effects of Sheltered Instruction on the Achievement of Limited English Proficient Students," sponsored by the Center for Research on Education, Diversity & Excellence (CREDE) and funded by the U.S. Department of Education. The study began in 1996 and involved collaborating middle school teachers who worked with the researchers to refine the features of the original protocol: distinguishing between effective strategies for beginner, intermediate, and advanced English learners; determining "critical" and "unique" sheltered teaching strategies; and making the SIOP more user friendly. A substudy confirmed the SIOP to be a valid and reliable measure of sheltered instruction (Guarino et al., 2001).

The SIOP is composed of 30 features grouped into eight main components. (See the overview in Figure 1.4.) You will read about each component and its features in subsequent chapters of this book. We are gratified that the original model has stood the test of time; it has not needed to be revised. The model also has been shown to be effective in numerous districts and schools across the United States.

During four years of field testing, we analyzed teacher implementation and student effects. This CREDE research showed that English learners whose teachers were trained in implementing the SIOP Model performed statistically significantly better on an academic writing assessment than a comparison group of English learners whose teachers had no exposure to the model (Echevarría, Short, & Powers, 2006).

From 1999 to 2002, we field tested and refined the SIOP Model's professional development program, which includes professional development institutes, videotapes of exemplary SIOP teachers (Hudec & Short, 2002a, 2002b), facilitator's guides (Short, Hudec, & Echevarría, 2002), and other training materials.

We continued to test and refine the SIOP Model in several later studies. From 2004–07, we replicated and scaled up the SIOP research in a quasi-experimental study in two districts at the middle and high school levels. The treatment teachers participated in the professional development program with summer institutes, follow-up workshops, and on-site coaching. Students with SIOP-trained teachers made statistically significant gains in their average mean scores for oral language, writing, and total proficiency on the state assessment of English language proficiency (the IPT [Idea Proficiency Tests]), compared to the comparison group of English learners (Short, Fidelman, & Louguit, 2012).

From 2005–12, we participated in the Center for Research on the Educational Achievement and Teaching of English Language Learners (CREATE), looking at the SIOP Model first in middle school science classrooms (Himmel, Short, Richards, & Echevarría, 2009) and later as the professional development framework

FIGURE 1.4 Overview of the SIOP's Eight Components

- The features under *Lesson Preparation* initiate the lesson planning process, so teachers include content and language objectives, use supplementary materials, and create meaningful activities.
- *Building Background* focuses on making connections with students' background experiences and prior learning, and developing their academic vocabulary.
- *Comprehensible Input* considers how teachers should adjust their speech, model academic tasks, and use multimodal techniques to enhance comprehension.
- The *Strategies* component emphasizes teaching learning strategies to students, scaffolding instruction, and promoting higher-order thinking skills.
- *Interaction* prompts teachers to encourage students to elaborate their speech and to group students appropriately for language and content development.
- *Practice & Application* provides activities to practice and extend language and content learning.
- *Lesson Delivery* ensures teachers present a lesson that meets the planned objectives and promotes student engagement.
- The *Review & Assessment* component reminds teachers to review the key language and content concepts, assess student learning, and provide specific academic feedback to students on their output.

for a school-wide intervention (Echevarría & Short, 2011). In this set of studies, we used an experimental design and English learners, former English learners, and native English speakers were part of the student population. The results from the studies showed that students who had teachers who implemented the SIOP Model with greater fidelity performed better on criterion-referenced assessments than those who did not implement the SIOP Model to a high degree (Echevarría, Richards-Tutor, Chinn, & Ratleff, 2011). So, the level of implementation mattered. Further, students in SIOP curriculum groups outperformed control students on criterion-referenced vocabulary, science, and social studies measures (Echevarría, Richards-Tutor, Canges, & Francis, 2011; Short & Himmel, 2013). These findings indicate that English-speaking students are not disadvantaged when they are in SIOP classes with English learners and that they also benefit from SIOP practices.

During the past decade, a number of school districts have also conducted program **evaluations** on their implementation of the model. A number of these can be reviewed in *Implementing the SIOP® Model Through Effective Professional Development and Coaching* (Echevarría, Short, & Vogt, 2008). In addition, other researchers have studied SIOP Model professional development programs (Batt, 2010; Friend, Most, & McCrary, 2009; Honigsfeld & Cohan, 2008; McIntyre et al., 2010).

A note about terminology is helpful before you read further. SIOP® is the term for this empirically validated model of sheltered instruction designed to make grade-level academic content understandable for English learners while at the same time developing their academic English language proficiency. Formerly spelled out as the Sheltered Instruction Observation Protocol, the authors recently decided to stop using the full acronym definition because the acronym SIOP is more commonly used in schools and in the professional literature. SIOP refers to the observation instrument for rating the fidelity of lessons to the model (as shown in Appendix A) and the instructional model for lesson planning and delivery that we explain in detail in

the following chapters. It is often used as an adjective too, as in SIOP teachers, SIOP lessons, and SIOP classrooms.

Effective SIOP® Model Instruction

This book, *Making Content Comprehensible for English Learners: The SIOP® Model*, introduces the research-based model of sheltered instruction (that is also used for content-based ESL), provides teaching ideas for each of the model's eight components, suggests ways to **differentiate instruction** in multi-level classrooms, and demonstrates through lesson scenarios how the model can be implemented across grades and subject areas. The model provides guidance for the best practices for English learners, grounded in more than two decades of classroom-based research, the experiences of competent teachers, and findings from the professional literature. It has been used successfully in both language and content classrooms, and with this approach, teachers can help English learners attain the skills and knowledge associated with college and career readiness.

Watch this video to see Dr. Mary Ellen Vogt explain the value of sheltered instruction for English learners. Look at Appendix A. Which SIOP features do you already include in your lessons?

In effective SIOP lessons, language and content objectives are systematically woven into the curriculum of one particular subject area, such as fourth-grade language arts, U.S. history, algebra, or life science, or in one ESL level, such as beginner, intermediate, or advanced. Teachers develop the students' academic language proficiency consistently and regularly as part of the lessons and units they plan and deliver (Echevarría & Graves, 2007; Short, 2002).

In subsequent chapters, you will explore the components and features of the SIOP Model in detail and have the opportunity to try out numerous techniques for SIOP lessons. You will see that the SIOP Model shares many features recommended for high-quality instruction for all students, such as cooperative learning, strategies for reading comprehension, writers' workshop, and differentiated instruction. However, the SIOP Model adds key features for the academic success of these learners, such as the inclusion of language objectives in every content lesson, the development of background knowledge, the acquisition of content-related vocabulary, and the emphasis on academic literacy practice.

Here we briefly describe the instructional practices that effective SIOP teachers use. You can compare your typical instruction with that of SIOP teachers, and you might find that you are already on the path to becoming a skillful SIOP teacher yourself!

- Classroom teachers generally present the regular, grade-level subject curriculum to the students through modified instruction in English, although some special curricula may be designed for students who have significant gaps in their educational backgrounds or very low literacy skills.
- Classroom teachers identify how language is used in the different subjects and give students explicit instruction and practice with it.
- ESL teachers advance students' English language development with curricula addressing language proficiency standards, but also incorporating the types of texts, vocabulary, and tasks used in core subjects to prepare the students for success in the regular, English-medium classroom.

Accomplished SIOP teachers determine students' baseline understandings in their subject area and move them forward, both in their content knowledge and in their language skills through a variety of techniques.

- SIOP teachers provide rigorous instruction aligned with state content and language standards, such as the Common Core, NGSS, and WIDA.
- SIOP teachers make specific connections between the content being taught and students' experiences and prior knowledge, and they focus on expanding the students' vocabulary base.
- SIOP teachers modulate the level of English they use and the texts and other materials used with and among students.
- SIOP teachers make the content comprehensible through techniques such as the use of visual aids, modeling, demonstrations, graphic organizers, vocabulary previews, adapted texts, cooperative learning, peer tutoring, and native language support.
- SIOP teachers help English learners articulate their emerging understandings of the content both orally and in writing, often with sentence starters and language frame scaffolds.
- Besides increasing students' declarative knowledge (i.e., factual information), SIOP teachers highlight and model procedural knowledge (e.g., how to accomplish an academic task like solving a two-step math problem or conducting research on the Internet) along with study skills and learning strategies (e.g., note-taking and self-monitoring comprehension when reading).

In effective SIOP lessons, there is a high level of student **engagement** and interaction with the teacher, with other students, and with text, which leads to elaborated discourse and critical thinking.

- Student language learning is promoted through social interaction and contextualized communication as teachers guide students to construct meaning and understand complex concepts from texts and classroom discourse (Vygotsky, 1978).
- Students are explicitly taught functional language skills, such as how to negotiate meaning, confirm information, describe, compare, and persuade.
- Teachers introduce English learners to the classroom discourse community and demonstrate skills such as taking turns in a conversation and interrupting politely to ask for clarification.
- Through instructional conversations (Goldenberg, 1992–93) and meaningful activities, students practice and apply their new language and content knowledge.

Not all teaching is about the techniques in a lesson. SIOP teachers also consider their students' affective needs, cultural backgrounds, and learning styles. They strive to create a nonthreatening environment where students feel comfortable taking risks with language.

- SIOP teachers engage in culturally responsive teaching and build on the students' potentially different ways of learning, behaving, and using language (Gay, 2010).
- They socialize English learners to the implicit classroom culture, including appropriate behaviors and communication patterns.
- They plan activities that tap into the auditory, visual, and kinesthetic preferences of the students and consider their multiple intelligences as well (Gardner, 1993).
- SIOP teachers reach out to the families of English learners and orient them to the expectations of schooling in the United States; they also seek to determine the funds of knowledge in the children's households (Gonzalez, Moll, & Amanti, 2005).

The SIOP Model is also distinguished by use of supplementary materials that support the academic text. The purpose of these materials is to enhance student understanding of key topics, issues, and details in the content concepts being taught through means other than teacher lecture or dense textbook prose.

- To present key topics or reinforce information, SIOP teachers find related texts (e.g., trade books, leveled readers), graphics and illustrations, models, multimedia and computer-based resources, adapted text, and the like.
- SIOP teachers use supplementary materials to make information accessible to learners with mixed proficiency levels of English. For example, some students in a mixed class may use the textbook, while others may need an adapted text.

When advances in technology are used effectively in the classroom, English learners can reap many benefits. Digital content is motivating for students, allows for a personalized learning experience, is multimodal, and can give students experience with meaningful and authentic tasks (Lemke & Coughlin, 2009).

- Technology such as interactive whiteboards with links to the Internet, visual images, podcasts, educational apps, and more offer a wealth of resources to support English learners' acquisition of new information and of academic English.
- SIOP teachers give students opportunities to use the technology for multiple purposes, such as access to information presented in the students' native language, cyber-group learning interactions such as simulations and virtual field trips, self-paced research, and writing and editing tools.

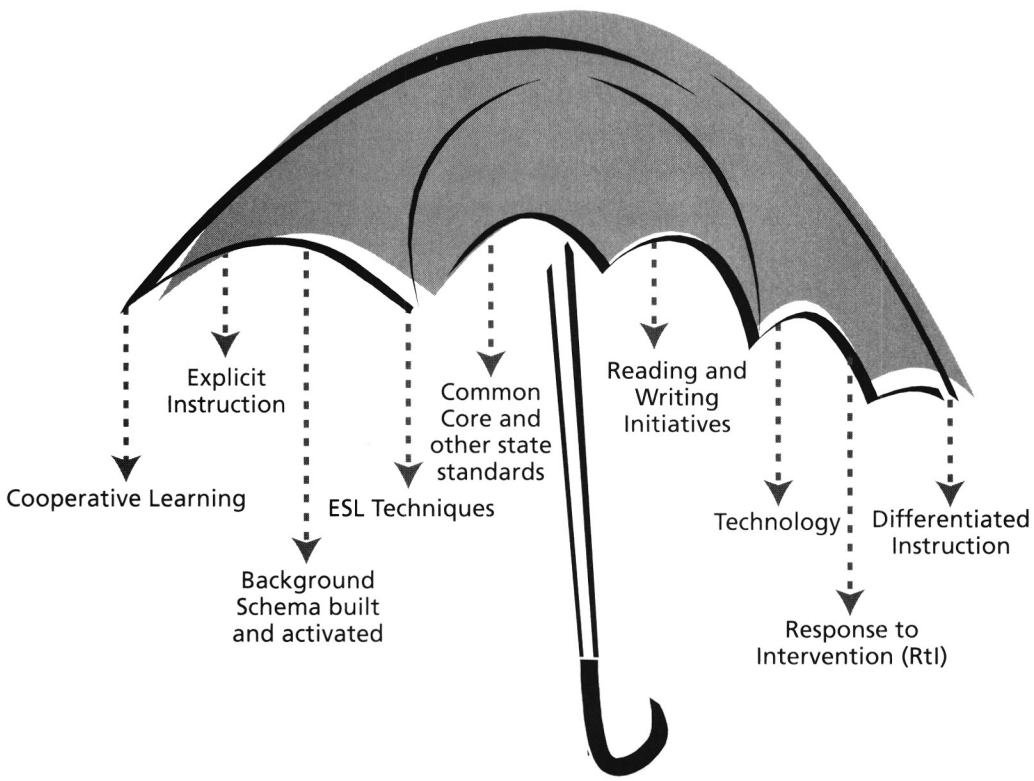
Depending on the students' proficiency levels, SIOP teachers offer multiple pathways for students to demonstrate their understanding of the content. In this way, teachers can receive a more accurate picture of most English learners' content knowledge and skills through an assortment of assessment measures than they could through one standardized test. Otherwise, a student may be perceived as lacking mastery of content when actually he or she is following the normal pace

of the second language acquisition process (Abedi & Lord, 2001; Solano-Flores & Trumbull, 2003).

- SIOP teachers plan pictorial, hands-on, or performance-based assessments for individual students; group tasks or projects; oral reports; written assignments; and portfolios, along with more traditional measures such as tests and quizzes to check student comprehension and language growth.
- Teachers use rubrics to measure student performance on a scale leading to mastery, and they share those rubrics with students in advance.
- Teachers dedicate some time to teaching students how to read and understand standardized test questions, pointing out the use of specific verbs or synonyms in the question stems and possible responses (Bailey & Butler, 2007).

It is important to recognize that the SIOP Model does not require teachers to discard their favored techniques or to add copious new elements to a lesson. Rather, this model of sheltered instruction brings together *what* to teach by providing a framework for *how* to teach it. It acts as an umbrella, allowing teachers the flexibility to choose techniques they know work well with their particular group of students (see Figure 1.5). It reminds teachers to pay attention to the language development needs of their students and to select and organize techniques that facilitate the integration of district- or state-level standards for ESL and for specific content areas.

FIGURE 1.5 The SIOP® Model Framework for Organizing Best Practices



Implementing the SIOP® Model

The goal of this book is to prepare teachers to teach content and academic language and literacy skills effectively to English learners. The SIOP Model may be used as part of a program for preservice and inservice professional development, as a lesson planner for sheltered content and content-based ESL lessons, and as a training resource for university faculty. Research shows that professional development approaches that improve teaching include the following: sustained, intensive development with modeling, coaching, and problem solving; collaborative endeavors for educators to share knowledge; experiential opportunities that engage teachers in actual teaching, assessment, and observation; and development grounded in research but also drawing from teacher experience and inquiry, connected to the teachers' classes, students, and subjects taught (Darling-Hammond & Richardson, 2009; Short, 2013).

In our research studies, we found that SIOP implementation does not happen quickly. Teachers may take one to two years before they implement the model consistently to a high degree, and coaching helps get them to that level (Short, Fidelman, & Louguit, 2012). McIntyre and colleagues (2010) suggest that teachers' proficiency in implementing the model may depend on their background teaching experiences and the design of their professional development.

Effective implementation of the SIOP Model is one key to improving the academic success of English learners. Preservice teachers need to learn the model to develop a strong foundation in best practice for integrating language and content in classes with English learners. Practicing teachers need the model to strengthen their lesson planning and delivery and to provide students with more consistent instruction that meets language and content standards. Site-based supervisors and administrators use the model to train and coach teachers and systematize classroom observations. Teacher education faculty also present the SIOP Model in their methods courses and use it in student teacher supervision.

Any program in which students are learning content through a nonnative language could use the SIOP Model effectively. It may be an ESL program (with **pull-out** or **self-contained** classes), a late-exit **bilingual** program, a dual language/two-way bilingual program, a newcomer program, a sheltered program, or even a foreign language immersion program. The model has been designed for flexibility and tested in a wide range of classroom situations: with students who have strong academic backgrounds and those who have had limited formal schooling; with students who are recent arrivals and those who have been in U.S. schools for several years; and with students at beginning levels of English proficiency and those at advanced levels. For students studying in content-based ESL or bilingual courses, SIOP instruction often provides the bridge to the general education program. More discussion of getting started with the SIOP Model is found in Chapter 12.

Reflect and Apply
Click here to reflect on general concepts of the SIOP® Model.

Check Your Understanding
Click here to check your understanding of Chapter 1, Introducing the SIOP® Model.

Summary

As you reflect on this chapter and the impact of the SIOP Model on English learners' content and academic language learning, consider the following main points:

- Students who are learning English as an additional language are the fastest-growing segment of the school-age population in the United States, and almost all candidates in teacher education programs will have linguistically and culturally diverse students in their classes during their teaching careers. However, many of these future teachers—as well as most practicing teachers—are not well prepared to instruct these learners.
- School reform efforts, standards, and increased state accountability measures put pressure on schools and districts to improve their educational opportunities and practices with English learners. This pressure has had both positive and negative outcomes. Teachers can use the SIOP Model to help students meet Common Core and NGSS standards and to prepare English learners for college and careers.
- The SIOP Model has a strong, empirical research base. It has been tested across multiple subject areas and grade levels. The research evidence shows that the SIOP Model can improve the academic literacy of English learners.
- The SIOP Model does not mandate cookie-cutter instruction; instead, it provides a framework for well-prepared and well-delivered lessons in any subject area. As SIOP teachers design their lessons, they have room for creativity. Nonetheless, critical instructional features must be attended to in order for teachers to respond appropriately to the unique academic and language development needs of English learners.
- The model is operationalized in the SIOP protocol, which can be used to rate lessons and measure the level of SIOP implementation.
- Our research shows that both language and content teachers can implement the SIOP Model fully to good effect. The model is best suited for content-based ESL and sheltered content classes that are part of a program of studies for English learners, and for English-medium classrooms with English learners and struggling readers. Together, these classes can be a promising combination when implemented school-wide.
- We need students like Graciela and Jocelyn to be successful in school and beyond. In the long run, such success will benefit the communities in which these students live and the national economy as a whole.

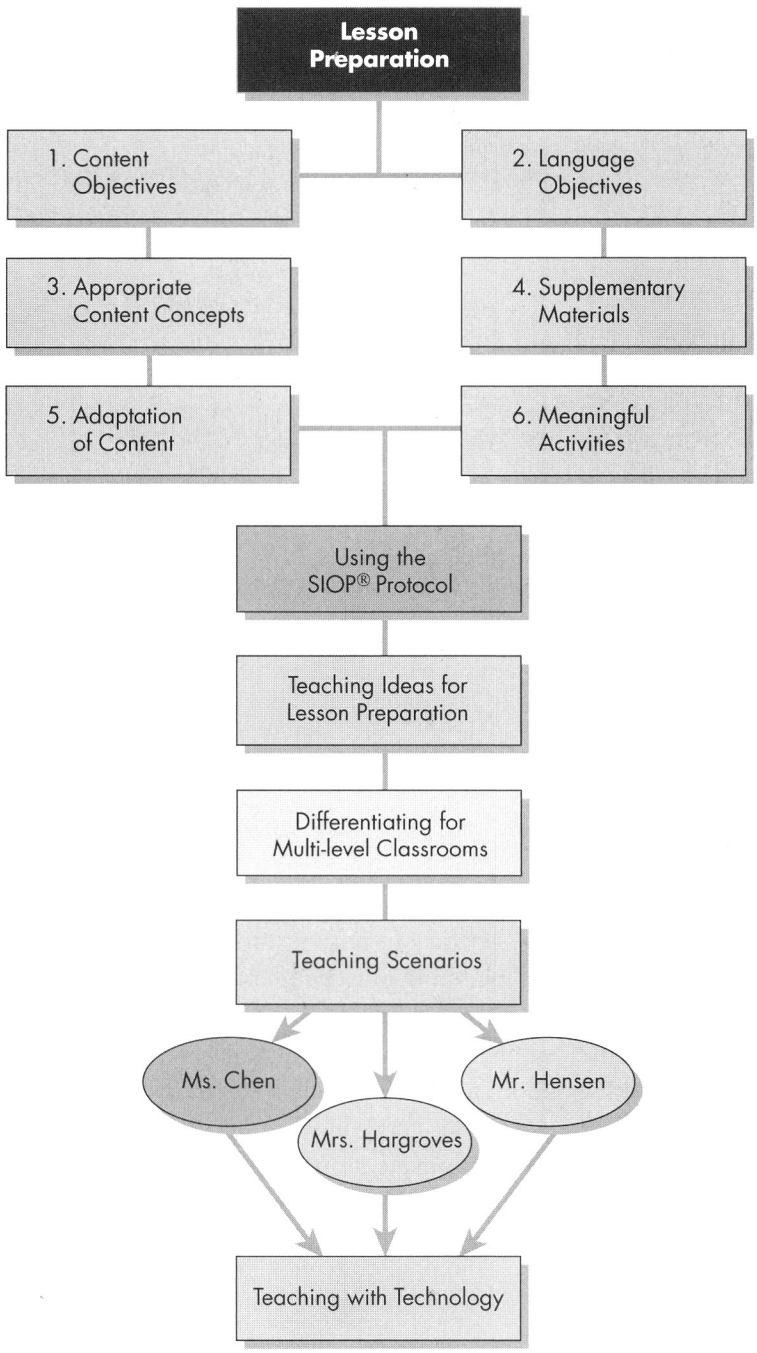
Discussion Questions

1. In reflecting on the content and language objectives at the beginning of the chapter, are you able to:
   a. List characteristics of English learners that may influence their success in school?

   b. Distinguish between content-based ESL and sheltered instruction?
   c. Explain the research supporting the SIOP Model?
   d. Discuss the benefits and challenges of school reform and their effects on English learners?
   e. Develop a lexicon related to the SIOP Model?
   f. Compare your typical instruction with SIOP instruction?
2. Consider one class of English learners. Identify the individual and sociocultural factors that might influence the educational success of these students. In what ways might instruction using the SIOP Model help them?
3. How would you characterize the type(s) of instruction offered to English learners in your school or in schools you know: traditional ESL, content-based ESL, sheltered content, bilingual content, traditional content, dual language? Provide evidence of your characterization in terms of curricula and instruction. Are the English Learners successful when they exit English language support programs and are placed in regular classrooms without support? Explain.
4. Many sheltered content teachers fail to take advantage of the language learning opportunities for students in their classes. Why do you think this is so? Offer two concrete suggestions for these teachers to enhance their students' academic language development.
5. Look at one of your own lesson plans. Which characteristics of the SIOP Model do you already incorporate? Consider the components and features of the model as found in Appendix A.

CHAPTER 2

Lesson Preparation



Learning Outcomes:

After reading, discussing, and engaging in activities related to this chapter, you will be able to meet the following **content** and **language objectives**:

Content Objectives

Identify **content objectives** for **English learners** that are aligned to state, local, or national **standards**.

Incorporate supplementary materials suitable for English learners into a lesson plan.

Select from a variety of techniques for adapting content to the students' proficiency and cognitive levels.

Language Objectives

Write language and content objectives.

Discuss advantages for writing both language and content objectives for a lesson and sharing the objectives with students.

Explain the importance of meaningful academic activities for English learners.

In this and subsequent chapters, we explain each **SIOP** Model component and its features. Each chapter begins with an explanation of the component, offers classroom activities, and then describes how three teachers approach the same lesson. The lesson scenarios throughout the book are about varied topics and represent different grade levels.

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This chapter introduces the first component of the SIOP Model, Lesson Preparation. We present background information and the rationale for each of the six features in this component, list some teaching ideas for this component and for differentiating instruction in multi-level classrooms, demonstrate through the teaching scenarios how the model can be implemented, and offer technology enhancements. As you read the scenarios, we encourage you to check your understanding of the SIOP features that have been explained in the chapter by rating the lessons according to best practice. Reflect on how effectively each teacher is meeting the needs of English learners in relation to each feature. At the conclusion of the teaching scenarios, we discuss our assessment of the teachers' efforts to provide SIOP instruction, and we invite you to compare your appraisal to ours. ●

Background

As we all know, lesson planning is critical to both a student's and a teacher's success. For maximum learning to occur, planning must produce lessons that target specific learning goals, enable students to make connections between their own knowledge and experiences and the new information being taught, give students practice using and applying the new information, and assess student learning to determine whether to move on or reteach the material. With careful planning, we make learning meaningful and relevant by including appropriate motivating materials and activities that foster real-life application of concepts studied.

We have learned that if students' exposure to content concepts is limited by vocabulary-controlled materials or watered-down curricula, the amount of information they learn over time is considerably less than that of their peers who use grade-level texts and curricula. The result is that the learning gap between **native English speakers** and English learners widens instead of closes, and eventually it becomes nearly impossible for English learners to catch up. Therefore, it is imperative that we plan lessons that are not negatively biased against students acquiring English and that include age-appropriate content and materials. However, our lessons must provide appropriate scaffolds so our students can meet the rigor of new standards, such as the **Common Core** and **Next Generation Science**, over time and be prepared for college and careers.

This component, Lesson Preparation, is therefore very important to the SIOP Model. If properly prepared, a lesson will include most of the SIOP features in advance. It is then up to the teachers and class to accomplish them as the lesson unfolds. However, when planning, teachers have asked how they can meet all 30 features in a given period. We explain that a SIOP lesson may be a single day or multiple days in length. Over the course of several days, all 30 features should be met. See Vogt and Echevarría (2008, pp. 18–19) for a SIOP lesson planning flow chart.

SIOP Lesson Planning. As you first learn the model, we strongly encourage you to write out lessons in detail. We suggest you use the SIOP protocol as a checklist to ensure all of the features are incorporated. You may want to try one or more of the lesson plan templates we have included in Appendix B or the templates in Chapter 7 of *Implementing the SIOP® Model Through Effective Professional Development and Coaching* (Echevarría, Short, & Vogt, 2008). All of these templates have been used successfully in classrooms. In addition, sample lesson plans and units can be found in the SIOP content books for English-language arts, mathematics, science, and history and social studies (Echevarría, Vogt, & Short, 2010c; Short, Vogt, & Echevarría, 2011a, 2011b; Vogt, Echevarría, & Short, 2010).

"How do I start implementing SIOP lessons?" is a frequent question from teachers new to the SIOP Model. We suggest that

- elementary school teachers begin with one subject area, and
- secondary school teachers begin with one course.

It is better to begin on a small scale so you do not have to write multiple SIOP lessons each day while you are learning the model. In some cases, teachers learn the SIOP Model over time, component by component, and they build their lesson planning skills in the same way. Once you have internalized the model, you may write less detailed lesson plans, and you will probably find that writing SIOP lessons across subject areas or courses is easier.

To guide your SIOP lesson planning, let's now explore each feature in the SIOP component of Lesson Preparation.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 1:

Content Objectives Clearly Defined, Displayed, and Reviewed with Students

In effective instruction, concrete content objectives that identify what students should know and be able to do must guide teaching and learning. They are often easier for teachers to write because they typically come directly from the curricular frameworks of the subject areas. When planning content objectives, keep the following guidelines in mind:

- Plan objectives that support **content standards** and learning outcomes. The Common Core State Standards for English language arts and mathematics (NGA 2010a, 2010b), the Next Generation Science Standards (NGSS Lead States, 2013), and individual state standards are sources of content objectives, and well-implemented SIOP instruction can help students meet them.
- Write lesson-level objectives (something that can be taught and learned in one lesson or two) and use student-friendly language that suits the age and proficiency levels in the class. Content objectives and state standards are frequently complex and not written in a manner that is accessible to English learners or students in primary grades. Often standards are too generic or broad—such as "Prove that, given a system of two equations in two variables, replacing one equation by the sum of that equation and a multiple of the other produces a system with the same solutions." (NGA, 2010b, p. 65)—to be useful as a single lesson's learning goal.
- Write objectives in terms of student learning, not as an agenda item or an activity. See Figure 2.1 for several ways that teachers in our research studies have started their objectives. You will note that all focus on the student.
- Limit the number of content objectives to only one or two per lesson to reduce the complexity of the learning **task** and to ensure that instruction can meet the objectives.
- Share objectives with the students, orally and in writing. Typically teachers do not consistently present objectives to students. As a result, students do not know what they are supposed to learn each day. SIOP teachers tell students the objectives for every lesson, and in this way students share the responsibility for learning.
- Plan lessons so you provide some explicit instruction and practice opportunities related to each objective.
- Review the objectives at the end of the lesson to determine if students have mastered them. Use that assessment when deciding whether to move to the next topic or spend some time reteaching.

Watch this video to learn how Magali Williams, a bilingual resource teacher, introduces the lesson objectives to her students. What techniques does she use to ensure the students understand what they will be learning in this lesson?

We know from our research studies and professional development experiences that presenting objectives each day can be challenging for teachers. But the effort is worth it. One of the sheltered teachers who was learning the SIOP Model reported

FIGURE 2.1 How to Start an Objective

Students will be able to (SWBAT) _____

Students will (SW) _____

We will _____

Today I will _____

The learner will _____

Our job is to _____

her growing awareness of the importance of clearly stated content objectives that are displayed for English learners:

> The objectives are still going on in my class. They're on the board every day and the students are getting used to seeing them, reading them out loud, and evaluating whether or not we achieved them at the end of each class. I still have questions about the wording and what's a good objective ... but that will come with time and more discussion and study. I just wanted to say that defining the objectives each day definitely brings more focus to my planning and thinking, and it helps bring order to my classroom procedures. So far, it has not been too burdensome and the habit is definitely forming.

Content-based ESL teachers sometimes need assistance in identifying appropriate content objectives to add to their lessons. They may feel unprepared for in-depth instruction on a content topic, they may not know the key concepts that should be taught, and they may not know what types of activities usually support the topic. For these reasons, we strongly advocate that content and language teachers collaborate closely as they prepare lessons and help their students meet language and content goals.

By writing content objectives related to the lessons English learners receive in subject-area classes, content-based ESL teachers address the students' academic needs better. Some teachers might draw from one content area, focus on one subject per quarter, or concentrate on academic tasks needed to work in those subjects (e.g., reading a novel, writing an essay, explaining steps in an experiment).

The bottom line for English learners is that content objectives need to be written in terms of what students will learn or do; they should be stated simply, orally and in writing, use active verbs, and be tied to specific grade-level content standards.

Examples of content objectives and language objectives, discussed below, can be found throughout each chapter in this book, in *99 Ideas and Activities for Teaching English Learners with the SIOP® Model* (Vogt & Echevarría, 2008), in *99 MORE Ideas and Activities for Teaching English Learners with the SIOP® Model* (Vogt, Echevarría, & Washam, 2015), in *Helping English Language Learners Succeed in Pre-K-Elementary Schools* (Lacina, Levine, & Sowa, 2006), in lesson plans presented in *Science for English Language Learners* (Fathman & Crowther, 2006), and in the SIOP content books mentioned above.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 2:

Language Objectives Clearly Defined, Displayed, and Reviewed with Students

While carefully planning and delivering content objectives, SIOP teachers must also incorporate into their lesson plans objectives that support students' **academic language** development, and **ESL** teachers may have to build social language skills too (Gersten et al., 2007; Saunders & Goldenberg, 2010). The same guidelines we discussed above for content objectives also should apply to planning language objectives: Language objectives should be written clearly and simply with active verbs, and students should be informed of them, both orally and in writing. They should be limited in number for a given lesson and reviewed at the end. The objectives should be drawn from the state **English language proficiency standards** and English language arts standards. Most importantly, the objectives should represent an aspect of academic English that students need to learn or master.

Both types of objectives are equally essential in SIOP lessons. When planning, remember the following:

Watch this video to hear Professor Cynthia Lundgren explain why teachers need to include language objectives in their lessons and how objectives help students meet standards. What role does language play in your content area? https://www.youtube.com/watch?v=del47uaZMJs

- Content objectives are the ***what***—what students need to learn about the content topic
- Language objectives are the ***what*** too—what students need to learn about English in order to
  - learn, express, practice, and apply new information
  - demonstrate knowledge
  - perform academic tasks

Although incorporating language objectives in all content lessons is a hallmark of the SIOP Model, we recognize that many content teachers are not used to thinking about the language demands of their subject. What we propose in the SIOP Model calls for a new perspective on your subject area. It is not sufficient to only have a deep understanding of topics in your content area; rather, an effective teacher also needs to know how language is used in the content area in order to convey information (orally or in text) and to use and apply that information (through class reading, writing, and discussion activities). It also requires you to know your students' proficiency levels so the language objectives can be targeted to what students need to learn about the academic language of history, science, mathematics, or other subjects, but not be at a level too high for their current understanding.

Because it may be a new way of thinking for you, here are guidelines to keep in mind from research on second language acquisition:

- Remember that acquiring a second language is a process. When considering which language objectives to include in a lesson and how to write them, be sure to reflect a range from process-oriented to performance-oriented statements over time so that students have a chance to explore, and then practice before demonstrating mastery of an objective. The following objectives from a SIOP language

arts class show the progression of objectives that might be taught over several days:

Students will be able to

1. Recognize similes in text (Day 1)
2. Discuss the functions of similes (Days 1–2)
3. Write three similes (Day 2)
4. Write a paragraph that describes a setting using similes (Days 3–4)

For the first lesson (Day 1), students learn to recognize similes in text, perhaps by focusing on the key words *like* and *as*, and the class discusses the purpose of similes. After that (Day 2), they might discuss reasons why authors use similes and then generate their own similes in decontextualized sentences. On Day 3 they describe a setting using similes and turn that description into a paragraph, an authentic purpose. On Day 4 the teacher might have students edit their paragraphs and then share some aloud.

Figure 2.2 displays possible verbs for objective statements that reflect this process-to-performance continuum.

- Distinguish between receptive and productive language skills. English learners tend to develop receptive skills (listening and reading) faster than productive skills (speaking and writing), but all the skills should be worked on in a unified manner. Students don't have to learn to speak, for instance, before they learn to read and write (August & Shanahan, 2006; Saunders & Goldenberg, 2010).
- Recognize the importance of oral language practice; be sure you do not focus your objectives solely on reading and writing. We know from research (Goldenberg, 2008; Guthrie & Ozgungor, 2002) that the absence of planned speaking practice—be it formal or informal—by English learners in content classrooms is detrimental to their development of academic English. Gibbons (2006) argues that skillful teachers should take advantage of oral interaction to move learners from informal, everyday explanations of a content topic (e.g., a scientific process) to the more specialized academic register of the formal written and spoken code.
- Focus on function *and* form to move students to advanced levels of academic English and full proficiency, and consequently to set them up to be college and career ready. ESL and English-language arts teachers play important roles in

FIGURE 2.2 Process-to-Performance Verbs

Process-Oriented -------->------->------> Performance-Oriented		
Explore	Define	
Listen to	Draft	
Recognize		Write
Discuss in small groups		Give an oral presentation
		Edit

making this happen, but content teachers should not let students coast in class. If some English learners are ready to produce more sophisticated language (e.g., during an oral presentation, in a science fair project), they should be challenged to do so. Schleppegrell and colleagues (Schleppegrell, 2004; Schleppegrell, Achugar, & Orteíza, 2004) have conducted linguistic analyses of the lexical and grammatical forms that construe meaning in written and spoken school discourse and have identified implications for instruction. SIOP teachers might make the development of specialized grammar and lexical forms part of their scope and sequence of language objectives (Dutro & Kinsella, 2010; Ellis, 2006; Hinkel, 2006).

- Recognize that the more exposure students have to academic language and the more time they spend using it, the faster they will develop **language proficiency** (Echevarría & Graves, 2010; Saunders & Goldenberg, 2010). If the ESL teacher is the only educator who works on language development with an English learner during the school day, less progress will be made than if all the teachers on the English learner's schedule attend to language development and practice (Snow & Katz, 2010).
- Assess the language objectives to determine if students are making progress toward mastery. You can plan for multi-level responses from the students according to their proficiency in English. For example, use group response techniques (e.g., thumbs-up/thumbs-down) for students who are in the early stages of **English language development**. For students who are more proficient, incorporate activities that involve partner work and small group assignments so that English learners can practice their English in a less threatening setting. Accept approximations and multiple-word responses rather than complete sentences from students at early stages of English development, but expect English learners with greater proficiency to give answers in one or two complete sentences. This practice develops language skills because it requires students to move beyond what may be their comfort zone in using English. You will find this topic discussed in more detail in Chapter 9.

Sources of Language Objectives. You also need to know about sources of language objectives. The first place to start is the state English language proficiency (ELP) standards. Second, as we mentioned in Chapter 1, look at the WIDA standards. The WIDA consortium has compiled a list of "Can Do" descriptors that can help teachers identify the kind of language tasks students should be able to perform according to five differing levels of English proficiency and different grade-level clusters. (To view these descriptors, navigate to the "Can Do" page at *www.wida.us.*

Watch this video to learn how the WIDA standards can be used as a source for planning language objectives across subject areas. What other sources do you have access to?

Individual state and Common Core English language arts standards are other resources. Some states also have content area standards that include a strand focused on communication. Ideas for objectives will be found in all of these official documents as well as in local district curricula and instructional materials. By reviewing the course textbook and other materials, you can see if there are language skills and academic vocabulary that students need to develop in order to comprehend the information.

One critically important source for successful SIOP lesson implementation is your colleagues. If you are a content or grade-level classroom teacher, pair up with an ESL or bilingual teacher. Tap his or her expertise for language topics and knowledge of the English learners' academic language needs. If you are an ESL teacher, you have a plethora of language objectives at your disposal. You need to partner with one or more content teachers to identify content objectives and lesson tasks that the English learners need assistance with and align them to your language objectives. You may want to focus on thematic units to cover a variety of content topics or focus on one subject area per quarter. (See Lacina, Levine, & Sowa, 2006, and TESOL, 2013 for examples of collaboration.)

Selecting and Writing Content and Language Objectives

All the content and language objectives should evolve from the lesson topic and be part of the instructional plan. After a teacher writes content and language objectives, posts them, and discusses them with the students at the start of class, at some point in the lesson explicit instruction must be provided on these objectives. Students would then have practice opportunities aligned to the objectives and be assessed on their progress toward meeting them at the close of the lesson. In other words, each objective is what we want the students to learn, and each needs explicit attention. (See *Developing Academic Language with the SIOP Model* [Short & Echevarría, 2016] for detailed information on selecting and writing language objectives for SIOP lessons and for activities to help you apply the guidelines to your own classes.)

Watch this video of Deborah Short explaining why content and language objectives are necessary in lessons with English learners. Why are they needed? How do they benefit the students and the teachers?

When students practice objectives that are explicit learning targets, they advance their knowledge base. Objectives, it is critical to understand, are not activities; they are not the agenda on the board nor the tasks the students do during the lesson. Objectives are the learning targets related to the content and language knowledge students must acquire, and they are necessary for students to accomplish the activities and master the curriculum.

> **Remember:** Writing an agenda or list of activities on the board is not the same as writing the content and language objectives!

Content objectives, as mentioned earlier, are usually drawn from the state subject area standards. Consider this life science standard of learning from Virginia: "The student will investigate and understand the basic physical and chemical processes of photosynthesis and its importance to plant and animal life." This standard is too broad to be addressed in one lesson, but it is written in a straightforward manner. Posting it as an objective word for word in a middle school science classroom would not be helpful for your students, and you would need several lessons to address this standard well. Suppose you have newcomers or students with interrupted educational backgrounds. You might have to begin with the basics and write a content objective like "Identify parts of a plant and their functions." When you explain it, you might elaborate, "*Today you will learn about parts of a plant* (show a picture or drawing). *You will be able to identify the parts* (point to the different parts) *and tell what the parts do* (e.g., *Leaves make food for the plant.*)."

After you have rewritten the state standard as an appropriate content objective for the newcomers, you will need to plan the lesson and determine a language objective. One teacher we worked with decided to augment the science lesson with a walking field trip. In a park near the school, she and the middle school newcomers each found one living plant and sketched it. Then they collected plants and plant parts, such as fallen leaves, twigs, stems, roots, and so forth. Back in the classroom, triads were given one part to become familiar with. They would prepare a poster including a close-up illustration of the plant part and a caption telling what function the part plays for the plant. The teacher had bookmarked some Web sites for the groups on the class computer and also had some photographic picture books on plants in her classroom library. She then taught them the definition of "function." Because her language objective was "Students will represent a plant part visually and write a sentence about its function," she provided a sentence stem for students to use in writing their caption: "This _____ helps the plant because it _____."

Categories of Language Objectives. Language objectives should be planned to meet learning goals and prepare students for the type of academic language they need to understand the content and perform the activities in the lesson. But the activities alone are not language objectives, although they could provide language practice. In some lessons, language objectives may focus on developing students' vocabulary, introducing new words and concepts, or teaching word structure to help English learners discern the meaning of new words. Other lessons may lend themselves to practice with reading comprehension skills or the writing process. Sometimes objectives will highlight functional language use, such as how to request information, justify opinions, negotiate meaning, provide detailed explanations, and so forth. Higher-order thinking skills, such as articulating predictions or hypotheses, stating conclusions, summarizing information, and analyzing an author's purpose can be tied to language objectives, too. Sometimes specific grammar points can be taught as well; for example, learning about capitalization when studying famous historical events and persons.

We suggest you draw from the following four categories when generating language objectives.

- **Academic Vocabulary.** Key words needed to discuss, read, or write about the topic of the lesson (e.g., names of important people, places, and events; scientific and mathematical terms; social studies or health concepts) can be the focus of language objectives. Vocabulary for a lesson can be drawn from three subcategories, which are described in detail in Chapter 3:
  - *Content vocabulary:* These key words and technical terms are subject specific. They are often the highlighted words in textbooks. Students need them to understand lesson concepts, but they are generally low-frequency words (i.e., not regularly used outside of the classroom), particularly those in secondary school courses. (Ask yourself: When was the last time you used *magma* in conversation?)
  - *General academic vocabulary:* These words include cross-curricular academic terms (e.g., *circumstances, impact, observe*), transition words and logical

connectors (e.g., *however*, *because*, *next*), and language function words (e.g., *compare, persuade*). This category includes medium- and high-frequency words that are used in academic and social conversations.

- *Word parts:* This category refers to roots, prefixes, and suffixes. Attention to the structure of words can help expand a student's vocabulary knowledge considerably. For example, if a student knows that *vis* is the root meaning "to see," she can begin to guess the meaning of words like *vision, visual, invisible*, and *visualize.*

- **Language Skills and Functions.** This category reflects the ways students use language in the lesson.
  - Students are expected to read, write, listen, and speak, but how well they do so varies. English learners need some direct instruction in these language skills, along with opportunities to practice. The skills taught need to link to the topic of the lesson. In a language arts class, for example, will students need to read and find key details in the text to cite as evidence? In social studies, will they need to listen to an audio recording of a speech by an historical figure? In science class, will they have to record their observations during an experiment?
  - Any lesson may also call for students to use language for a specific purpose—to *describe*, *compare*, or *predict*, for example. English learners need instruction here as well, particularly in ways to articulate their descriptions or comparisons or predictions.
- **Language Structures or Grammar.** Teachers can pay attention to the language structures in the written or spoken discourse of their class and teach students the structures that are widely used. For example, students might be struggling with a text that includes the passive voice, imperatives, or if-then sentences. If so, the teacher may teach students how to interpret these sentences. If you are a content teacher, we are not asking you to become a grammar expert, but we do want you to be aware of the syntax used in your subject area. If you are an ESL teacher, this category might offer the opportunity to teach some grammar that will really advance the students' language proficiency.
- **Language Learning Strategies.** This category provides a way for teachers to give students resources to learn on their own. **Learning strategies** to be taught may include
  - corrective strategies (e.g., reread confusing text),
  - self-monitoring strategies (e.g., make and confirm predictions),
  - prereading strategies (e.g., preview headings, relate to personal experience),
  - language practice strategies (e.g., repeat or rehearse phrases, imitate a native speaker), or
  - cognate strategies (e.g., teach students with Latin-based **native languages** to consider cognates when they see new academic terms).

  More discussion on strategies is found in Chapter 5.

Selecting Potential Language Objectives. One of the difficulties teachers face is narrowing down the wide range of possible language objectives. English learners

FIGURE 2.3 Categories and Examples for Developing Language Objectives

Type of Language Objective	Grade 1 Social Studies Example	Grade 3 Math Example	Middle School Language Arts Example	High School Chemistry Example
Academic Vocabulary ↓	We will use key words (e.g., *park, library, school, apartment building, house*) and prepositions (e.g., *next to, beside, across*) to describe locations in the neighborhood.	Students will be able to define the terms *square, rectangle, rhombus, trapezoid,* and *parallelogram* orally and in writing.	Students will be able to state the figurative and literal meanings of expressions of hyperbole.	Students will be able to define the terms *chemical reaction, chemical change,* and *physical change* orally and in writing.
What it means instructionally	Teacher teaches students key terms and prepositions and models how to use them to describe the locations of different buildings in the neighborhood.	Teacher teaches (or reminds) students how to define a term: state attributes, give an example, draw a picture, or use it in a sentence.	Using examples (e.g., "my feet are killing me"), the teacher explains what hyperbole is and the difference between figurative and literal language. Students evaluate sample statements as hyperbolic or not and explain why.	Teacher teaches (or reminds) students how to define a term: state attributes, draw an illustration, use in a sentence, give an analogy, provide an antonym, or identify group membership and distinguishing characteristics.
Language Skills and Functions ↓	We will compare features of neighborhood locations using comparative phrases.	Students will be able to listen to teacher descriptions in order to draw different types of parallelograms.	Students will be able to express an opinion orally in a formal and an informal manner.	Students will be able to formulate questions and generate hypotheses before conducting an experiment.
What it means instructionally	Teacher teaches comparative language frames, such as "Both ___ and ___ have." and "___ and ___ are alike/different because ___."	Teacher teaches a listening comprehension skill—paying attention to key words—and asks students to draw the shapes or construct them on a geoboard.	Teacher demonstrates an oral book review as she might tell it to a friend and as she might tell it to a teacher. She calls attention to word choice, intonation, and rhetorical style. She asks students to prepare a similar report on a book, song, or movie.	Teacher teaches or reminds students of the way to form these language functions: formulate a question and then state a hypothesis, perhaps with sentence starters like "Will the ___?" and "We predict that ___."

Language Structures or Grammar ↓	We will use singular and plural nouns with past tense irregular verbs.	Students will be able to use comparative phrases, such as *greater than, larger than, smaller than, less than,* and *equal to* orally and in writing when comparing geometric figures and angles.	Students will be able to use conjunctions and dependent clauses to join ideas in compound and complex sentences.	Students will be able to use adverbs of time in their lab report to describe their observations.
What it means instructionally	Teacher introduces (or reviews) the difference between singular and plural nouns (using neighborhood examples) and models sentences with past tense irregular verb forms (e.g., *I went to two stores on Ash Street*).	Teacher introduces (or reviews) these comparative phrases and also shows the corresponding mathematical symbols (i.e., >, <, and =).	Teacher introduces (or reviews) conjunctions and dependent clauses and how their use can create a variety of sentences with two or more related ideas. Students practice writing such sentences.	Teacher teaches (or reviews) adverbs of time (e.g., *first, next, later, after three minutes, for several hours*) and shows models of usage in a lab report.
Language Learning Strategies ↓	We will visually represent directions stated or given on a map.	Students will be able to visualize and relate the geometric shapes to their lives.	Students will be able to rehearse an oral presentation with a peer.	Students will be able to monitor subject-verb agreement in written lab reports.
What it means instructionally	Teacher models how to listen to information (in this case, walking directions) and record the route on a map.	Teacher explains how to visualize and make a personal connection and how to articulate the mental image, perhaps through a think-aloud.	Teacher teaches class how to listen and give feedback to an oral presentation based on certain criteria (e.g., word choice, intonation) and provides class time for rehearsing.	Teacher discusses subject-verb agreement and points out examples in a model lab report. He or she shows students how to check a sentence for subject-verb agreement, particularly for noun phrases (e.g., *potassium and sodium* combine to form salt).

need lots of academic language development, so how should a teacher select one or two language targets for a lesson? We suggest that you think about how language will be used in your lesson: in texts (reading passages and instructions), in talk (your speech and student discussions), in tasks (activities and assignments), and in tests. While doing this, also consider the four categories of language objectives. Where might your students need assistance? Given the content topic and your knowledge of the students' level of academic language acquisition, what objective(s) might be written that complements the topic and that you will explicitly address in the lesson?

A colleague of ours, Amy Washam (personal communication), who is a very experienced SIOP professional developer, uses some effective techniques to help teachers conceptualize academic language in their lesson planning process:

> First, I ask teachers what they would need in order to learn another language fluently enough to attend a graduate course in a country where that language is spoken. Teachers brainstorm ideas, which often include a tutor, a specialized glossary of key terms in the course, extra time spent in the country before the class starts practicing the language, and language learning programs on tape that they can listen to over and over.
>
> I tell them that what they listed—modeling, repetition, feedback, practice speaking the language—are all good language activities for their English learners. But they also need to have a language target for each activity.
>
> So next I ask teachers to think of an English learner they have worked with recently and write down all of the reasons this student is not considered English proficient in their class. Common reasons cited are poor reading comprehension, technical difficulties in writing, problems with English pronunciation, and limited background knowledge which results in limited academic vocabulary.
>
> My response at this point is, "The reasons you listed for your student not being classified as English proficient are your language objectives. You can have language objectives for reading comprehension, academic vocabulary development, grammar, and even pronunciation." I then push them to think about their planning and ask, "Is it more important for this student to work on the content standards in their classes or the list of skills that you say this student does not possess yet in English?"
>
> Now they typically say both are important. So we move to the next step: I ask them to respond to these questions:
>
> 1. What language will students need to know and use to accomplish this lesson's content objectives?
> 2. How can I move my students' English language knowledge forward in this lesson?

Writing Language Objectives. In Figure 2.3, we show how language objectives might be written for these four categories. One column shows language objectives for a first-grade social studies class. The next column shows language objectives for a third-grade math lesson on geometric shapes. The third column shows language objectives for a middle school language arts class, and the final column shows

language objectives for a high school chemistry class. These objectives are illustrative and would not all be addressed in one lesson; instead, they could be used over a series of lessons. Note that it is important to include a variety of language objectives over the course of one week. Many teachers feel comfortable teaching vocabulary as their language objective. This is a good first step, but it is not the complete picture of the language development our English learners need to be successful in school and beyond.

As you write your objectives, keep the verbs in Figure 2.4 in mind. You'll see that they are all active verbs. In SIOP lessons, you want to avoid using verbs like *learn*, *know*, and *understand* because the processes are not observable. Although the verbs in the chart are not exclusive to one category or another, they are more common to the category presented. Over time, add to this list to further distinguish between the content and language goals of your lesson.

For those of you who are new to writing language objectives, we want to offer the following language frames as scaffolds (Short & Echevarría, 2016). To complete them, follow the suggestions we made earlier: Think about which category of academic language your students need to learn and where in the lesson (e.g., the text, talk) the language will be needed or practiced. Use this analysis to determine a language target or two.

A: Students will (function: active verb phrase) using/with (*language target*) .

B: Students will [use] (*language target*) to (function: active verb phrase).

C: Students will (*language target as active verb*) [with ____].

Here are some examples of these objectives from the charts above:

A: Students will write a marketing advertisement using elements of persuasive language.

FIGURE 2.4 Sample Verbs for Writing Content and Language Objectives

Verbs for Content Objectives	Verbs for Language Objectives
Identify	Listen for
Solve	Retell
Investigate	Define
Distinguish	Find the main idea
Hypothesize	Compare
Create	Summarize
Select	Rehearse
Draw conclusions about	Persuade
Determine	Write
Find	Draft
Calculate	Defend a position on
Observe	Describe

B: Students will use cognates to determine word meaning.

C: Students will read to find the main idea.

Note that even if you have students with mixed levels of English proficiency in class, we do not suggest you write different language objectives for each proficiency level. Instead, write an objective that all students should attain based on the content concepts in the lesson, but adjust the intended outcomes to match the students' ability levels. Some students may master the objective by the end of the lesson; others will be at some point on a path toward mastery.

Connecting Content and Language Objectives. Sometimes the language and content objectives may be closely linked as in the following upper elementary math lesson:

- Students will solve word problems using a two-step process.
- Students will write a word problem requiring a two-step process for a classmate to solve.

The first statement is the content objective. It focuses on a mathematical procedure. The second is the language objective, wherein students practice mathematical writing skills.

At other times, the language objective might extend the content knowledge, as in this European History lesson:

- Students will explain the causes of the economic recovery of Europe after World War II.
- Students will write and present a radio broadcast summarizing Europe's economic growth over five years since the end of WWII.

In this lesson, students may use the text and other sources to determine how the economy in Europe improved over time, finding events that occurred or steps governments took. The teacher may have to explain the Marshall Plan and other initiatives. The teacher may then have to guide students in creating a radio broadcast: how to organize the ideas, write a script, and rehearse the broadcast. Besides helping students articulate their information orally, the teacher may also encourage them to focus on non- and paralinguistic aspects of the presentation such as eye contact and intonation.

For language arts and reading teachers, distinguishing language and content objectives can be tricky. Certain curriculum concepts like *plot* and *setting* are clearly candidates for content objectives because they are specific to the language arts subject, but other possibilities like "produce writing that conveys a clear point of view" could be either a language or a content objective. It could even be a language objective in a history class.

Despite possible overlap, we advise language arts and reading teachers to consistently identify both a content and a language objective for each lesson, even if some might be placed in either category. Some teachers choose reading and writing-related

objectives as content objectives and speaking and listening targets for language objectives. Because we are aiming for whole-school implementation of the SIOP Model, having students recognize and expect both types of objectives in all their classes is a valuable goal.

Checking Your Objectives. After you have written your content and language objectives, we suggest you refer to this checklist to evaluate them:

_____ The objectives are aligned to state or district standards.

_____ The objectives are observable.

_____ The objectives are written and will be stated simply in language the students can understand.

_____ The objectives are written in terms of student learning.

_____ The content objective is related to the key concept of the lesson.

_____ The language objective promotes student academic language growth (i.e., it is not something most students already do well).

_____ The language objective connects clearly with the lesson topic or lesson activities.

_____ The objectives are measurable. I have a plan for assessing student progress on meeting these objectives during the lesson.

SIOP® FEATURE 3:

Content Concepts Appropriate for Age and Educational Background Level of Students

SIOP teachers must carefully consider the content concepts they wish to teach, and use district curriculum guidelines and grade-level content standards as guides. In SIOP classrooms, this entails ensuring that although materials may be adapted to meet the needs of English learners, the content is not diminished. When planning lessons around content concepts, consider the following:

- the students' first language literacy,
- their English language proficiency,
- their schooling backgrounds and academic preparation for grade-level work,
- their background knowledge of the topic,
- the cultural and age appropriateness of instructional materials, and
- the difficulty level of any text or other material to be read.

Our goal as SIOP teachers is to provide the grade-level curriculum to our English learners. By employing the type of techniques we propose in the SIOP

Model, teachers skillfully make that content comprehensible to them. Sometimes we adapt the materials being read or the materials used to accomplish a task. The following considerations are worth keeping in mind.

- In general, it is inappropriate to use the curriculum materials and books from much earlier grades. Students in high school who are developing literacy for the first time should not be reading about "doggies and birdies," for example, but beginners might use a middle school textbook. Students also deserve books with age-appropriate illustrations. If necessary, the teacher should provide the **scaffolding** that English learners need to understand the content concepts and complex text of the materials used in the lesson.
- In some cases, students with major gaps in their educational backgrounds may be placed in newcomer programs or specialized classes that pull objectives and content concepts from earlier grades in order to provide the foundational knowledge the students need to perform grade-level work successfully and catch up to their classmates (Short & Boyson, 2012). Ideally, specialized courses would be developed to accelerate the learning of students with limited formal schooling; for example, FAST Math was developed by Fairfax County (VA) Public Schools (Helman & Buchanan, 1993) to help students gain several years' worth of mathematics instruction in six months or one year.
- We should also be mindful of concepts our English learners may have already learned through their life experiences or prior schooling. Sometimes, an illustration or demonstration can help students recall a concept and then the teacher can help them learn new English words to describe the concept and add to their understanding of it. As Torgesen and colleagues (2007) point out, "ELLs who already know and understand a concept in their first language have a far simpler task to develop language for the concept in English than do students who lack knowledge of the concept in either language" (p. 92).
- To help students make connections to the content topics, reflect on the amount of background knowledge needed to learn and apply the concepts, and plan ways to build or activate students' prior knowledge related to them. For example, fourth-grade students typically learn about magnetism, yet some adolescent English learners may not have studied this concept. Rather than diminish the content, use what prior knowledge students do have, perhaps about attraction, and then explicitly build background on magnetism as a foundation for the lesson.
- Another way to build background for a small group of learners is through a minilesson that precedes the regular whole-class lesson (Rance-Roney, 2010; Vogt, 2000). This minilesson provides a "jump-start" by reviewing key background concepts, introducing vocabulary, leading a picture or text "walk" through the reading material, engaging students in simulations or role-plays, or having them participate in hands-on experiential activities. The jump-start minilesson develops context and gives access to students who may lack appropriate background knowledge or experience with the grade-level content concepts. In heterogeneous classes in which English learners study with native English

speakers, peer tutors can be used to teach some of the requisite background information as well. Another option, where available, is to provide the minilesson in the students' native language.

- In schools where an ESL teacher and a classroom teacher work collaboratively with the same group of students, the ESL teacher can offer lessons that build background and vocabulary before the English learners study the topic in their regular class.

SIOP® FEATURE 4:

Supplementary Materials Used to a High Degree, Making the Lesson Clear and Meaningful

Watch this eighth-grade history lesson and notice how the teacher incorporates supplementary materials in the lesson. How do these items help students understand the content? What does the teacher do to support the English learners in this class?

Information that is embedded in context allows English learners to understand and complete more cognitively demanding tasks. Effective SIOP instruction involves the use of many supplementary materials that support the core curriculum and contextualize learning. This is especially important for students who do not have grade-level academic backgrounds and/or who have language and learning difficulties. Because lectures and pencil-and-paper activities centered on a text are often difficult for these students, remember to plan for supplementary materials that will enhance meaning and clarify confusing concepts, making lessons more relevant.

A variety of supplementary materials also support different learning styles and multiple intelligences because information and concepts are presented in a multifaceted manner. Students can see, hear, feel, perform, create, and participate in order to make connections and construct relevant meanings. The use of technology (e.g., interactive whiteboards) and multimedia can enhance student understanding and engagement with the content topics and related language practice opportunities. Supplementary materials provide a real-life context and enable students to bridge prior experiences with new learning. To the extent possible, choose materials that are **culturally responsive** to student backgrounds (Nieto & Bode, 2008).

Examples of supplementary materials and resources that can be used to create context and support content concepts include the following:

- **Hands-on Manipulatives:** These can include anything from counter chips for math to microscopes for science to interactive maps for social studies. Manipulating objects physically can reduce the language load of an activity; beginning-level students in particular can still participate and demonstrate their understanding.
- **Realia:** These are real-life objects that enable students to make connections to their own lives. Examples include play money (coins and bills) for a unit on money; historical **realia** such as photos, recordings, and artifacts from the Great Depression; or nutrition labels on food products for a health unit.
- **Pictures and Visuals:** Photographs and illustrations are available that depict nearly any object, process, or setting. Web sites, magazines, commercial photos, and hand drawings can provide visual support for a wide variety of content and vocabulary concepts and can build background knowledge. Models, graphs,

charts, timelines, maps, and bulletin board displays also convey information. Many teachers now have electronic document viewers that they use to display book pages, photos, and more to the class. Many teachers also use PowerPoint slides and interactive whiteboards. Students with diverse abilities often have difficulty processing an inordinate amount of auditory information, and so instruction that is supported with visual clues is more beneficial to them.

- **Multimedia:** A wide variety of multimedia materials are available to enhance teaching and learning. These range from simple tape recordings to videos, DVDs, interactive CD-ROMs, podcasts, and an increasing number of resources available on the Internet. Brief video clips at www.discoveryeducation.com, www.pbs.com, and www.nationalgeographic.com are effective tools. For some students and tasks, media in the students' native language may be a valuable source of information, with audio links as well as written text. It is important to preview Web sites for appropriateness and readability, especially when using them with beginning and intermediate-level students.
- **Demonstrations:** Demonstrations provide visual support and modeling for English learners. If you have a lesson task that includes supplementary materials, then you can scaffold information by carefully planning demonstrations that model how to use the materials and follow directions. Students can then practice these steps in groups or alone, with you or other experienced individuals nearby to assist as needed.
- **Related Literature:** A wide variety of fiction and nonfiction texts can be included to support content teaching, including material written in the students' native languages or with accompanying audio versions. Many teachers create class libraries with trade books and leveled readers on key topics. Some teachers ask librarians to set aside books on related topics as well.[1] Students can read these as supplements to the textbook. They offer a motivating way to look at a topic in more depth. Class libraries can promote more independent reading among students, which is valuable for vocabulary development and reading comprehension practice.
- **Hi-lo Readers and Thematic Sets:** Some publishers offer classic literature as well as fiction and nonfiction selections in a hi-lo format. The stories are of high interest but lower readability levels and tend to include many visuals and a glossary. Some books are grouped into thematic sets (e.g., Civil Rights Leaders Around the World) and can accompany different content area courses. The books in each set are written at different reading levels (e.g., one below-level book, two on-level books, one above-level book). Other book sets may have several versions available, each written at a different reading level. These resources are useful for classes that have students with multiple proficiency levels in English.
- **Chapter Summaries:** Some textbook publishers provide one-page summaries of each chapter, which present the key ideas. The summaries are often available in

[1] See Short, Cloud, Morris, and Motta (2012) to learn about a project organizing library books by lesson topic and English proficiency level and creating bookmarks for book sets.

Spanish and sometimes in other languages as well. They can be used to preview the topic or to review it afterward.

- **Adapted Text:** A type of supplementary reading material that can be very effective for English learners as well as struggling readers is adapted text. Without significantly diminishing the content concepts, a piece of text (usually from a grade-level textbook or a primary source document) is adapted to reduce the reading level demands. Complicated, lengthy sentences with specialized terminology are rewritten in smaller chunks. Definitions are given for difficult vocabulary in context. Please note that we are not advocating "dumbing down" the textbook, an approach that in the past yielded easy-to-read materials with few content concepts left intact. Rather, we suggest that the major concepts be retained, but the reading level demands of the text be aligned to the learners' abilities.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 5:

Adaptation of Content to All Levels of Student Proficiency

In many schools, teachers are required to use textbooks that are too difficult for English learners to read. We discussed above the problem of "watering down" text to the point where all students can read it; content concepts are frequently lost when the text is adapted in this way. However, we also know English learners cannot be expected to learn all content information by listening to lectures.

Therefore, we must find ways to make the text and other resource materials accessible for all students, adapting them so that the content concepts are left intact. Several ways of doing this have been recommended for students who have reading difficulties (Readance, Bean, & Baldwin, 2012; Ruddell, 2007; Vacca, Vacca, & Mraz, 2010), and they work equally well for English learners. These approaches can be used throughout a lesson, as a prereading instructional strategy, as an aid during reading, and as a postreading method for organizing newly learned information.

Native language supports can help with adapting the content, too. If some students are literate in their native language, texts written in that language may be used to supplement a textbook or clarify key concepts. Students may conduct research using native language materials and share the information with classmates in English. Increasingly, the Internet offers native language Web sites, especially for the more commonly taught languages, and authentic materials such as newspapers can be found online. For students who are not literate in their native language but have oral skills, native language broadcasts, podcasts, and audio books, along with access to knowledgeable adults who speak their language may be additional sources of information.

Suggestions for adapting text to make it more accessible include the following:

- **Summarizing the text to focus on the key points of information:** This approach can help focus the learning on key historical events, steps for solving a math

problem, or understanding the plot in a story. The new text might be written as an outline, a list of bulleted points, or a graphic organizer like a flow chart.

- **Elaborating the text to add information:** This approach may make a text longer, but the adapter can embed definitions of difficult words or provide more background information.

Although it is time consuming, rewriting text is an effective modification of curricular materials because information can be organized either in small sequential steps or in other logical chunks of information. Short, simpler sentences are rewritten from long, complex, dense ones. An example of a complex sentence from a science text follows: "Electrons have negative electric charges and orbit around the core, nucleus, of an atom." A simple adaptation of this sentence is, "Electrons have negative charges. They orbit around the core of the atom. The core is called the nucleus."

Ideally, rewritten paragraphs should include a topic sentence with several sentences providing supporting details. Maintaining a consistent format promotes easier reading for information-seeking purposes. All sentences included in the rewritten text should be direct and relevant to the subject. In the following example, a paragraph of original text is taken from an anthology theme in a reading series (Cooper et al., 2003). This passage was excerpted from a piece of nonfiction literature, *Into the Mummy's Tomb*, written by Nicholas Reeves.

> *Original text:* "Tutankhamen's mummy bore a magnificent mask of burnished gold, which covered its face and shoulders. Its head cloth was inlaid with blue glass. The vulture and cobra on its forehead, ready to spit fire at the pharaoh's enemies, were of solid gold" (p. 237).

We have rewritten the original text as follows:

> *Adapted text:* "King Tutankhamen's mummy wore a magnificent mask, made of very shiny gold. It covered the face and shoulders of the body. The part of the mask over the forehead looked like a gold head cloth. Blue glass was sewn into the head cloth. Shapes of a vulture (a type of bird) and a cobra (a type of snake) were above the eyes on the mask. They were made of solid gold. They looked like they could attack King Tut's enemies."

As you compare the texts, you will see some thought was involved in the rewrite. Some words, like "magnificent," are Latin cognates and should be retained if you have students who speak a language such as Spanish or Portuguese. Some patterns and expressions are repeated, such as "made of," because once students figure them out, they can read more fluently the next time they encounter them. Here are some guiding principles to keep in mind when rewriting text:

- Decide what students need to learn from the text.
- Focus on concrete concepts first, then abstract.
- Reduce nonessential details.

- Relate new information to students' experiences (e.g., include a familiar analogy).
- Use visual representations—maps, charts, timelines, outlines.
- Simplify vocabulary, but keep key concepts and technical terms.
- Elaborate to explain concepts if necessary.
- Check word choice and sentence order (e.g., for a question, begin with the question word; for an if-then statement, begin with the if clause).

Obviously, adapting text like this takes time, and it is not easy to do. Note here that the adapted version is slightly longer than the original, which often happens when definitions are embedded. If you have a large number of English learners in your classroom, adapted text can be very beneficial, and it is worth the time and effort to be able to provide students with more accessible material. Be sure to have a colleague read the adapted text to make sure it clarifies rather than confuses the content.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 6:

Meaningful Activities That Integrate Lesson Concepts with Language Practice Opportunities for Reading, Writing, Listening, and/or Speaking

Watch this video, in which two teachers co-plan a joint first-grade lesson for English speakers and English learners. Listen for the ways they make accommodations for the English learners so they can participate in the lesson. How do they prepare the students for the content and ensure language practice will occur?

To the extent possible, lesson activities should be planned to promote language development in all skills while English learners are mastering content objectives. We want to provide oral and written language practice that is relevant to the lesson concepts, but remember: Activities that generate language practice are not language objectives. Language objectives require explicit instruction, for example, about a language skill or structure needed to accomplish the activities.

English learners are more successful when they are able to make connections between what they know and what they are learning by relating classroom experiences to their own lives. These meaningful experiences are often described as "authentic," because they represent a reality for students. That is, classroom experiences mirror what actually occurs in the learner's world. Authentic, meaningful experiences are especially important for English learners because they are learning to attach labels and terms to things already familiar to them. Their learning becomes situated rather than abstract when they are provided with the opportunity to actually experience what they are being taught.

Too often, however, English learners have been assigned activities that are not meaningful and are unrelated to the content and activities pursued by the other English proficient students in their classes. It is essential that content standards that apply to students with English proficiency also apply to English learners, and that the planned activities reflect and support these standards.

Consider a class of middle school students studying insects—butterflies in particular. While the rest of the class learns the scientific names and habitats of various kinds of butterflies, the teacher has the English learners color and cut out pictures of butterflies to make a mobile. This activity is neither authentic nor relevant for these

students. In this instance, the teacher obviously has not provided meaningful activities that support the grade-level science content standards.

As you continue to read this chapter and the remaining ones, you will find a host of teaching ideas for meaningful activities that integrate the concepts with language practice. The resources listed in Appendix D provide many more as well.

Teaching Ideas for Lesson Preparation

Watch this video to see Amy Collinge, a first-grade teacher, discuss the value of presenting objectives to the students. How do the posted objectives help her, and how do they help her students? https://www.youtube.com/watch?v=TMgeoXk0Viw

- **Presenting Objectives to the Class.** Effective SIOP teachers do more than just go through the motions by writing the objectives on the board and reading them quickly to the class. Getting the students involved in thinking about the objectives provides a teaching opportunity that should not be squandered. Here are some ways to make the presentation of objectives more productive. Other ideas can be found in Echevarría, Vogt, and Short (2010c, p. 21).
  - Ask students to pick out important words from the objective and highlight them—for example, the verbs and nouns.
  - Ask students to paraphrase the objectives with a partner, each taking a turn, using the frame: "We are going to learn."
  - Present the objective and then do a Think-Pair-Share, asking students to predict some of the things they think they will be doing for the lesson that day.
- **Number 1, 2, 3 for Self-Assessment of Objectives** (Short, Vogt, & Echevarría, 2011a, p. 71; Vogt & Echevarría, 2008, p. 179). In this activity, students are asked to diagnose their knowledge about a topic and then take some responsibility for learning new information during the lesson. At the beginning of the lesson, display the objectives and ask students to rate themselves on how well they understand each one. You may read each aloud and have students show with their fingers which of the following ratings fit:

  1. I understand this concept.
  2. It looks familiar, or I have studied something like this before.
  3. I don't know this.

  At the end of the lesson, return to the objectives and ask students to rate again, "How well did you meet the objective today?"

  1. I can teach the concept to someone else.
  2. I understand most of it, but not everything.
  3. I don't understand completely. I need more time/practice/examples.
- **Jigsaw Text Reading** (Aronson et al., 1977). Originally designed as a cooperative learning activity for all students, Jigsaw works well with English learners when there is a difficult-to-read text.

  1. Form cooperative learning "home" groups and then have one or two members from each group come together to form a new group of "experts."
  2. Assign each new "expert" group a different section of the text to read. This group can read the text orally taking turns, have partners read to each other, or have group members read the text silently.

3. Following the reading, each "expert" group reviews and discusses what was read, determining the essential information and key vocabulary. You may have a worksheet for them to complete to record key information.
4. Check carefully with each "expert" group to make sure all members understand the material they have read.
5. After you are confident that the "experts" know their assigned information, they return to their "home" groups and teach fellow group members what they learned.

This process scaffolds the learning of English learners because in both groups they are working with others to understand the text. Some classmates may have more background information on the topic. Text can be read with other students, reducing the demands of tackling lengthy sections alone. Depending on English proficiency, English learners may join an "expert" group individually or with a partner. It is important that you form the "expert" groups rather than letting the students choose their own group members.

- **Graphic Organizers.** These schematic diagrams are ubiquitous in today's classrooms, but that does not reduce their value. When preparing a lesson, teachers should think about possible graphic organizers that can provide conceptual clarity for information that is difficult to grasp. Graphic organizers help students identify key content concepts and make relationships among them (McLaughlin & Allen, 2009). They also provide students with visual clues they can use to supplement written or spoken words that may be hard to understand.
  - When used *before reading*, graphic organizers can build background for complex or dense text.
  - When used *concurrently with reading*, they focus students' attention and act as a guide to the information. They help students make connections (e.g., a Venn diagram can elicit comparisons), take notes, and understand the text structure (e.g., a timeline informs students the text will be organized chronologically).
  - When used *after reading*, graphic organizers can be employed to record key content information or personal understandings and responses (Buehl, 2009).

  Graphic organizers include story or text structure charts, Venn diagrams, story or text maps, timelines, discussion webs, word webs, thinking maps, and flow charts. Vogt and Echevarría (2008) include a number of templates for these graphic organizers.

- **Outlines.** Teacher-prepared outlines equip students with a form they can use for note-taking while reading dense portions of text, thus providing scaffolded support. These are especially helpful if major concepts, such as the Roman numeral level of the outline, are already filled in. The students can then add other information to the outline as they read. For some students, an outline that is entirely completed may be helpful to use as a guide to reading and understanding the text. Figure 2.5 shows an example of a scaffolded outline for a reading on the circulatory system.
- **Audio Supported Text.** Technology tools have the promise of making teaching more meaningful and rewarding. Through audio supports, teachers can help

FIGURE 2.5 Scaffolded Outline

The Circulatory System

I. Major Organs

A. Heart
1. Pumps blood throughout the body
2. _____

B.
1. _____
2. _____

II. Major Vessels

A. Artery
1. Takes blood away from heart
2. _____

B. Vein
1. _____
2. _____

C. _____
1. Connects arteries and veins
2. _____

III. Types of Blood Cells

A. Red blood cells
1. _____

B. _____
1. Fights disease

C. Platelets
1. _____

convey new information to students, scaffolding their understanding of the main concepts. Translation and interpretation tools have improved considerably in the past decade. Teachers can now type a sentence or paragraph about a concept to be studied into a Web site that provides translation services and have the concept rewritten in a student's native language. Many sites offer an audio version students can listen to. Several textbook publishers provide their texts on CDs or a Web site, too, and some have audio options in English or Spanish. Students are encouraged to listen to the audio text while they follow along in the book. For some students, multiple exposures to the audio version of the text may result in a more thorough understanding. Ideally, audio support should be available for both home and school use.

Our goal is to help students understand text and information presented orally in English, and our job is to teach the vocabulary, sentence structure, connections between sentences and paragraphs, and other necessary information to the students so they can increase their independence. If we can give them the gist of what they will be learning beforehand through their native language, we can then build on that (new) prior knowledge, and, with careful lesson planning, advance their English language skills and strengthen their content knowledge.

Differentiating Ideas for Multi-level Classes

The Lesson Preparation component offers teachers multiple opportunities to meet the needs of students with different abilities or language proficiency levels in their classrooms. Although it takes time to prepare a lesson for different groups of students, the investment pays off when all of your students learn the material and you do not have to reteach.

- The first step is knowing your students: their literacy skills both in English and in their native language, their schooling backgrounds (including the number of full years they have had in school), their learning styles, and their multiple intelligences. With this knowledge you can have realistic expectations about what they can accomplish and plan activities accordingly.
- The second step is to consider where in your lesson students will need some **differentiated instruction**.
  - Is it when you introduce new content? If so, should you use different materials or a different presentation style? Should you modulate your speech? Preteach vocabulary?
  - Is it when the learners must perform a task to practice or apply the new information or language goal? If so, you may have to consider how you will group the students. Or you may assign different tasks to different groups (based on language proficiency or learning style, for example). You may prepare different handouts or other materials.
  - Is it when you are checking for comprehension? Then you might plan leveled questions so you can address students in ways that they will be able to comprehend the question and have a chance to respond. Or you may prorate the assignment students complete (e.g., a one-page report versus a three-page report).

A few specific examples of differentiated activities follow.

- **Differentiated Sentence Starters** (Short, Vogt, & Echevarría, 2011a, pp. 30–31). This technique converts the practice of using teacher-developed leveled questions into sentence starters that the students might use orally or in writing.
  1. Begin with the essential question of a lesson.
     For example: How do animals change as they grow?
  2. Write questions at a variety of levels of difficulty.
     For example: (a) How does a caterpillar change as it grows up? (b) Do all animals look different when they grow up? Explain. (c) Why do animals change as they grow?
  3. Convert the questions into sentence starters.
     For example: (a) When a caterpillar grows up, it. . . . (b) Yes, all animals look different because. . . . [or] No, not all animals look different. For example, ... (c) Animals change as they grow for several reasons. For one, ...
  4. Post the questions and have the students respond, either by self-selecting a sentence starter or by being assigned one.

- **Leveled Study Guides.** Study guides to accompany assigned text or a unit's topics can be specifically written for diverse students' needs and their stages of language and literacy development. All students are expected to master the key concepts in the text or unit; however, some need support for comprehension while others can delve more deeply into the material on their own. For students who can easily read the text material, write a study guide so they can extend and enrich their knowledge of the topic, and be sure to include challenging questions or tasks. For those who need a little support, write a study guide with definitions and "hints" for unlocking the meaning to lead them through the text. Include fewer challenging questions and tasks. For some English learners and struggling readers, create a study guide with brief summaries of the text or topic along with more manageable questions and tasks. Questions, tasks, and statements on the leveled study guides can be marked with asterisks as follows (from most manageable to most challenging):

  * All students are to respond to these questions/statements/tasks.

  ** Group 1 students are required to complete these questions/statements/tasks.

  *** Group 2 students are required to complete these questions/statements/tasks.

  Of course, the option to try the more challenging questions or statements should be open to all students.

- **Highlighted Text.** A few literature anthologies or content textbooks may be marked and reserved for students acquiring English and/or for those struggling with academic literacy. Major ideas, key concepts, topic sentences, important vocabulary, and summary statements are highlighted (by the teacher or another knowledgeable person, using a highlight pen or highlight tape) prior to the students using the books. Students are encouraged to first read only the highlighted sections. As confidence and reading ability improve, more of the unmarked text can be attempted. The purpose of highlighted text is to reduce the reading demands of the text while still maintaining key concepts and information.

Rating Lessons with the SIOP® Protocol

As we mentioned at the start of this chapter, we want to give you the opportunity to check your understanding of the SIOP features and learn to use the SIOP protocol, both for your own teaching and for coaching other teachers. So, we present scenarios of three teachers who teach the same concepts at the same grade level. After we describe each teacher's lesson, we will ask you to score the SIOP features for this component on a scale of 4–0, with 4 meaning the feature was well implemented in the lesson and 0 meaning it was not present. You will probably notice that some ratings for the features will seem quite obvious to you (usually those that merit 0, 1, or 4 on the scale), while others will be more challenging.

It is important that you rate each feature as reliably as possible. That is, you need to develop consistency in your rating by having a clear understanding of each feature and how it "looks" during a SIOP lesson. Therefore, it is very important that you discuss with other teachers, coaches, or supervisors how you determined your ratings

on the various SIOP features for the lessons depicted in this book. Some teachers work with a partner to establish **inter-rater reliability**. A number of schools have SIOP teacher groups that meet to read the scenarios and discuss the ratings. After these groups deepen their understanding of how the features should be implemented, they may watch video clips of teachers delivering instruction and rate those lessons, too. With practice in multiple classes and subject areas and discussion about the ratings you give, you will develop consistency in your ratings. Chapter 11 provides more explanation on scoring and interpreting the SIOP protocol.

Although we organized this book so that you can score the lessons as you read, in real life, you may not want to give numerical scores on each feature, especially as teachers are learning to implement the model. You can record comments and note if a feature is present or absent, and then use the protocol to offer targeted feedback. You will also notice that five of the thirty features have an NA option (see Appendix A). After years of research, we determined that those five (such as Adaptation of Content, in Lesson Preparation) might not be needed in every SIOP lesson. Adaptation of Content, for example, may not be necessary in a class with advanced English learners.

The Lesson

The lesson described below is intended to teach fourth-grade children about the Gold Rush, in particular, about the trails taken by the pioneers to get from the eastern and midwestern parts of the United States to California.

The Gold Rush (Fourth Grade)

The classrooms described in the teaching scenarios in this chapter are in a suburban elementary school with heterogeneously mixed students. English learners represent approximately 30% of the student population, and the children speak a variety of languages. In the fourth-grade classrooms of teachers Ms. Chen, Mrs. Hargroves, and Mr. Hensen, the majority of the English learners are at the intermediate stage of English fluency.

As part of the state's fourth-grade social studies curriculum, Ms. Chen, Mrs. Hargroves, and Mr. Hensen have planned a unit on the California Gold Rush. The school district requires the use of the adopted social studies series, although teachers are encouraged to supplement the text with primary source materials, literature, illustrations, and realia. The content topics for the Gold Rush unit include westward expansion, routes and trails to the West, the people who sought their fortunes, hardships, settlements, the discovery of gold, the life of miners, methods for extracting gold, and the impact of the Gold Rush.

Each of the teachers has created several lessons for this unit. The first is presented here, a 55–60 minute lesson on routes and trails to the West. Specifically, the content of this lesson covers the Oregon Trail, the Overland Trail, and the route around Cape Horn. To address the Common Core standards for literacy in history, the teachers plan various ways to help students access the textbook.

Teaching Scenarios

To demonstrate how Ms. Chen, Mrs. Hargroves, and Mr. Hensen prepared their first lesson on the trails west, we visit them in their fourth-grade classrooms. As you read, consider the SIOP Model features for Lesson Preparation: content objectives, language objectives, appropriate content concepts, supplementary materials, adaptation of content, and meaningful activities.

Ms. Chen

As Ms. Chen began the first lesson on the Gold Rush, which would take two days to complete, she referred students to the content objectives written on the board: (1) Students will use map skills to find and label the three main routes to the West; (2) Students will identify one or two facts about each of the three trails. After reading the content objectives aloud, Ms. Chen then explained the language objectives: (1) Students will take notes to distinguish among the trails; (2) Students will categorize vocabulary terms.

Next, Ms. Chen asked the students to brainstorm why people would leave their homes and travel great distances to seek their fortunes. She listed students' responses on the board and then asked them to categorize the words or phrases, using a List-Group-Label activity. The students determined the following categories: For Adventure, To Get Rich, For a Better Life. Examples of phrases they placed under the first category included *riding in a wagon train, seeing new places,* and *climbing mountains*.

Ms. Chen then assigned her students a quick-write about the Gold Rush. She distributed two picture books on the topic for each of the table groups (four or five children per group) and directed students to use their background knowledge, the List-Group-Label categories and phrases, and the books to generate a few sentences or a brief paragraph on the Gold Rush. Students were encouraged to work quietly with a partner, and each pair was expected to have a written text for later whole-class discussion.

While the rest of the class were preparing their quick-writes, Ms. Chen asked the five English learners with very limited English proficiency to meet with her. For six minutes, she provided the small group of students with a jump-start for the Gold Rush unit they were about to begin. She introduced key vocabulary with illustrations and simple definitions, led the students through a picture walk of a picture book and the textbook chapter, showed them the trails on the U.S. map, and talked about where the pioneers began their journey and where they headed in California. She showed the students some samples of fool's gold (iron pyrite) and asked them how they thought the gold miners were able to get the gold from the earth.

After the jump-start minilesson, Ms. Chen convened the entire class for a brief discussion of the quick-writes and a whole-class introduction to the unit. Several of the pairs volunteered to share their quick-writes with the entire class.

Ms. Chen then referred to the key vocabulary she had previously written on the board: Oregon Trail, Overland Trail, Route around Cape Horn. She asked

students to think about the names of the trails they were going to be reading about. She explained that often we learn about places and surrounding areas by examining their names.

Ms. Chen asked the students to examine maps of the United States and the Western Hemisphere on the interactive whiteboard and try to determine where the three main trails were located, given their names. The students volunteered appropriate ideas for the first one, the Oregon Trail. Ms. Chen drew it on the whiteboard. She then wrote "Over + land = Overland." One child said, "I get it! They went over the land!" The teacher reinforced this by highlighting the "over the land" route on the whiteboard map too. She then wrote "Route around Cape Horn" and asked students to think about the name's meaning while directing them to look at the map. One child said, "See, the land looks like a horn. And they had to sail around it!" That student came up to the board and drew the route on the interactive map.

Next, Ms. Chen distributed paper copies of a map of the Western Hemisphere and directed the students to work together as a team to complete their groups' maps. To check understanding, Ms. Chen asked each student to tell a partner a fact or two about one of three western routes.

Ms. Chen distributed and explained a scaffolded outline of the chapter that students would complete individually. The outline had subheadings labeled for each of the trails: "Location," "Characteristics," "Challenges," and "Advantages." Following a shared reading of the Oregon Trail section of the social studies text, she elicited ideas from the students to write as notes on the outline for the first trail. She told the students they would have about 10 minutes to keep working on the outline, using their maps and their text chapter and that they would finish the next day. Ms. Chen completed the lesson by reviewing the content and language objectives and by having student partners share a number of facts about each of the trails using complete sentences and then report out to the class.

Check your understanding: On the SIOP form in Figure 2.6 on the following page, rate Ms. Chen's lesson on each of the Lesson Preparation features.

Mrs. Hargroves

Mrs. Hargroves began her lesson on the trails west by stating, "Today you'll learn about the Oregon Trail, the Overland Trail, and the Route around Cape Horn. We'll also be working on maps, and I want you to color the Overland Trail a different color from the color you use for the Cape Horn route. When you learn about the Oregon Trail, you'll complete the map with a third color. By the time you're finished, you should have all three routes drawn on the map using different colors." She held up a completed map for the students to see as an example.

Mrs. Hargroves then presented a brief lecture on the trails west. Using an electronic document reader, she pointed out where the pioneers traveled on the map in the textbook. She referred students to pictures in the book and answered questions. She read the chapter title and the first few paragraphs about the trails west and then assigned the remainder of the chapter as independent reading. She suggested that

FIGURE 2.6 Lesson Preparation Component of the SIOP® Model: Ms. Chen's Lesson

4	3	2	1	0	
1. **Content objectives** clearly defined, displayed and reviewed with students		**Content objectives** for students implied		No clearly defined **content objectives** for students	
4	3	2	1	0	
2. **Language objectives** clearly defined, displayed and reviewed with students		**Language objectives** for students implied		No clearly defined **language objectives** for students	
4	3	2	1	0	
3. **Content concepts** appropriate for age and educational background level of students		**Content concepts** somewhat appropriate for age and educational background level of students		**Content concepts** inappropriate for age and educational background level of students	
4	3	2	1	0	
4. **Supplementary materials** used to a high degree, making the lesson clear and meaningful (e.g., computer programs, graphs, models, visuals)		Some use of **supplementary materials**		No use of **supplementary materials**	
4	3	2	1	0	N/A
5. **Adaptation of content** (e.g., text, assignment) to all levels of student proficiency		Some **adaptation of content** to all levels of student proficiency		No significant **adaptation of content** to all levels of student proficiency	
4	3	2	1	0	
6. **Meaningful activities** that integrate lesson concepts (e.g., interviews, letter writing, simulations, models) with language practice opportunities for reading, writing, listening, and/or speaking		**Meaningful activities** that integrate lesson concepts but provide few language practice opportunities for reading, writing, listening, and/or speaking		No **meaningful activities** that integrate lesson concepts with language practice	

Reflect and Apply

Click here to explain your ratings for Ms. Chen's lesson on each of the Lesson Preparation features.

if students had difficulty with any words, they should hold up their hands and she would circulate to give assistance.

About half the class (mostly the native English speakers) finished reading in 10 to 15 minutes. Some chatted quietly. After about 20 minutes, Mrs. Hargroves asked the class to stop reading. She distributed the U.S. maps and colored pencils and asked the students to work with a partner to complete their maps by locating and coloring in the three trails. When most were finished, Mrs. Hargroves asked three of the students to show and explain their maps to the other students. All maps were then submitted for a grade. At the conclusion of the lesson, students were given the following writing assignment for homework: "If you had been a pioneer, which trail would you have chosen? Why?"

Check your understanding: On the SIOP form in Figure 2.7 on the following page, rate Mrs. Hargroves's lesson on each of the Lesson Preparation features.

Mr. Hensen

Mr. Hensen began his lesson on westward expansion by introducing the topic and asking how many children had been to California. He then asked, "How did you get to California? Did you go by car? By plane? By boat? Or did you go by wagon train? Today you're going to learn how the pioneers made their voyages to California." Mr. Hensen then showed a brief video on the westward expansion. At the end of the video, he introduced the terms Oregon Trail, Overland Trail, and Route around Cape Horn, and then read aloud two paragraphs from the textbook that described the routes.

Next he numbered off the students to form six new groups and quickly moved students into the groups. With their team members, students did a Jigsaw activity for the remainder of the chapter, and when they had finished reading, everyone returned to their original home groups to report on what they had read. The English learners with limited English proficiency were partnered with other students during the Jigsaw reading activity.

Mr. Hensen then wrote the names of the three trails on the board, and on his wall map he pointed out where the pioneers had traveled along the three routes. He directed the groups to divide the three trails, with one or two students in each group drawing the Oregon Trail and the other students drawing either the Overland or Cape Horn trails. Their next task was to tell the other students in their group how to draw and color their maps, using the map in the text and the language on the board as a guide. Mr. Hensen circulated through the room while the students completed the mapping activity, assisting as necessary. At the lesson's conclusion, students were directed to pass in their maps. If they had not finished, their maps were assigned as homework.

Check your understanding: On the SIOP form in Figure 2.8 on page 61, rate Mr. Hensen's lesson on each of the Lesson Preparation features.

FIGURE 2.7 Lesson Preparation Component of the SIOP® Model: Mrs. Hargroves's Lesson

4	3	2	1	0	
1. **Content objectives** clearly defined, displayed and reviewed with students		**Content objectives** for students implied		No clearly defined **content objectives** for students	
4	3	2	1	0	
2. **Language objectives** clearly defined, displayed and reviewed with students		**Language objectives** for students implied		No clearly defined **language objectives** for students	
4	3	2	1	0	
3. **Content concepts** appropriate for age and educational background level of students		**Content concepts** somewhat appropriate for age and educational background level of students		**Content concepts** inappropriate for age and educational background level of students	
4	3	2	1	0	
4. **Supplementary materials** used to a high degree, making the lesson clear and meaningful (e.g., computer programs, graphs, models, visuals)		Some use of **supplementary materials**		No use of **supplementary materials**	
4	3	2	1	0	N/A
5. **Adaptation of content** (e.g., text, assignment) to all levels of student proficiency		Some **adaptation of content** to all levels of student proficiency		No significant **adaptation of content** to all levels of student proficiency	
4	3	2	1	0	
6. **Meaningful activities** that integrate lesson concepts (e.g., interviews, letter writing, simulations, models) with language practice opportunities for reading, writing, listening, and/or speaking		**Meaningful activities** that integrate lesson concepts but provide few language practice opportunities for reading, writing, listening, and/or speaking		**No meaningful activities** that integrate lesson concepts with language practice	

Reflect and Apply

Click here to explain your ratings for Mrs. Hargroves's lesson on each of the Lesson Preparation features.

FIGURE 2.8 Lesson Preparation Component of the SIOP® Model: Mr. Hensen's Lesson

4	3	2	1	0	
1. **Content objectives** clearly defined, displayed and reviewed with students		**Content objectives** for students implied		No clearly defined **content objectives** for students	
4	3	2	1	0	
2. **Language objectives** clearly defined, displayed and reviewed with students		**Language objectives** for students implied		No clearly defined **language objectives** for students	
4	3	2	1	0	
3. **Content concepts** appropriate for age and educational background level of students		**Content concepts** somewhat appropriate for age and educational background level of students		**Content concepts** inappropriate for age and educational background level of students	
4	3	2	1	0	
4. **Supplementary materials** used to a high degree, making the lesson clear and meaningful (e.g., computer programs, graphs, models, visuals)		Some use of **supplementary materials**		No use of **supplementary materials**	
4	3	2	1	0	N/A
5. **Adaptation of content** (e.g., text, assignment) to all levels of student proficiency		Some **adaptation of content** to all levels of student proficiency		No significant **adaptation of content** to all levels of student proficiency	
4	3	2	1	0	
6. **Meaningful activities** that integrate lesson concepts (e.g., interviews, letter writing, simulations, models) with language practice opportunities for reading, writing, listening, and/or speaking		**Meaningful activities** that integrate lesson concepts but provide few language practice opportunities for reading, writing, listening, and/or speaking		**No meaningful activities** that integrate lesson concepts with language practice	

Reflect and Apply

Click here to explain your ratings for Mr. Hensen's lesson on each of the Lesson Preparation features.

Discussion of Lessons

1. *Content Objectives Clearly Defined, Displayed, and Reviewed with Students*

   Ms. Chen: 4

   Mrs. Hargroves: 2

   Mr. Hensen: 1

   During their planning, Ms. Chen, Mrs. Hargroves, and Mr. Hensen approached the task of writing and delivering content objectives in different ways.

   - A review of **Ms. Chen's** lesson plan book indicated the following objectives for her first lessons on the Gold Rush: (1) Students will use map skills to find and label the three main routes to the West; (2) Students will identify one or two facts about each of the three trails. She wrote the content objectives on the white-board and she clearly, explicitly, and simply stated them in a manner that was comprehensible to her students (See Figure 2.9 for Ms. Chen's lesson plan.) She used the interactive map to have students discover information about the trails and encouraged them to identify facts about them. Her lesson received a "4."

   - **Mrs. Hargroves** wrote a content objective in her plan book, but not on the board, and she orally stated what she wanted her students to learn and do in simple terms. However, her English learners might have had difficulty understanding the purpose of the activities they were asked to do. Some students may have inferred that the purpose for the lesson was the coloring activity rather than learning where the trails and routes were. Further, the content objectives were not written on the board or overhead for the students to see. Her lesson was rated "2" for this feature.

   - A review of Mr. Hensen's lesson plan book revealed no content objectives for the Gold Rush lesson on routes and trails. He did not state any content objectives for the students, but just began the lesson with a brief discussion and the video. Some students may have been able to infer the purpose of the map work, but English learners may have been unaware of the purpose of these assignments. His lesson received a "1."

2. *Language Objectives Clearly Defined, Displayed, and Reviewed with Students*

   Ms. Chen: 4

   Mrs. Hargroves: 0

   Mr. Hensen: 2

   The three teachers incorporated language objectives into their lesson planning and delivery to varying degrees.

   - **Ms. Chen** wrote the following language objectives on the board and read them orally to her students: (1) Students will take notes to distinguish among the trails; (2) Students will categorize vocabulary terms. Ms. Chen planned opportunities for students to meet the objectives by helping students generate and categorize key terms, encouraging class and small group discussion, and providing an outline for taking notes. She scaffolded students' understanding of the names of the trails and modeled how to take notes based on the shared

FIGURE 2.9 Ms. Chen's SIOP® Lesson Plan

Date: Feb. 10–11 Grade/Class/Subject: 4 – Social Studies

Unit/Theme: Gold Rush Standards: History—Social Studies 4.3

Content Objective(s): Students will use map skills to find and label the three main routes to the West; Students will identify one or two facts about each of the three trails

Language Objective(s): Students will take notes to distinguish among the trails; Students will categorize vocabulary terms

Key Vocabulary

Oregon Trail
Overland Trail
Route around Cape Horn

Supplementary Materials

Picture books Outlines
Iron Pyrite
U.S. map (PowerPoint slide)

Skel. Outline Jumpstart

SIOP Features

Preparation
- ✓ Adaptation of Content
- ✓ Links to Background
- ✓ Links to Past Learning
- ✓ Strategies incorporated List / Group / Label

Scaffolding
- ✓ Modeling
- ✓ Guided practice
- ___ Independent practice
- ✓ Comprehensible input

Grouping Options
- ✓ Whole class
- ✓ Small groups
- ___ Partners
- ✓ Independent

Integration of Processes
- ✓ Reading
- ✓ Writing
- ✓ Speaking
- ✓ Listening

Application
- ✓ Hands-on maps
- ✓ Meaningful
- ✓ Linked to objectives
- ✓ Promotes engagement

Assessment
- ✓ Individual
- ✓ Group
- ✓ Written
- ___ Oral

Min.	Lesson Sequence
2	1. Content/language objectives
5	2. Brainstorm – Why would people leave their homes to seek fortunes? 3. List-Group-Label brainstormed words and phrases
10	4a. Quick-write on Gold Rush 4b. Jump-start minilesson – vocabulary, pictures, text, pyrite 5. Quick-write share out
10	6. Map skills – interactive whiteboard, names of trails, group maps, check comprehension
20	7. Note-taking – scaffolded outline, shared reading (pp. 214–15), modeling 8. Group/individual note-taking
5	9. Wrap-up – review objs., state facts

Reflections:
Busy lesson, perhaps a bit rushed for English learners. They loved the fool's gold! Review tomorrow and do a jump-start on notetaking.

reading of the textbook. At the end of the lesson, she orally reviewed the language objectives for the students. Her lesson was rated a "4."

- **Mrs. Hargroves** did not include any language objectives in her lesson plan and she did not suggest any to the students. She did not discuss the meanings of the names or terms used in her demonstration and explanations, nor did she encourage her students to use the terminology and concepts during discussion. Further, Mrs. Hargroves expected students to read the textbook with very little support. She mostly conveyed information orally, and she expected students to complete the writing assignment as homework with no modeling or assistance. Her lesson received a "0."
- Although **Mr. Hensen** had no stated language objectives, he did write key vocabulary on the board. He scaffolded the mapping activity and the text reading by having the children work in groups and by having each group member explain the map and key words to the others. This activity was appropriate for beginning English learners because they were supported by each other, and their oral explanations were not "public" for the entire class. The lesson would have been more effective had Mr. Hensen explained his language objectives to the students, emphasizing the importance of listening carefully and of giving clear directions. Although one purpose of the lesson was to build listening and speaking skills, the class was not informed of these objectives either orally or in writing. His lesson was rated a "2."

3. *Content Concepts Appropriate for Age and Educational Background Level of Students*

   Ms. Chen: 4

   Mrs. Hargroves: 4

   Mr. Hensen: 4

   Each of the teaching scenarios indicates that the three fourth-grade teachers, **Ms. Chen, Mrs. Hargroves,** and **Mr. Hensen,** were teaching a unit on the Gold Rush. The content concepts were appropriate because they are congruent with the fourth-grade state and district standards for the social studies curriculum. Each lesson was rated a "4."

4. *Supplementary Materials Used to a High Degree, Making the Lesson Clear and Meaningful*

   Ms. Chen: 4

   Mrs. Hargroves: 1

   Mr. Hensen: 3

   - **Ms. Chen** used a number of supplementary materials to make the content more accessible to the learners: picture books on the Gold Rush, a sample rock of fool's gold, and the maps of the United States and the Western Hemisphere, as well as technology (interactive whiteboard) to model how students might label the trails on their maps. Her lesson received a "4" on this feature.

- **Mrs. Hargroves** used only the electronic document reader and the textbook during her lecture and when the students were coloring their maps. She did not demonstrate, model, or show visuals or other resources to support student learning other than the illustrations in the textbooks. Because Mrs. Hargroves delivered the content orally, some English learners may have had difficulty making connections between the lecture and the text illustrations and maps. Her lesson received a "1."
- **Mr. Hensen's** video enabled his English learners and other students to connect with the pioneers in the Gold Rush, and his use of the wall map enhanced student learning about the location of the three trails. His lesson was rated "3."

5. *Adaptation of Content to All Levels of Student Proficiency*

   Ms. Chen: 4

   Mrs. Hargroves: 0

   Mr. Hensen: 3

   - **Ms. Chen** adapted the grade-level content for her English learners and struggling readers in a number of ways. First, she had students brainstorm, categorize, and then quick-write information about the Gold Rush. She then differentiated instruction by providing a "jump-start" for her lowest level English learners by preteaching the lesson concepts and key vocabulary. She also had a variety of picture books that were easier to read and more comprehensible than the textbook. In addition, she used a scaffolded outline that included some key information. The students used this outline to organize their understanding of the content concepts. Her lesson was rated "4."
   - **Mrs. Hargroves** did not adapt the content for her English learners, other than by lecturing on the topic. Without any supplementary support except the pictures in the textbook and her oral reading of the first few paragraphs, the English learners may have had difficulty learning key concepts just by listening and reading independently. Further, Mrs. Hargroves did not paraphrase or clarify important points during her lecture, nor did she explain or define key language or vocabulary before or during reading. Her lesson plans made no mention of other ways to adapt the content or text. Her lesson received a "0."
   - **Mr. Hensen** provided access to the textbook content through the Jigsaw activity and the video. He grouped the students for their reading so that they read with the support of others and then later conveyed what they had learned to another group of students. However he did not preteach vocabulary they might need to know in order to fully understand the reading. He also had the students complete their work on the maps in small groups, and he encouraged them to help each other with the assignment. His lesson was rated "3."

6. *Meaningful Activities That Integrate Lesson Concepts with Language Practice Opportunities for Reading, Writing, Listening, and/or Speaking*

   Ms. Chen: 4

   Mrs. Hargroves: 2

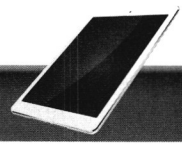
   Mr. Hensen: 4

- Recall that **Ms. Chen** asked students to brainstorm what they knew about the Gold Rush in order to activate and build background. They then worked on a vocabulary categorization activity. Her jump-start minilesson for the English learners included picture walks and discussion of key vocabulary, and the students were able to see and hold iron pyrite, which simulated the feel and look of gold. The picture books supported their learning, and the scaffolded outline provided a meaningful way to take notes on the key concepts. Students practiced map skills to locate and label the trails after Ms. Chen's modeling on the interactive whiteboard. Her lesson received a "4."
- **Mrs. Hargroves's** lesson plan included her lecture, the mapping activity, and the independent reading. Locating the trails by coloring the map was meaningful for students if they understood what they were doing; however, if they were unable to access the text or the lecture, the mapping activity may have been irrelevant. Mrs. Hargroves's lesson received a "2." It was teacher centered, with lecture and independent seatwork as the predominant activities. She expected students to complete the homework assignment based only on the information they could gather from the lecture and text. If students did not understand the lecture or comprehend the chapter, it is unlikely that they would be able to write a meaningful essay on what they learned.
- **Mr. Hensen** activated prior knowledge and background when he asked which students had traveled to California. He also showed the video on the westward expansion, incorporated a Jigsaw reading activity, and had the students complete and explain their maps in triads. All of these activities helped make the content concepts more comprehensible for his English learners, and were considered to be meaningful and appropriate. His lesson was rated a "4."

Watch this video of Sarah Russell, an English 9/10 teacher, and her class of English learners in the first part of a lesson on Edgar Allan Poe's *The Cask of Amontillado*. Notice how she presents the content and language objectives to the students, which supplementary and adapted materials she uses, and what meaningful activities she has planned.

(For more examples of lesson and unit plans in social studies and history for grades K–12, see Short, Vogt, and Echevarría, 2011a.)

Teaching with Technology



After talking with the teachers and discussing the lessons you read about in the Scenarios earlier in the chapter, our tech integrator, Ms. Palacios, offered some technology suggestions to enhance the teachers' lessons.

Differentiated Reading: One of the most challenging parts of teaching units such as the Gold Rush is finding diverse materials at various reading levels. For the first part of the unit, Ms. Chen, Mrs. Hargroves, and Mr. Hensen spent hours searching the Internet for such differentiated texts. When their searches ended in frustration, they resorted to rewriting articles and stories themselves, simplifying the vocabulary, shortening sentences, and adding images to better support students with different **levels of language proficiency**. While it was time consuming, this was one way that the teachers were able to guarantee access to the material and help students engage in class discussions and complete assignments.

Feeling overwhelmed by the searching and simplifying, Ms. Chen, Mrs. Hargroves, and Mr. Hensen reached out to Ms. Palacios to try to find adapted resources more efficiently. They wondered, "Is there a tool that can simplify text easily and appropriately? "Can a Web site do this task for us? In her e-mail back to the team, Ms. Palacios explained that there are some online tools that will convert text, but they have limits. Like translation tools, the text converters provide accurate output only to a certain degree. The programs do not pick up on some nuances of language as a human would. In turn, these issues could further complicate the text.

As an alternative, Ms. Palacios shared a number of Web sites that offer multiple versions of the same article at different reading levels. While preparing for an upcoming lesson in the Gold Rush unit, Mr. Hensen used the Web site *Newsela* to find an article about migrant farm workers at two different Lexile levels. Ms. Chen used *News in Levels* to find a short article with three different levels and video about migrants from North Africa attempting travel to Malta. Mrs. Hargroves found a number of books on both gold and migration on the site *Reading A–Z*. The teachers then shared these articles with each other and used them to help the students explore the motivations of those who were part of the Gold Rush. By incorporating relevant texts at varied reading levels, the teachers facilitated collaborative discussions among students who were able to connect the Gold Rushers' experiences with their own, particularly for the students who were born abroad or who had family in other countries.

Other terms for this type of tool: differentiated articles, same text—different levels

Related products: *News in Levels*, *For the Teachers*, *CommonLit*, *Books that Grow*, *Reading A–Z*, *Newsela*

Videos: In hopes of adding more supplementary resources beyond print, Ms. Chen, Mrs. Hargroves, and Mr. Hensen checked in with Ms. Palacios again. Ms. Palacios quickly recommended two sites for quality videos and animations: *BrainPOP* and *TED-Ed*. The teachers visited the sites during a grade-level team meeting and found that both sites had a large collection of videos related to a variety of topics. *BrainPOP* offers a wide range of material for students in grades K–12. Additionally, there are lesson ideas, quizzes, and searchable standards, among other features.

TED-Ed, a platform created by the TED organization known for its popular talks, offers a wealth of options for teachers interested in integrating video into their lessons. The site offers hundreds of lessons that educators can use or adapt. The site also enables teachers to develop original lessons by linking videos from *YouTube* with its lesson template. Using another online service named *Amara*, the teachers were able to find many of the *TED-Ed* videos with subtitles and transcripts in numerous languages.

Other terms for this type of tool: Video sites for the classroom, best video sites for educators/students

Related products: *TeacherTube*, *LearnZillion*, *WatchKnowLearn*, *PBS*

Worth Visiting: Sites for Videos to Support Teacher Development: *Edutopia* and *The Teaching Channel*

Note: Due to the constantly evolving nature of the Internet, it is a challenge to ensure that all of the links and Web services listed here are updated and functional when you read the technology sections. While specific tools or services may appear in the narrative, we have also included the general search term for each tool. If a specific service does not work or is no longer available, search with the general term for the tool and you should be able to find a comparable Web site.

Check Your Understanding
Click here to check your understanding of Chapter 2, Lesson Preparation.

Summary

As you reflect on this chapter and the benefits of lesson planning with clear content and language objectives in mind, consider the following main points:

- Lesson Preparation is a critical foundation for delivering a high-quality SIOP lesson. Thoughtful planning leads to effective teaching—but a great plan does not always guarantee a great lesson for English learners. They require sensitive teachers who realize that curriculum must be grade-level appropriate, based on content standards and learning outcomes.
- All SIOP lessons need attention to language with at least one objective devoted to furthering the English learners' academic English development. This should be a learning objective—an achievement target, not an activity—and teachers must teach to it during the lesson.
- If students lack background knowledge and experience with content concepts, effective sheltered teachers provide it through explicit instruction, and they enhance student learning with appropriate supplementary materials. They provide scaffolded support by adapting dense and difficult text.
- SIOP teachers situate lessons in meaningful, real-life activities and experiences that involve students in reading, writing, and discussing important concepts and ideas.
- The principles of effective **sheltered instruction** and content-based ESL instruction should be reflected in teachers' lesson plans. As we explore the other features of the SIOP Model and see how teachers apply other important principles in their classrooms, remember that the first step in the instructional process is comprehensive lesson design.

In sum, teachers must learn to identify and then teach the academic language of their subject explicitly in their lessons and use a variety of techniques to build background, convey new information to English learners in accessible ways, plan for meaningful tasks that practice and apply the content and language knowledge, and then review what has been learned.

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 content objectives for English learners that are aligned to state, local, or national standards?
   b. Incorporate supplementary materials suitable for English learners into a lesson plan?
   c. Select from a variety of techniques for adapting content to the students' proficiency and cognitive levels?
   d. Write language and content objectives?

e. Discuss advantages for writing both language and content objectives for a lesson and sharing the objectives with students?
f. Explain the importance of meaningful academic activities for English learners?

2. What are some advantages to writing both content objectives and language objectives for students to hear and see? How might written objectives affect teacher and student performance in the classroom?
3. Think of a lesson you have recently taught or one you might teach. What would be an appropriate content objective and language objective for that lesson?
4. In many elementary schools, one ESL teacher supports English learners from several classrooms, sometimes across different grade levels. How can the ESL and grade-level classroom teachers collaborate to share the responsibility for teaching both language and content objectives to these students? Co-plan a mini-unit in which some lessons will be taught by the ESL teacher and others by the grade-level classroom teacher.
5. Many teachers in sheltered settings rely on paper-and-pencil tasks or lectures for teaching concepts. Think of a curricular area (e.g., science, language arts, math, social studies) and discuss some meaningful activities that could be used to teach a concept in that area. What makes each of these activities "meaningful," and how would they provide language practice?
6. Begin writing a SIOP lesson. Identify the topic and your content and language objectives. Find or create supplementary materials and adapt content as needed. Determine at least one meaningful activity the students can engage in during the lesson. Decide how many class periods will be needed to complete the lesson. When you finish, share your initial lesson plan with a colleague and garner feedback. Revise your lesson.

CHAPTER 3

Building Background

Learning Outcomes

After reading, discussing, and engaging in activities related to this chapter, you will be able to meet the following **content** and **language objectives**.

Content Objectives

Identify techniques for connecting students' personal experiences and past learning to lesson concepts.

Determine ways to develop background knowledge for students for whom there is a mismatch between what they know and have experienced and what is being taught.

Language Objectives

Select key vocabulary for a **SIOP** lesson using words from these three groups: content vocabulary, general academic vocabulary, and word parts—roots and affixes.

Write a lesson plan incorporating activities that build background and provide explicit links to students' backgrounds, experiences, and past learning.

Reflect on two instances when you attended workshops for professional development. During one workshop, you were highly engaged, and you came away from the training renewed and eager to try a new idea or activity. What aspects of this particular workshop clicked for you? Now, recall a workshop during which you were disengaged, bored, and basically unconnected to what the facilitator was talking about. Why was this particular workshop such an unsatisfying experience?

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There might be several reasons why there were such differences in your reactions, including the effectiveness of the trainer, the time of day, your physical comfort, and so forth. But consider another possibility: There was a mismatch between what you know and have experienced with your own students and the concepts and information that were being presented. Because of your background knowledge and personal experiences, (1) you didn't understand what was being presented; or (2) you didn't care about what was being presented because of the mismatch; and/or (3) you couldn't connect with what was being taught, so you turned off and became disengaged. Now ponder what these two workshops would be like if the facilitator were speaking in a language that you do not understand. ●

Background

English learners, particularly recent immigrants, are frequently disadvantaged because their schooling experiences (whether they have had little schooling or excellent schooling) may be considerably different from U.S. educational contexts. For example, the K–12 curriculum can be quite different from country to country, and depending on circumstances, some students may have experienced interrupted schooling, especially if they have been refugees or lived in remote areas. Further, English learners, including both immigrants and students born in the United States, may lack the academic language and key vocabulary necessary to understand content

Watch this video to hear Dr. Mary Ellen Vogt's explanation of the Building Background component. Think of two or three students in your own classroom who are struggling, and reflect on lessons that you're currently teaching. What might you do to better develop background knowledge for these students and others?

information (August & Shanahan, 2010; Donnelly & Roe, 2010). However, not all English learners lack background experiences and academic language; some students may have rich experiential backgrounds and sufficient academic language in their **native language**, but they do not know the equivalent English terms and thus are unable to connect with the concepts being taught.

Effective teaching takes students from where they are and leads them to a higher level of understanding (Vygotsky, 1978). Effective SIOP teachers present information in a way that students can understand, bearing in mind their language development needs and possible gaps in their educational experiences. In SIOP lessons, new information is explicitly linked to students' backgrounds and experiences, and instructional **scaffolding** provides students with access to grade-level content concepts. This chapter focuses on Building Background, which is closely tied to Lesson Preparation and the teacher's **assessment** of students' knowledge of and experience with the topic at hand.

SIOP® FEATURE 7:

Concepts Explicitly Linked to Students' Background Experiences

During the past four decades, researchers have investigated how highly proficient readers and writers process new information (Baumann, 2005; Carrell, 1987; Dole, Duffy, Roehler, & Pearson, 1991). It is a widely accepted notion among experts that a learner's "schemata"—knowledge of the world—provides a basis for understanding, learning, and remembering facts and ideas found in texts. Individuals with knowledge of a topic have better recall and are better able to elaborate on aspects of that topic than those who have limited knowledge of the subject (Chiesi, Spilich, & Voss, 1979).

Connecting students' experiences to a text, developing background knowledge, and teaching key vocabulary are all effective ways to increase comprehension and achievement (Biemiller, 2005; Neuman, Kaefer, & Pinkham, 2014; Vogt, 2014). Teachers can assist students in developing background knowledge by:

- Including techniques in lessons such as chapter previews or anticipation guides. As students begin to develop a conceptual framework for their own learning and understanding, they build a repertoire of background experiences from which to draw.
- Recognizing that students from culturally diverse backgrounds may struggle with comprehending a text or concept presented in class because their schemata do not match those of the culture for which the text was written (Anderson, 1984; Zwiers, O'Hara, & Pritchard, 2014). In the United States, most school reading materials, such as content area texts, rely on assumptions about students' prior knowledge, especially related to curriculum. When introducing a new concept, SIOP teachers often use visuals (pictures, photos, and so forth) to provide context and a reference point for English learners. It's interesting to have students occasionally share in their home languages the name for what a picture represents. Then, the English word can be introduced and explained.

FIGURE 3.1 An Example of a Mismatched Schema

A teacher was participating in a research study using instructional conversations, an approach that explicitly links students' background to text (Echevarría, 1995a). He read a passage from a grade-level novel about a young man, Mike, who was reading a magazine (his favorite subscription) while riding a public bus home. He left the magazine on the bus and as he exited, he spoke a quick Russian greeting to some passengers whom he had overheard speaking Russian. The story explains that Mike had learned a few phrases from his brother-in-law who is Russian. After Mike got off the bus, he noticed the bus make its next stop with quite a commotion. He turned to see the Russians running toward him with guns! After taking a circuitous route home, he got to his second-floor apartment, breathing a sigh of relief. He had no idea why the Russians were so angry with him, but he was relieved that he had lost them. A half-hour later he heard a noise outside, looked out the window, and saw the Russians coming into his building.

At this point, the teacher paused and asked the students how the Russians could possibly have found where Mike lived when the story made it clear that he had lost them. She expected that the students would remember that Mike had left the magazine, with his address label on it, on the bus. However, one student volunteered that the Russians found Mike by asking his brother-in-law. The teacher admitted that she found the answer to be "out in left field" and would ordinarily have tactfully asked someone else for the answer. But the nature of instructional conversations is to discuss ideas, drawing out students' thoughts and linking them to the text. So the teacher asked the student to elaborate. He explained that in their community, which was 99 percent Latino with a small population of Samoans, if he needed to know where a certain Samoan person lived, he'd simply ask someone from the Samoan neighborhood.

The teacher admitted that she had learned an important lesson: The students' schemata were different from hers, yet just as valid. Moreover, she had nearly dismissed the student's excellent contribution because she was looking for a specific answer that matched her schemata. In reality, none of the students in her group had any idea about magazine subscriptions and address labels. In that student's experience, if one wanted a magazine, one merely walked to the store and bought it.

This example clearly demonstrates that the student and teacher had very different ideas and assumptions about the characters and events in the story and a different "magazine" schema. Some of the differences might be attributed to cultural variation and a difference in home environments.

- Acknowledging that many English learners emigrate from other countries and bring an array of experiences that are quite different from those of the majority culture in the United States. Even for those students born in the United States, culture may have an impact on reading comprehension. Therefore, **culturally responsive teaching** is especially important. Consider this example: As a teacher reads, "The barking dog ran toward the boy on the bike," do all students get a sense of fear or danger? Anderson (1994), a pioneer in schema theory research, questioned whether we can assume that students from every subculture will have the same experience with, or emotional reaction to a story or article, or whether we should expect the same outcomes from them. For an actual example of cultural mismatch of schemata that occurred in a middle school's self-contained special education class with a small group of English learners, see Figure 3.1.

Watch the video and listen to SIOP author Dr. Jana Echevarría tell a story as depicted in Figure 3.1. Think of a time in your own classroom when a misunderstanding may have been caused by students' varied background experiences. What could you have done in advance to better situate the lesson topic so confusion could have been avoided?

Teachers of English learners need to be aware that what may appear to be poor comprehension and weak memory skills may in fact be students' lack of experience or background knowledge associated with or assumed by a message or a text. Further, what might look like a lack of prior knowledge actually may be a lack of

accessibility in prior lessons that were taught. Background material may have been "covered," but it was not learned meaningfully. Through the SIOP Model, we urge teachers to activate students' background knowledge explicitly and provide links from their experiences to the key concepts. The interactive emphasis of the SIOP Model (see Chapter 6 for specific features) enables teachers to elicit students' prior knowledge and discuss ideas, issues, concepts, or vocabulary that are unfamiliar to them, in order to develop necessary background information.

Something to Think About

As you begin to write SIOP lessons with techniques to develop students' background knowledge, reflect on the following questions:

- What is meant by activating prior knowledge?
- What is meant by building background?
- How do they differ instructionally?

In the past, we have used the terms "activating prior knowledge" and "building background" somewhat synonymously. However, we now know there are some instructional differences that need to be considered when teaching English learners. All students have prior knowledge gained from schooling and life experiences, and teachers can informally assess what students know and can do, as well as determine any mismatches in schemata through brainstorming, structured discussion, quickwrites, and techniques such as the familiar KWL (Ogle, 1986).

However, if some English learners have little or no prior knowledge about a content topic (e.g., The American Revolution), brainstorming about it may not be helpful because the brainstormed terms, names, and places may be unfamiliar to these students. For example, if students are from countries where there have been revolutions, they may know something about them, but not about the American Revolutionary War. Therefore, it is of critical importance that teachers build background using techniques that fill in the gaps, and help students connect what they do know with what is being taught. And when teachers' explanations are made more concrete with supplementary materials (e.g., photos, models, illustrations, etc.), students are more likely to make the appropriate connections. Essential questions, found in many textbooks and required in some districts, can be developed from a lesson's content and language objectives. They may assist students in making connections to a lesson's topic and also thinking about the wider range of background knowledge and experiences they have.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 8:

Links Explicitly Made between Past Learning and New Concepts

In addition to building background for students, it is also important for teachers to make explicit connections between new learning and the material, vocabulary, and concepts previously covered in class. Decades of research clearly shows that in order

This third-grade lesson focuses on building background of the students, including predictions, connecting to background experiences and previous lessons, and building the vocabulary of sound waves and pitch. How did the teacher, Kendra Moreno, help her students make multiple connections between concepts they have studied previously and the material they are learning in today's lesson?

for learning to occur, new information must be integrated with knowledge students have previously acquired (Rumelhart, 1980). The teacher must build a bridge between previous lessons and concepts, and the material in the current lesson. Many students do not automatically make such connections, and they benefit from having the teacher explicitly point out how past learning is related to the information at hand.

Explicit links between past learning and new learning can be encouraged through questioning, such as, "Think for a minute about the graphic organizer we used yesterday that helped us differentiate between acids and bases. Who can remember and share one difference between them? Do you all agree? Share with your partner two more differences. You may look at your notes and graphic organizer if you need some help remembering." You can also refer to a previous lesson's PowerPoint slides, a text that was read, or other visuals that are related to the topic. By preserving and referring to photos, word banks, illustrations, charts, maps, and graphic organizers, teachers have tools for helping students make critical connections. This is particularly important for English learners who receive so much input through the new language. An explicit, if brief, review of prior lessons focuses on the key information that students should remember.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 9:

Key Vocabulary Emphasized (e.g., introduced, written, repeated, and highlighted for students to see)

Vocabulary development, critical for English learners, is strongly related to academic achievement (August & Shanahan, 2006; Hart & Risley, 2003; Lesaux, Kieffer, Faller, & Kelley, 2010; Zwiers, 2008). In addition, for over 80 years, we have known of the powerful relationship between vocabulary knowledge and comprehension (Baumann, 2005; Fisher & Frey, 2014; Gillis, 2014; Stahl & Nagy, 2006). Therefore, it may not be surprising that the word *vocabulary* is found more than 150 times in the **Common Core State Standards** document (Manyak et al., 2014).

Systematic and comprehensive vocabulary instruction is particularly necessary for English learners (Graves & Fitzgerald, 2006). The Common Core and other rigorous state standards require that students be able to read texts of increasing complexity that include very sophisticated vocabulary. Accompanying content and literacy assessments rely on wide-ranging vocabulary knowledge, so English learners' vocabulary instruction must be accelerated in order to meet the high **standards**. Yet, achieving deep understandings of word meanings is very challenging, especially for English learners.

Vocabulary experts recommend a combination of plentiful and wide-ranging language experiences that include learning individual words, employing word-learning strategies, and developing word consciousness, loosely defined as an appreciation and interest in words. All are needed in a comprehensive vocabulary program (Graves, 2011). Students must learn tens of thousands of words, so they also need meaningful language practice opportunities, a variety of instructional approaches, motivation, and encouragement.

Some studies suggest that a limited number of words should be taught per lesson or per week, and those words should be key words in the text (Beck, Perfetti, & McKeown, 1982). Others recommend teaching English learners the meanings of basic words, such as those that **native English speakers** know already (Diamond & Gutlohn, 2006; Stahl & Nagy, 2006). Beck, McKeown, and Kucan (2002), have developed a three-tier scheme for teaching vocabulary words that is widely used in U.S. schools. It is clear that students must know many more words than teachers can possibly teach. Therefore, in SIOP lessons, teachers purposefully select words that are critical for understanding texts and content concepts, and provide a variety of ways for students to learn, remember, and use those words. In that way, students develop a core vocabulary over time (Blachowicz & Fisher, 2000; Graves & Fitzgerald, 2006).

Academic Vocabulary

Academic language (as described in Chapter 1), involves the use of more sophisticated sentence structures and forms of expression than are found in everyday conversation. An important aspect of academic language is academic vocabulary, words and phrases that are used widely in the academic disciplines. Deep knowledge of the academic vocabulary of the content subjects taught in schools is necessary for students' overall academic success (Nagy &Townsend, 2012; Townsend, 2015).

The Common Core State Standards for vocabulary development suggest that students must develop proficiency with subject-specific vocabulary, as well as other types of academic vocabulary:

> Grades K–5: Acquire and use accurately grade-appropriate general academic and domain-specific words and phrases, including those that signal contrast, addition, and other logical relationships (e.g., *however, although, nevertheless, similarly, moreover, in addition*).
>
> (© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.)

For better understanding of the varied types of academic vocabulary that teachers need to focus on, especially for English learners, we have classified them into three groups. Each should be considered when planning SIOP lessons—when deciding on academic vocabulary to teach, and when writing **language objectives**.

1. **Content Vocabulary—Subject-Specific and Technical Terms:** These are the key words and terms associated with a particular topic being taught (e.g., for a lesson on the American Revolutionary War: *Redcoats, democracy, Patriots, freedom of religion, Shot Heard 'Round the World, Paul Revere*; for a language arts lesson on parts of speech: *nouns, verbs, adjectives, adverbs*). These words and phrases are found primarily in the informational and expository texts that students read, and frequently they are highlighted or in bold in the students' textbooks. In English language arts, they may be terms like *characterization, setting*, and *metaphor*; and while they are not in the fiction passages themselves, they are used to talk about the passages, author's craft, and so on. More important than listing

words for students to learn is conveying the importance of knowing particular words related to a given topic, and determining whether a certain word represents a key concept that is being taught (Graves, 2011).

2. **General Academic Vocabulary—Cross-Curricular Terms/Process & Function:** These are academic words and phrases students must learn because they are used in all academic disciplines. Often, these words are not explicitly taught; yet, they are the ones that frequently trip up English learners and struggling readers. This category also includes words with multiple meanings. These words may have both a **social language** and an academic language use, such as *table* and *chair* versus *data table*. Or the word's meanings may differ according to academic subject, such as the distinction among legislative *power*, electrical *power*, and logarithmic *power.*

   a. Cross-curricular terms: Most of the general academic vocabulary terms can be used across the curriculum. They describe relationships (*friendship, conflict, encounter*) and actions (*describe, argue, measure*). They help illustrate information (*chart, model, structure, symbol*), and are used to speculate (*predict, infer*) and conclude (*effect, result, conclusion, drawback*). They are expressions we usually only see in academic text (*In addition to …, Moreover …, Subsequently …*), and terms we might use in casual conversation as well as academic discussions (*situation, circumstances, source, evidence, modify*).

   b. Language processes and functions: Another subset of the general academic terms indicates what we want to do with language—the kind of information we convey or receive, and the tasks we engage in that require language to accomplish. Some English learners may know the terms in their **home languages**, but they may not know the English equivalents. Examples of some of these language process and function words and phrases that are common in classroom discourse are *discuss, skim, scan, question, argue, describe, compare, explain, list, debate, classify, support your answer, provide examples, summarize, outline, give an opinion*, and so forth. Additional examples are words and phrases that indicate transitions and connections between thoughts, such as *therefore, in conclusion, whereas, moreover*, and *furthermore*, and words that indicate sequence such as *first, then, next, finally*, and *at last.* This category also includes the verbs that students encounter in state tests and during other **assessments**, such as *determine, identify, select, critique, define, match, estimate,* and *contrast.*

3. **Word Parts: Roots and Affixes:** These include word parts that enable students to learn new vocabulary, primarily based upon English morphology. By grade 6, students have acquired thousands of words that include roots and affixes. There is no way that English learners can realistically learn all these words through instruction and memorization. Therefore, all teachers must help students understand that many English words are formed with roots, to which are attached prefixes and suffixes (affixes).

   For example, if a science teacher is teaching photosynthesis, he can help students learn the meaning of *photosynthesis* by introducing the meaning of the root, *photo-* (light). By comparing the words *photosynthesis, photocopy, photograph, photography, photoelectron, photo-finish*, and *photogenic*, students can see

how these English words are related by both structure (prefix + root + suffix), and meaning. The root *photo* means "light," thus providing a clue to a word's meaning if it has this root. In fact, in English, words that are related by structure are usually also related by meaning (Bear, Invernizzi, Templeton, & Johnston, 2012; Helman, Bear, Templeton, & Invernizzi, 2011).

In this video, you will hear language expert, Dr. Jim Cummins, explain how teachers help students acquire English by using morphology (word structure: roots, prefixes, suffixes). Review the list of Common Word Roots (Figure 3.2). How can you use this list to increase your own understanding of morphology, as well as that of your students?

To assist with teaching English word structure, we include in Figure 3.2 some of the most common Latin roots that are found in thousands of English words. The 14 roots with asterisks provide the meaning of over 100,000 words! By adding prefixes and suffixes to many of the words that are included with each root (e.g., *disrespect*-ful, *extract*ion, *inform*ed), you can increase further the number of words on this list.

We urge caution about sharing the Common Word Roots list, or others like it, with students. It is not included here as a list for students to memorize the roots, words, and their meanings. Instead, use what students already know about words.

FIGURE 3.2 Word Root List

There are hundreds of Latin word roots that are used frequently with prefixes and suffixes. This is only a partial list of the most frequently used roots; you can find many more with a search of "words with (root)." The roots with asterisks (*) are the 14 roots that provide clues to the meaning of over 100,000 words!

Aud: to hear
Auditory, audible, inaudible, audience, audiobook, audiotape, audiovisual, audition, auditorium, audacity, audacious, applaud, gaudy, audit, auditor, unaudited, laudatory
Capit or capt: head, chief, leader
Capital, decapitate, capitol, capitalize, capitalist, overcapitalize, capitalism, anticapitalism, captivate, captain, capitulate, recapitulate
***Cept, cap, ciev, or ceit**: to take to seize, receive
Capable, capsule, captive, captivity, captor, capture, accept, deception, exception, intercept, conception, susceptible, perceptive, precept, receive, receipt, deceive, deceit
Cred: to believe
Credit, credential, credence, credible, incredible, credibility, creditable, creditor, accredit, credulity, incredulity
Dic or dict: to say, tell
Dictate, dictator, dictatorial, diction, dictation, dictum, didactic, contradict, contradictory, edict, indicate, indict, indictment, predict
***Duc, duce, or duct**: to lead
Conduct, deduct, educate, induce, introduction, reduce, reduction, reducible, production, abduction, aquaduct
***Fac, fact, fic, or fect**: to make
Fact, manufacture, faculty, facilitate, satisfaction, factor, beneficiary, benefactor, amplification, certificate, confection, affect, defective, disinfect, efficacy, proficient, sufficient, facade
***Fer:** to bring, bear, yield
Refer, reference, confer, conference, inference, suffer, transfer, defer, difference, fertilize, fertility, circumference, odoriferous, aquafer, confer, conference
Flect or flex: to bend
Flex, flexible, flexibility, inflexible, deflect, inflection, reflect, reflexive, reflective, reflector, circumflexion
Form: to shape
Reform, deform, deformity, inform, information, transform, conform, conformable, conformist, cuneiform, formula, formal, informal, formality, informative
Jac or jec or ject: to throw, lie
Abject, dejected, rejection, adjective, conjecture, eject, ejection, inject, injection, interjection, object, objective, objectify, objectionable, project, rejection, adjacent
***Mit or miss**: to send
Mission, missile, missive, admit, admission, commit, dismissed, emissary, intermission, intermittent, remiss, remit, remittance, submit, submission, transmit, transmission, permit, permission, permissive

(continued)

FIGURE 3.2 *(continued)*

Ped or pod: foot (*ped* is Latin; *pod* is Greek)
Pedestrian, pedestal, podium, pedometer, centipede, pedal, expedition, impede, podiatry, podiatrist, peddler, centipede
Pel or puls: to drive, push, throw
Impulse, compel, compulsion, expel, expelled, propel, dispel, dispelling, impulsive, pulsate, compulsive, repel, repellent, pelleted
Pend or pens: to hang
Pendant, suspend, suspense, pendulum, pending, dependent, perpendicular, appendix, appendage, appendix, dependents, impending, interdependent
***Plic or ply**: to fold
Implicit, implicitness, explicit, explicate, implication, replicate, complicated, application, ply, apply, imply, reply
Port: to carry
Import, export, portable, transport, porter, deport, report, support, portal, important, importantly, unimportant
***Pos, pon, or pose**: to put, place, set
Compose, composite, dispose, disposable, oppose, component, postpone, proponent, deposit, compound, depose, proposal, preposition, disposal, exposition, exponent, expose, impose, suppose, opponent, proposition, position
Rupt: to break
Rupture, disrupt, disruptive, disruption, abrupt, abruptly, bankrupt, bankruptcy, corrupt, corruptors, corruption, erupted, eruption, interrupt; erupt, incorruptible
***Scrib or script**: to write
Scribble, ascribe, describe, description, conscript, inscribe, inscription, superscription, prescribe, prescriptive, scripture, transcribe, transcript, transcription, manuscript, nondescript, script, scripted, unscripted
***Sist, sta, or stat**: to stand, endure
Persist, persistence, persistent, consist, consistent, desist, assist, assistant, insist, stamina, constant, circumstance, distant, obstacle, standard, substance, adversity, resist, resistance
***Spec or spect**: to see, watch, observe
Spectator, spectacular, spectacle, respect, disrespect, spectrum, specter, inspect, inspector, retrospective, species, special, specimen, bespectacled, respectable, disrespectfulness
Stru or struct: to build
Structure, structural, construct, construction, destruction, destructive, reconstruct, instruct, instructor, obstruct, instrument, construe, infrastructure, instructive, macrostructure
***Ten, tent, or tain**: to have, hold
Tenant, tenable, tenacity, tenacious, contents, contented, discontented, contentment, intent, maintain, retain, retentive, attention, attentiveness, contentious, détente, competent, incompetent
***Tend or tens or tent**: to stretch, strain
Intend, intention, intently, extended, tense, intense, pretense, tension, intensity, attention, inattention, unintentionally, distend, detention, détente
Tract: to draw or pull
Tractor, attract, abstract, contract, retract, contractual, detract, distract, distracted, extract, subtract, tractable, intractable, traction, protract, protractor, attractive, contract
Vis: to see
Visual, visa, visor, vision, visible, visitor, visitation, visualize, invisible, visibility, improvise, improvisation, supervise, supervision, televise, television, visionary
Vet or vers: to turn
Convert, convertible, converter, revert, reversible, extrovert, introvert, divert, avert, aversion, aversive, vertigo, advertise, advertisement, overt, overtly, subvert

Greek Combining Forms:
Beginning: *auto, phono, photo, biblio, hydro, hyper, hypo, tele, chrom, arch, phys, psych, micro, peri, bi, semi, hemi, mono, metro, demo*
Examples: *automobile, phonograph, bibliography, hydroelectric, hyperactive, telephone, telegraphy, chromosome, physical, periodontal, semicircle, demonstration*
Ending: **graph, gram, meter, *ology, sphere, scope, crat, cracy, polis*
Examples: *photograph, microscope, hemisphere, telegram, chronometer, physiology, metropolis, perimeter, archeology, bibliography, democracy, autocrat*

For example, if they know how the words *import, export, portable, transport*, and *porter* are all related (they all have to do with carrying something), they can transfer that knowledge to learning the meanings of *important* (carrying value) and *unimportant* (not carrying value). These roots and words should be used for your reference and for helping students understand how roots and affixes work in the English language. (For more information about word parts (morphemes) and English structure, see Bear, Helman, Invernizzi, Templeton, and Johnston, 2011; Bear, Invernizzi, Templeton, and Johnson, 2015; Helman et al., 2011).

Word Consciousness

In many classrooms, word study is interesting, active, and fun, and teachers in these classrooms create environments in which words are discovered, examined, and appreciated (Kucan, 2012). Stahl and Nagy (2006) suggest the importance of developing students' *word consciousness*, a phrase used to describe the interest in and awareness of words, which should be a goal of vocabulary instruction. As with any type of learning, word consciousness is developed, in part, by the tone set by the teacher when it's time for word study. Activities in which students manipulate words, sort words, laugh and giggle about funny words, and choose words they want to know about are as important for vocabulary growth as the more academic aspects of vocabulary teaching and word learning.

Teaching Academic Vocabulary

From 20 years of research on vocabulary instruction, we have learned what makes it effective (Blachowicz & Fisher, 2000; Fisher & Frey, 2014). When you are planning vocabulary lessons, regardless of your content area, remember to:

1. *Involve students in actively developing their understanding of words and ways to learn them.* Such ways include use of semantic mapping, word sorts (see Figures 3.3 and 3.4), Four Corners Vocabulary Charts (see Figure 3.5), and Concept Definition Maps (see Figure 3.6), and also developing strategies for independent word learning.
2. *Encourage students to personalize their word learning* through such practices as Vocabulary Self-Collection Strategy (VSS) (Ruddell, 2007) (see Teaching Ideas section, p. 133), mnemonic strategies, and personal dictionaries.
3. *Immerse students in rich language environments that draw their attention to learning words.* Word walls, and comparing/contrasting words with the same morphemic element (e.g., *import, export, portable, transport*), aid students in recognizing and using the words around them.
4. *Provide students with multiple sources of information to learn words through repeated exposures.* Letting students see and hear new words more than once and drawing on multiple sources of meaning are important for vocabulary development. Students also should be encouraged to use the words in speech and writing.

Following a three-year research study with English learners and native English speakers in high-poverty schools, Manyak (2010) recommended vocabulary instruction

that provides rich and varied language experiences that develop word consciousness and focus on the teaching of individual words and word-learning strategies. For example, depending on the age of your students, provide them with:

1. Student-friendly definitions: "*Disruptive* means to disturb others. Another meaning is *unruly*."
2. Examples of use: "Alex was *disruptive* when he made three trips to the waste can while the teacher was reading the story."
3. Opportunities to create their own examples using the word: "What is an example of something that is *disruptive* to you?"

Clearly, there is little benefit in selecting 25 to 30 isolated vocabulary terms and asking English learners (and other students) to copy them from the board and look up their definitions in the dictionary (Allen, 2007; Fisher & Frey, 2008b). Many of the words in the definitions are unfamiliar to these students, which renders the activity meaningless. Although using the dictionary is an important school skill to learn, the task must fit the students' learning and language needs. The number of terms should be tailored to the students' English and literacy levels, and they should be presented in context, not in isolation. Picture dictionaries (definitions enhanced with pictorial representations) are excellent resources for contextualizing terms. For students with minimal literacy skills, using the dictionary to find words can serve to reinforce the concept of alphabetizing, and it familiarizes them with the parts of a dictionary; however, defining words should not be the only activity used. Effective **SIOP** teachers support the understanding of dictionary definitions so that the task is meaningful for students. In fact, many effective teachers introduce dictionary skills to students by using words that are already familiar to them.

Teaching Ideas for Building Background

Additional activities that activate prior knowledge, build students' background knowledge, and develop academic vocabulary include the following:

- **Read aloud** a Big Book, story, article, play, or picture book about the topic to build students' background knowledge, or view a DVD or Internet video on the topic.
- **Pair-Share-Chart** (Vogt, Echevarría, & Washam, 2015). This activity begins with a structured partner-share about a familiar topic. After 2–3 minutes, students share their conversation with the whole class. As students share what they know or think they know about the topic, the teacher records their thoughts on chart paper. Using the information that is charted, the teacher introduces a new concept and helps students make connections between what they already know and the new topic. The charted information is saved and added to during the lesson or unit, and the teacher continues to help forge connections with new information.
- **Digital Jump-starts (DJs)** (Rance-Roney, 2010). Elsewhere in this book (see Chapter 2, Lesson Preparation), we have referred to the powerful effect of jump-starting (also referred to as "front-loading"), where teachers preteach a

small group of students the concepts, vocabulary, and processes prior to beginning a lesson for the whole class. The purpose is to build background and vocabulary knowledge for students who need extra time and support. Rance-Roney (2010) points out that as effective as jump-starting is, it can cause some management issues for those students who are not working with the teacher in the jump-start group. Therefore, she created "digital jump-starts" that allow students who need the extra time and support to work on a computer to play and replay a reading preview, practice new vocabulary words, and so forth. The DJs can be put on DVDs for home viewing or they can be uploaded to free-access Web sites, such as YouTube.

- **The Insert Method** (Vogt & Echevarría, 2008). This activity is appropriate for grades 3–12 and all subject areas. The teacher provides a copy of a nonfiction article on the topic being taught. In partners, students read the article. During their reading, they insert the following codes directly into the text:

  ✓ A check mark indicates a concept or fact that is already known by the students.

  ? A question mark indicates a concept or fact that is confusing or not understood.

  ! An exclamation mark indicates something that is unusual or a surprise.

  + A plus sign indicates an idea or concept that is new to the reader.

  When the partners finish reading and marking the text, they share their markings with another pair of students. If any misconceptions or misunderstandings are cleared up, then the question mark is replaced with an asterisk (*). When groups finish working, the whole class discusses with the teacher what they have learned and read.

- **Pretest with a Partner.** This activity is helpful for students in grades 2–12 and is appropriate for any subject area. The purpose of Pretest with a Partner is to allow students the opportunity at the beginning of a lesson or unit to preview the concepts and vocabulary that will be assessed at the conclusion of that lesson or unit. One pretest and pencil is distributed to each pair of students. The pretest should be similar or identical to the posttest that will be administered later. The partners pass the pretest and pencil back and forth to one another. They read a question aloud, discuss possible answers, come to consensus, and write an answer on the pretest. This activity provides an opportunity for students to activate prior knowledge and share background information, while the teacher circulates to assess what students know, noting gaps and misinformation.

- **Word Clouds.** A word cloud is created based on the frequency of words in a text. There are numerous Web sites that students can use to make word clouds, and some provide support in several different languages, which, depending on the languages, might be especially helpful for English learners. The teacher selects some interesting text that students have read, and copies and pastes it into the text box on the word cloud Web site. The display can be manipulated by selecting a background color, layout, and font. Word clouds enable students to see key words and headings, and they provide prompts for discussion and writing. When students create their own designs, they integrate visual and verbal information,

while practicing important digital skills (Dalton & Grisham, 2011). Note that on the word cloud, the larger the word, the more frequently it appears in the text selected for the cloud. To see an example of a word cloud, see Figure 3.8, p. 94 in Miss Saunders's lesson.

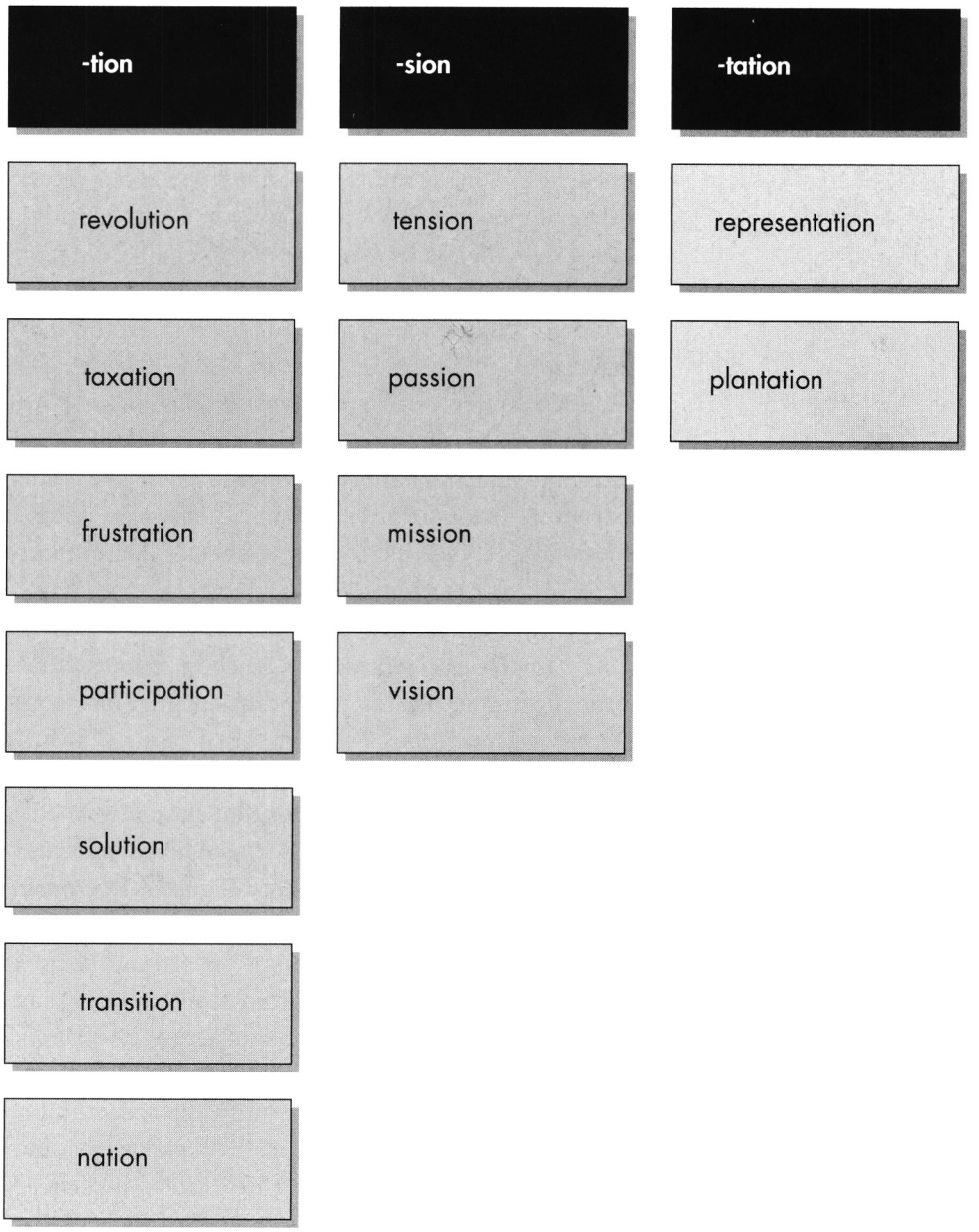
- **Word Sorts** (Bear et al., 2015; Helman et al., 2011). During a Word Sort, students categorize previously introduced words or phrases into groups predetermined by the teacher. Words or phrases can be typed on a sheet of paper (46-point type on the computer works well), they can be duplicated from blackline masters in the books by Bear et al. (2012) or Bear et al. (2011), or they can be downloaded from several Web sites by doing a search for "words for word sorts." The teacher or students cut the paper into word strips and then sort the words according to meaning or similarities in structure.

  For example, a variety of words related to the American Revolution are listed in mixed order on a sheet of paper. After the teacher has orally read the words and students have chorally read them, the students sort them according to structure (endings: *-tion, -sion, -tation*) (see Figure 3.3). This activity can be differentiated by having some students also determine the verb forms for words (e.g., *revolt, tax, participate, solve, frustrate, represent*). Then they can compare those words to the other words that are nouns (e.g., *nation, passion, mission, vision, plantation*). The teacher can show students that some verbs become nouns (nominalizing) by adding the endings (e.g., *revolt* to *revolution*; *solve* to *solution*; *frustrate* to *frustration*). Students can also do a "word hunt" (Bear et al., 2015; Bear, Helman, Invernizzi, Templeton, & Johnston, 2011) to search for additional words that fit the varied patterns they have identified.

  Other examples of Word Sorts involve words and phrases related to the content concepts being taught (see Figure 3.4). Consider the ways this activity could be differentiated: (1) students who may be unfamiliar or shaky with English words for concepts being reviewed can be given labels to use; (2) students for whom this content sort is quick and easy can be directed to a free online encyclopedia to investigate other topics that could be added to the topic of the American Revolution; (3) students can add more columns to the sort and fill them in with appropriate information, using books or other resources. Adding the "oddball" column in sorts encourages students to think about both examples and non-examples during the classification activity.

- **Contextualizing Key Vocabulary.** SIOP teachers peruse the material to be learned and select several key terms that are critical to understanding the lesson's most important concepts. The teacher introduces the terms at the outset of the lesson, systematically defining or demonstrating each and showing how that term is used within the context of the lesson. Experienced SIOP teachers know that having students understand completely the meaning of several key terms is more effective than their having a cursory understanding of a dozen terms. One way of contextualizing words is to read with students in small groups and, as they come across a term they do not understand, pause and explain it to them, using as many examples, synonyms, or cognates as necessary to convey the meaning. Another way is to embed a definition within a sentence when introducing and reviewing a new word or concept, e.g., *The migratory birds, those that flew in a*

FIGURE 3.3 Word Sorts (American Revolution—Example 1)



group from one place to another in autumn, stayed near our lake for several days before flying on.

- **Vocabulary Self-Collection Strategy (VSS)** (Ruddell, 2007). Following the reading of a content text, students self-select several words that are essential to understanding content concepts. Words may be selected by individuals, partners, or small groups, and they are eventually shared and discussed by the entire class. The teacher and students mutually agree on a class list of vocabulary self-collection words for a particular lesson or unit, and these words are reviewed and studied throughout. They also may be entered into a word study notebook,

FIGURE 3.4 Word Sorts: American Revolution—Example 2

People	Weapons	Issues
George Washington	muskets	right to bear arms
Thomas Jefferson	rifles	taxation
Thomas Paine	knives	self-governance
King George	bayonets	freedom of religion
Paul Revere	cannons	democracy

and students may be asked to demonstrate their knowledge of these words through written or oral activities. Ruddell (2007) has found that when students are shown how to identify key content vocabulary, they become adept at selecting and learning words they need to know, and, given opportunities to practice VSS, comprehension of the text improves (Ruddell & Shearer, 2002; Shearer, Ruddell, & Vogt, 2001; Stahl & Nagy, 2006). The VSS is an effective method for teaching and reviewing content vocabulary because students learn to trust their own judgments about which content words are the most important to learn. This approach is most appropriate for students with high-intermediate and advanced English proficiency and for those in the upper elementary grades.

- **Word Wall.** During a lesson, key vocabulary is reviewed with a word wall where relevant content vocabulary words are listed alphabetically, usually on a large poster, sheet of butcher paper, or pocket chart (Cunningham, 2004). Originally designed as a method for teaching and reinforcing sight words for emergent readers, word walls are also effective for displaying content words related to a particular unit or theme. The words are revisited frequently throughout the lesson or unit, and students are encouraged to use them in their writing and

discussions. Cunningham (2004) recommends that teachers judiciously select words for a word wall and that the number be limited to those of greatest importance. We would add that teachers should resist the temptation to have multiple word walls in one classroom because the walls quickly become cluttered with words that are difficult to sort through, especially for English learners. One word wall, carefully maintained and changed as needed, is what we recommend.

- **Four Corners Vocabulary Charts** (Vogt & Echevarría, 2008). These charts provide more context and "clues" than typical word walls, because they include an illustration, definition, and sentence for each vocabulary word (see Figure 3.5). For academic words that are challenging or impossible to illustrate (e.g., *discuss* or *summarize*), simply take a photo of your students during a discussion or when summarizing, and insert the photo on the chart as a reminder of the word's meaning.
- **Concept Definition Map.** The Concept Definition Map is a great way to learn and remember content vocabulary and concepts (Buehl, 2009). Even though it is a simple graphic organizer, it can be used to discuss complex concepts such as *freedom, democracy,* or *revolution*, and literary terminology, such as *symbolism* or *irony*. For example, in a social studies class, students were comparing how several of the countries in the former Soviet Union earned their independence through revolution. To clarify the meaning of *revolution*, the class completed a Concept Definition Map, as shown In Figure 3.6. The Concept Definition Map is also an excellent prewriting activity for teaching summarizing. Students begin the summarizing process by organizing content concepts in the graphic organizer. Then sentences can be created from the information in the Concept Definition Map and subsequently written into paragraph form.

FIGURE 3.5 Four Corners Vocabulary Chart

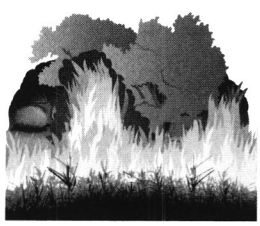
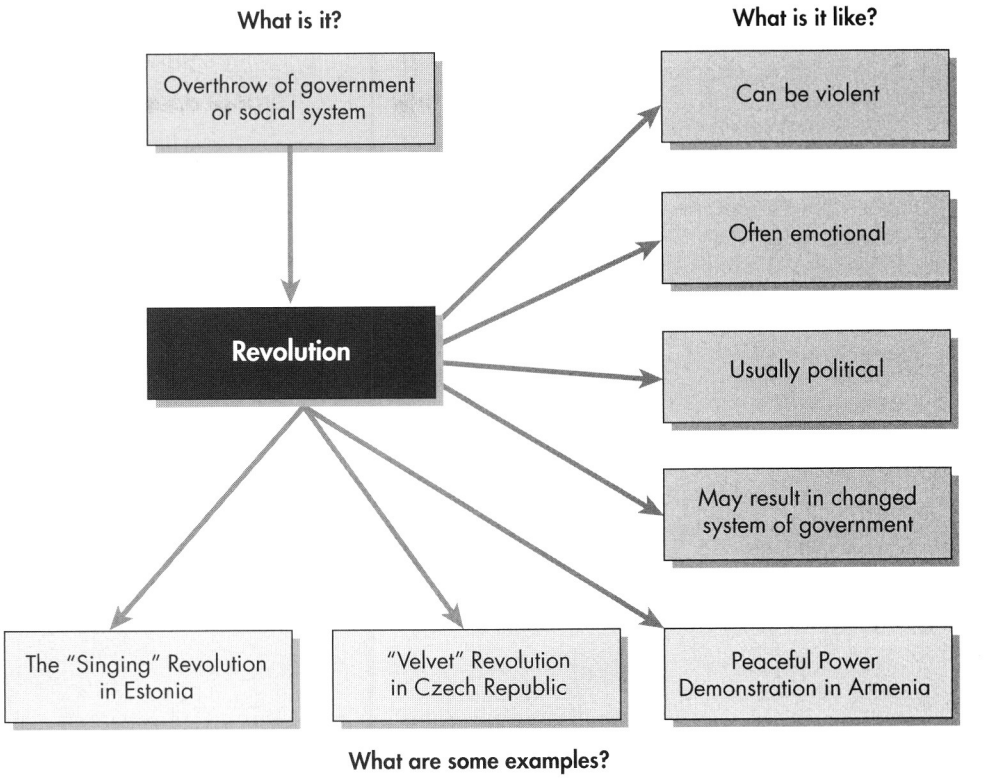
Illustration (1)	Sentence (3)
	A fire is an example of an exothermic reaction because it releases heat and gives off light.
Definition (2)	**Word (4)**
A chemical reaction that releases energy in the form of heat, light, or both	Exothermic Reaction

FIGURE 3.6 Concept Definition Map



- **Cloze Sentences.** Cloze sentences can be used to teach and review content vocabulary. Students read a sentence that has strong contextual support for the vocabulary word that has been omitted from the sentence. Once the meaning of the word is determined and possible replacement words are brainstormed, the teacher (or a student) provides the correct word. For example, "During a _____, which can be violent or peaceful, a group of people tries to overthrow an existing government or social system." (*revolution*)
- **Word Generation.** This activity helps English learners and others learn and/or review new content vocabulary through analogy. For example, the teacher writes *-port* on the board and invites students to brainstorm all the words they can think of that contain *port.* Examples might include *report, import, export, important, portfolio, Port-a-Potty, Portland, deport, transport, transportation, support, airport*, and so on. The meaning of each brainstormed word is discussed and students are asked what they think the root *port* means ("to carry"). Each brainstormed word is revisited to see if the definition "to carry" has something to do with the word's meaning. Note that the teacher does not define *port* first; rather, we recommend that students generalize meanings of content words from words that they already know that contain the same syllable or word part. Many of the roots found in Figure 3.2 can be used for Word Generation.

- **Word Study Books.** A Word Study Book is a student-made personal notebook containing frequently used words and concepts. The Word Study Book can be organized by English language structure, such as listing together all the words studied so far that end in *-tion, -sion,* and *-tation*. Word Study Books can also be used for content study where words are grouped by topic.
- **Vocabulary Games.** Playing games like *Pictionary* and *Scrabble* can help students recall vocabulary terms. Word searches for beginning students and crossword puzzles for more proficient students are additional vocabulary development tools. Word searches and templates for crossword puzzles are readily available online.
- **Self-Assessment of Levels of Word Knowledge** (Diamond & Gutlohn, 2006). As English learners are acquiring vocabulary, it may be helpful for them to self-assess their knowledge of new words. Four levels of word knowledge that can be used to describe the extent of a person's understanding of words are:

  1. I've never heard or seen the word before.
  2. I've seen or heard the word before, but I don't know what it means.
  3. I vaguely know the meaning of the word, and I can associate it with a concept or context.
  4. I know the word well.

With effective vocabulary instruction and repeated exposures to unfamiliar vocabulary, students' knowledge of the words increases and they move up the levels from 1 to 4. When teachers introduce the four Levels of Word Knowledge, students can self-assess their knowledge as words are introduced and studied.

Differentiating Ideas for Multi-level Classes

Nearly all of the teaching ideas in the previous section provide ways to **differentiate instruction** while developing students' background and vocabulary knowledge. The following idea is geared specifically to differentiating according to English learners' levels of English proficiency. (If you need to refresh your memory of these stages, please see the Glossary, p. 326, where they are described.)

- **Differentiated Signal Words.** Signal Words (see Vogt and Echevarría, 2008) are an effective way to provide English learners (and other students) with words related to particular language functions, such as comparing/contrasting, determining cause/effect, sequencing events, summarizing, drawing conclusions, making generalizations, etc. Rothenberg and Fisher (2007) suggest that signal words can be differentiated for varied **levels of language proficiency**. For example, for sequencing events, beginning speakers are encouraged to use in their writing and speaking words such as *first, second, next, later, then.* In addition to these signal words, intermediate speakers are encouraged to use words and phrases such as *while, before, now, after, finally, in the past* . . . . Advanced speakers and older elementary students add the following to their repertoire while writing and speaking about sequential events: *prior to, previously, since, eventually, subsequently*.

The Lesson

Short Story: *Two Were Left* by Hugh B. Cave (Sixth Grade)

Three teachers in an urban middle school with a large population of English learners are teaching a well-known and suspenseful short story by the author Hugh B. Cave. Although it was written in 1942, it remains an exciting, suspenseful, and intriguing story for upper elementary students. Each of the teachers' self-contained classes includes English learners with a variety of levels of English proficiency. The classes are heterogeneously mixed with native English speakers and English learners, and all students are reading at a variety of reading levels. This story is part of a larger literature unit focusing on stories and poetry, with the theme of "Decisions and Their Consequences."

The short story, *Two Were Left*, begins with a description of a boy named Noni and his devoted husky, Nimuk, stranded on a floating ice island in the sea. It is not evident from the text exactly how they got there, but it is implied that the boy and dog had been with village hunters, and the ice they were on had broken away from the others. Noni and Nimuk had been there for an undetermined time, and both were exhausted, hungry, and increasingly wary of each other. Noni's leg had been hurt at a previous time, and he was wearing a simple brace made of a harness and iron strips. The boy decided to make a weapon in case the starving Nimuk decided to attack him. In Noni's village, it was not uncommon to use dogs for food in times of hunger. The story continues as Noni works on making a knife, and boy and dog become increasingly weak. The suspense builds as Noni considers the consequences of attacking his dog. Eventually, he decides he can't possibly kill his beloved dog, and he flings the crude knife away from both of them. It lands point first in the ice some distance away. Nimuk growls in a frightening way, but eventually licks Noni's face and falls, exhausted, by his owner. Sadly, boy and dog cuddle together, unable to save themselves any longer. Not much later, an airplane pilot sees two figures on the ice island and swoops in for a closer look. He settles his plane on the ice and saves an unconscious Noni and his dog, Nimuk. What had caught the pilot's attention was the reflection of a quivering knife stuck in the ice.

In their state, the language arts teachers in grade 6 are expected to address the Common Core State Standards (CCSS, 2010). The following standards guided the development of the following lessons.

Key Ideas and Details

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

(continued)

Short Story: *Two Were Left* by Hugh B. Cave (Sixth Grade) *(continued)*

2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.
3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

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Note: The story, *Two Were Left*, can be found on the Internet by searching the title and author.

Teaching Scenarios

The teachers have prepared their own lesson plans for teaching the short story, *Two Were Left* by Hugh B. Cave. Their individual instructional approaches and SIOP ratings follow.

Miss Saunders

Miss Saunders began her lesson by reviewing with her students the lesson's content objectives (connecting the day's story to the theme of "Decisions and Consequences") and language objectives (reading a story; locating and defining vocabulary words) that were written on chart paper. Next, she asked the table groups to turn over the four photos that were face down on their tables. Each was a photo of Alaska: One was of a glacier, another was of the tundra, the third was of the sea with large, broken pieces of ice floating in it, and the fourth was of an Inuit village. Miss Saunders asked her students to do a Think-Pair-Share and consider what they observed in the photos, what they had questions about, and what they thought life must be like for the people living in the village. She then described her experiences on a vacation to Alaska and showed some of her photos.

Miss Saunders next introduced several vocabulary words that were taken from the story. She mentioned that understanding these words would help students better understand the story. She wrote the following on the board: *Noni, Nimuk, ice island, momentarily, intentions, suspiciously, unconscious.* She explained the first two words were the characters' names in the story. Miss Saunders then distributed copies of the two-page story and asked students to find the remaining vocabulary words in the story. Once they found the words, students were asked to highlight them, and, with a partner, try to define the words using contextual clues. Then, the students, in pairs, were expected to match their informal definitions with those found in the dictionary and make corrections, as needed.

When everyone was finished with the vocabulary assignment, Miss Saunders and the class went over the vocabulary words' definitions. She then asked the students to read the story silently. The evening's homework assignment was to create a "storyboard" of *Two Were Left*. Miss Saunders reminded the class of what the word *sequence* means and noted that events in a story generally follow in particular order or sequence. She said, "You remember when we talked about this, right?" Her students nodded affirmatively. She then asked the students what the first event was

FIGURE 3.7 Building Background Component of the SIOP® Model: Miss Saunders's Lesson

4	3	2	1	0	N/A
7. **Concepts explicitly linked** to students' background experiences		**Concepts loosely linked** to students' background experiences		**Concepts not explicitly linked** to students' background experiences	
4	3	2	1	0	
8. **Links explicitly made** between past learning and new concepts		**Few links made** between past learning and new concepts		**No links made** between past learning and new concepts	
4	3	2	1	0	
9. **Key vocabulary emphasized** (e.g., introduced, written, repeated, and highlighted for students to see)		**Key vocabulary** introduced, but not emphasized		**Key vocabulary** not introduced or emphasized	

Reflect and Apply

Click here to explain your ratings for Miss Saunders's lesson on each of the Building Background features.

in *Two Were Left*. A student responded that Noni and Nimuk were on a piece of ice that broke off from a larger piece. "That's right, Louis!" She then distributed a large piece of white construction paper to each student with the instructions to fold it into eighths, and draw the first event in the first box in the upper left hand corner. After a few moments, Miss Saunders asked the class to take the construction paper home and to continue making the storyboard sequence by drawing pictures that depicted seven other important events in the story. She quickly went over the day's objectives, with mixed feelings about her students' progress toward meeting them, and the bell rang shortly thereafter.

Check your understanding: On the SIOP form in Figure 3.7, rate Miss Saunders's lesson for each of the Building Background features.

Mrs. Ornelas

Mrs. Ornelas began the story, *Two Were Left*, by asking her students to close their eyes for a moment and put their heads down on their desks. She then turned down the lights and turned on a recording of heavy winds blowing. Then, she said in a slow and careful cadence: "Imagine for a moment ... you are in the Arctic, farther north than Alaska, where the winds blow almost continuously. You live here with your family in a small village. During the winter, it snows every day until there are so many feet of snow piled high that all walking paths are solid ice. The only time there

is any natural light is around lunch time and it's only a glimmer; then it becomes black as night once again. In the summer, the sun never sets so you have to put heavy cloth or tarps on window openings so you can sleep. This is your home, and you share it with your parents and best friend, your dog. You are happy that you have family, good friends, and enough food. However, one day, everything changes. You and your dog become separated from the other hunters in your village and you end up alone on a chunk of ice, floating with only your dog. Think about what you might do in this situation to save yourself."

Mrs. Ornelas then turned off the recording and raised the lights. She turned on the document reader so the students could see the brief paragraph that she had just read to them. She read aloud the directions that followed the paragraph: "With your group members, jot down the ways that your lives are different from this boy's life. Think of as many different things as you can. Now, how are your lives like this boy's life?" Mrs. Ornelas asked each student to draw a Venn diagram graphic organizer (this was familiar to them) on a piece of paper, and as they talked among themselves, they filled out the organizer. The class then briefly reported out what they had discussed.

Mrs. Ornelas then explained the lesson's content objectives (comparing and contrasting their lives with the main character's life; predicting events in the story) and language objectives (finding examples of foreshadowing in the story; reading the story while confirming or disconfirming predictions). Next, she displayed on the interactive whiteboard a map of the Arctic area, so all students had an idea of the setting for the story they were going to read. Mrs. Ornelas pointed to Alaska and northern Canada, and asked students if they had ever read, seen, or heard anything (other than what she had just read) about this part of the world. One girl said, "I remember when we were studying climate change in Science and we looked at photos of melting glaciers. That's what I thought of when you started telling us your story." Mrs. Ornelas displayed on the white board several large photos of glaciers and said, "You mean these pictures, Esmeralda? You're right. The setting for today's story is very much like what we talked about in science, so think about these photos as you begin reading about the setting in today's story."

Mrs. Ornelas next displayed on the whiteboard the following academic vocabulary words: *predicting* and *foreshadowing*, because these words are critical to understanding the story deeply. She reviewed the meaning of *predicting* because this was a familiar process while reading stories. She then introduced *foreshadowing* by pointing to the word on the board and asking what *fore* made them think of. Someone said "Before?" Another said, "Doesn't it have something to do with golf?" She wrote on the board *foreground* and *forethought*, and asked students to try to figure out the words' meanings, with *fore* meaning "before or in front of"; then she asked them to have a partner conversation about whether the three words might be related because of the prefix *fore*. Mrs. Ornelas walked around the room listening while her students grappled with their task. She then asked the students to share with their partner what *shadowing* might mean. Nearly everyone knew what a shadow was, but they were struggling with the term *foreshadowing*. Mrs. Ornelas asked the students if, when she was reading the brief vignette at the beginning of class, they had formed any ideas of what today's story might be about. Many students' hands flew into the air. After taking a few responses, Mrs. Ornelas told the class, "I used foreshadowing to help

you think about the story we're going to read before we actually read it. You're now already making some predictions based on the hints I provided, right? What are they?"

After taking some responses, Mrs. Ornelas told the students that in the story, *Two Were Left*, the author would also give some hints about what was going to happen later in the story. She said, "These hints are called *foreshadowing.* Throughout our reading, we will make predictions and as we continue, we will either confirm or disconfirm our predictions, sometimes based on the foreshadowing the author provides." Mrs. Ornelas reminded students that they had worked with confirming and disconfirming predictions before in other stories, and she reminded them about how to use the strategy. She also told them that the author's use of foreshadowing would help them predict what would happen in the story. She encouraged them to see if they could find examples of *foreshadowing* and to underline them while they read the story together. Mrs. Ornelas then distributed copies of *Two Were Left* and the class engaged in a familiar group reading activity called the Directed Reading-Thinking Activity (DR-TA)(see Chapter 5, p. 133 for more details).

Mrs. Ornelas began by asking the students to cover with another piece of paper everything but the title, *Two Were Left*. She then asked, "With a title like *Two Were Left*, what do you think this story is going to be about?" The students laughed and said, "About a boy and a dog!" Mrs. Ornelas directed the students to uncover and read the next brief paragraph that provided more information. She then said, "Okay ... now you have new information. What do you think is going to happen next? Why do you think so?" And off they went, uncovering more and more of the story while reading, predicting, discussing, confirming, and disconfirming their ideas, until Noni and Nimuk were finally rescued. Most students could find some foreshadowing, starting with the title, and some even identified the quivering knife that eventually signaled the pilot. The story concluded with a brief discussion of the unit's theme (Decisions and Consequences) and Noni's decision to throw away the knife. After reviewing their objectives, students and teacher alike agreed that their content and language objectives had been met.

The next day, for a follow-up vocabulary activity, the students in pairs or triads selected their favorite part of *Two Were Left*, and typed it into a word cloud box on the classroom computers. The most frequent words from the story were emphasized on the word clouds. Later, the students discussed how important these words were to the story (see Figure 3.8 on the following page).

Check your understanding: On the SIOP form in Figure 3.9 on the following page, rate Mrs. Ornelas's lesson for each of the Building Background features.

Mr. Engelhart

Mr. Engelhart began his lesson by telling his students the objectives: *You will learn some new words from the story we are going to read and complete a story plot graphic organizer*. He then distributed a worksheet that had vocabulary word definitions and sentences from the day's story, *Two Were Left*. He gave each student eight index cards so that they could copy the information from the worksheet, one vocabulary word per card so that students would have eight flash cards for practice. The words on the worksheet included the following: *marooned, warily, labored, inventions, thrust, aroused, feebly, quivering*.

FIGURE 3.8 Word Cloud from *Two Were Left*

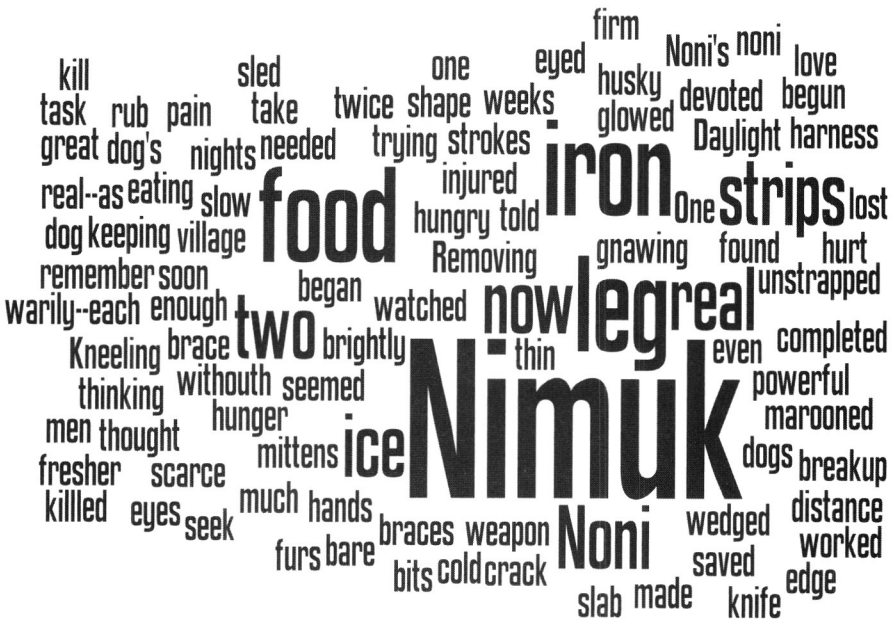


FIGURE 3.9 Building Background Component of the SIOP® Model: Mrs. Ornelas's Lesson

4	3	2	1	0	N/A
7. **Concepts explicitly linked** to students' background experiences		**Concepts loosely linked** to students' background experiences		**Concepts not explicitly linked** to students' background experiences	
4	**3**	**2**	**1**	**0**	
8. **Links explicitly made** between past learning and new concepts		**Few links made** between past learning and new concepts		**No links made** between past learning and new concepts	
4	**3**	**2**	**1**	**0**	
9. **Key vocabulary emphasized** (e.g., introduced, written, repeated, and highlighted for students to see)		**Key vocabulary** introduced, but not emphasized		**Key vocabulary** not introduced or emphasized	

Reflect and Apply

Click here to explain your ratings for Mrs. Ornelas's lesson on each of the Building Background features.

The following are examples of four of the vocabulary words, definitions, and sentences that the students copied onto their index cards from the words on the worksheet.

Marooned: to place or leave alone without hope of escape; "And, now, the two, completely alone, *marooned* on the ice, eyed each other warily."

Warily: careful and watchful for danger; "And, now, the two, completely alone, marooned on the ice, eyed each other *warily*."

*Labored: t*o move with great effort; "He could see hunger and suffering in the dog's *labored* breathing and awkward movements."

Intentions: a planned way of acting; "Closer Nimuk came, aware of Noni's *intentions*."

After the students had copied the words, definitions, and sentences onto their eight vocabulary cards, Mr. Engelhart distributed copies of the *Two Were Left* story. He then asked for volunteers to take turns reading the story aloud. He directed students to underline the sentences where the eight vocabulary words were found. When the story was completed, Mr. Engelhart asked students how they liked the story, and all said it was good. A discussion followed on what the students liked about the story, and why. A graphic organizer for the story's plot was assigned as homework. He collected the vocabulary cards for checking and concluded the lesson, satisfied that his goals had been met.

Check your understanding: On the SIOP form in Figure 3.10, rate Mr. Engelhart's lesson for each of the Building Background features.

FIGURE 3.10 Building Background Component of the SIOP® Model: Mr. Engelhart's Lesson

4	3	2	1	0	N/A
7. **Concepts explicitly linked** to students' background experiences		**Concepts loosely linked** to students' background experiences		**Concepts not explicitly linked** to students' background experiences	
4	**3**	**2**	**1**	**0**	
8. **Links explicitly made** between past learning and new concepts		**Few links made** between past learning and new concepts		**No links made** between past learning and new concepts	
4	**3**	**2**	**1**	**0**	
9. **Key vocabulary emphasized** (e.g., introduced, written, repeated, and highlighted for students to see)		**Key vocabulary** introduced, but not emphasized		**Key vocabulary** not introduced or emphasized	

Reflect and Apply

Click here to explain your ratings for Mr. Engelhart's lesson on each of the Building Background features.

Discussion of Lessons

7. *Concepts Explicitly Linked to Students' Background Experiences*

   Miss Saunders: 3

   Mrs. Ornelas: 4

   Mr. Engelhart: 0

- **Miss Saunders's** lesson received a "3" for this feature. She chose to develop students' background knowledge for the story, *Two Were Left*, by showing them photographs of Alaska, similar to the setting of the story. The Think-Pair-Share activity was a good one to choose so that students could share their impressions of the photos with each other and the class. While Miss Saunders's vacation photos and stories were interesting, they didn't directly relate to the setting of the story the students were going to read. Perhaps a video clip from the Internet could have been shown, and, depending on the location of Miss Saunders's school, having the students contrast their living conditions (such as southern California or Florida) to the story's setting would have been meaningful. Also, since the main characters are a boy and a dog, bringing students' feelings about their pets (or others' pets they know) could have prepared them for the emotional aspect of this story.
- **Mrs. Ornelas's** lesson received a "4" for this feature. She spent about 15 minutes activating her students' prior knowledge and building their background about the setting of the story, *Two Were Left*. Because the setting and the situation were so very different from the students' experiences, the time was well spent. It's not just the actual setting that is so different (the Arctic area), but it's also the **culture** of the people in the story, where dogs aren't pets, but rather commodities that can mean the difference between life and death. (For this story, it might be interesting to mention to students that keeping dogs as pets might also be a cultural difference for other people, including some Asian cultures where dogs are food, and in some Arabic cultures, where neither dogs nor cats are pets.) In the lesson, the students' predictions and ability to grapple with a challenging literary device like foreshadowing were enhanced by the visualization exercise (with students' eyes closed and the wind blowing) and the comparison/contrast of their lives to Noni's via the Venn diagram. Also, the DR-TA is a powerful activity that enables teachers to really understand where students' predictions and ideas are coming from while they're reading. Students use their background experiences and knowledge throughout a DR-TA to make and then confirm/disconfirm their predictions while developing comprehension of the story. (Note that confirming predictions requires citing text evidence, which is a Common Core State Standard.)
- **Mr. Engelhart's** lesson received a "0" for this lesson. He didn't attempt to activate students' background knowledge or build background information related to the story's content concepts or vocabulary. He did state his goals, but these were not written as content and language objectives because the verb *learn* isn't

measurable or observable, and "completing a graphic organizer" doesn't indicate the cognitive work the students will be engaged in. When objectives are well written, they provide information that begins to activate students' prior knowledge and build background knowledge.

8. *Links Explicitly Made between Past Learning and New Concepts*

   Miss Saunders: 1

   Mrs. Ornelas: 3

   Mr. Engelhart: 0

- **Miss Saunders's** lesson received a "1" for this feature. She made only one reference to the students' past learning and it was toward the end of the lesson. When she asked her students if they recalled when they talked about story sequence, the students gamely replied with a unison nod. Because understanding story sequence was critically important for the homework assignment, explicitly reviewing (and if necessary, re-teaching) the steps taught previously (e.g., introduction, rising action, falling action, climax, conclusion; or beginning, event 1, event 2, ... conclusion) was very important. English learners would have benefitted from working together with the teacher and/or a small group to identify the story sequence prior to creating the storyboard. There will also most likely be confusion when doing the homework if the number of boxes (8) doesn't match the number of story events they identify at home.
- **Mrs. Ornelas's** lesson received a "3" for this feature. She was prepared to make an explicit link between the students' previous learning about the Arctic area and the story they were going to read in this lesson. She had the photos from the Science lesson ready to display on the interactive whiteboard so students could make the connections. It would have been a good idea to be more explicit in reminding students of how readers make predictions, and more importantly, how they could confirm and disconfirm predictions while reading. This was especially important because Mrs. Ornelas was connecting making predictions to the author's use of foreshadowing in the story. This might have been confusing to some English learners and struggling readers who still needed more practice in understanding making predictions as a metacognitive strategy (see Chapter 5 for more information).
- **Mr. Engelhart's** lesson received a "0" for this feature because it included nothing to connect past learning to today's lesson in terms of content concepts, vocabulary, or language. Although students may have completed vocabulary cards previously, there was no attempt to connect former vocabulary to today's new words.

9. *Key Vocabulary Emphasized*

   Miss Saunders: 2

   Mrs. Ornelas: 4

   Mr. Engelhart: 1

- **Miss Saunders's** lesson received a "2" for this feature. She selected some interesting and perhaps tricky words from the story for her students to work with. However, the time that was spent on finding informal and formal definitions of these words was not necessarily going to enable the English learners (and other students) to better understand this story. That is, they were not critical to the story's outcome, especially character names, which are easily learned. It would have been more relevant to this particular story and the objectives (sequencing the events in the story) if she had spent the time reviewing the academic vocabulary related to sequencing, perhaps with signal words the students could have used on their storyboards (*first, next, then, finally, in the end*, and so forth). She then could have identified and talked about some of the more interesting and challenging words in the story, working with the students to use the context clues for the informal definitions.
- **Mrs. Ornelas's** lesson received a "4" for this feature. She chose to teach explicitly two academic vocabulary words that she felt were essential to fully comprehending the story. One is an important literary term related to author's craft (*foreshadowing*), and the other is a critical strategy for reading (*predicting*). Notice how she introduced these concepts with the visualizing activity. She then divided the word *foreshadowing* into two parts (*fore* + *shadowing*) before writing *foreground* and *forethought* on the board, leading students to generalize the meanings of the three words. There are many other very interesting words in this story, and on the following day, the students worked with them when creating their word cloud designs. Because the word clouds emphasized the most frequent words in the passages the students chose, they could readily compare them with the interesting, but less frequently used words.
- **Mr. Engelhart's** lesson received a "1" for this feature. He provided his students with a list of vocabulary words, definitions, and sentences from the story they read, but the students' assignment to copy them onto the flash cards didn't have a clear purpose and it's unlikely the words carried much meaning for them. Making connections to the words would have been difficult to do since several were somewhat unique to this story, and thus challenging for grade 6 students. One exposure to these words would not ensure retention of either the words or their meanings. Mr. Engelhart's students may have enjoyed listening to and reading the story, but his lesson missed many opportunities to develop his students' content and language knowledge.

Watch this video to hear Dr. Jana Echevarría review the Building Background Component, and to watch a grade 3 language arts lesson on fact and opinion. To what extent are each of the three features of the Building Background Component present in this lesson?

(For more ideas of lessons and units in English-language arts in grades K–6, please see Vogt, M.E., Echevarría, J., and Short, D. (2010). *The SIOP® Model for Teaching English-Language Arts to English Learners*. Boston: Allyn & Bacon.)

Teaching with Technology

After talking with the teachers and discussing the lessons you read about in the Scenarios earlier in the chapter, our tech integrator, Ms. Palacios, offered some technology suggestions to enhance the teachers' lessons.

Digital Flashcards: All of the teachers featured in the scenarios for this chapter agreed that their students could benefit from an engaging way to reinforce vocabulary. Ms. Palacios suggested that the teachers build sets of digital flashcards on the website *Quizlet*. During a technology workshop, Ms. Palacios worked with Mr. Englehart, Miss Saunders, and Mrs. Ornelas to create lists on *Quizlet* using vocabulary from the short story *Two Were Left*. The teachers made various sets of flashcards, some with words and definitions and others with words and images. All three teachers then posted links to the vocabulary sets on their class Web pages. After a few days of use, the teachers saw positive results. A quick survey in class showed that students were practicing words at home on computers, various types of tablets, and smartphones. Many students reported preferring the online study versus traditional index cards or notes. In the weeks following, the teachers explored the application further. They were happy to discover a number of other valuable features such as support for over a dozen languages, audio with a realistic voice, options to record your own voice, and multiple ways to practice the words including spelling and games.

Other terms for this type of tool: online vocabulary review/practice;

Related products: *StudyBlue*, *Brainscape*, and *Spelling City*

Surveys for Vocabulary Self-Collection: Many schools around the world have adopted Google Apps for Education or GAFE, a free suite of apps that includes *Docs*, *Sheets*, and *Forms*, and others. For an introduction to the suite, Ms. Palacios focused on the app named *Forms*, which provides an easy way to create surveys and collect information from students. This tool connects well with the Vocabulary Self-Colllection Strategy (VSS) (p. 84). The activity gives students the opportunity to select vocabulary that they consider essential to understanding a particular text. While VSS has proven to be consistently valuable, teachers have found that compiling students' word lists can be time-consuming. Ms. Palacios thought using *Forms* could expedite that process. To test out the new tool, Mr. Englehart, Miss Saunders, and Mrs. Ornelas created a Google Form to collect the students' vocabulary selection for the short story that followed *Two Were Left*. They shared the Form with the students via their class Web sites. For homework, the students read the new story and entered their essential vocabulary into the form. One feature of *Forms* that the teachers found convenient was the response sheet. All of the data that entered into a Form gets automatically sent to a spreadsheet, where it's sorted into columns corresponding to each question on the survey. It took much less time than collecting and compiling paper word lists from all of the students. Also, for teachers interested in using word clouds, it will be simple to copy all of the student vocabulary submissions from the form response sheet and then paste them into a word cloud generator. Related Products: Survey Monkey

Check Your Understanding
Click here to check your understanding of Chapter 3, Building Background.

Summary

As you reflect on this chapter and the impact of connecting students' background knowledge and learning experiences to the content being taught, and the importance of explicitly teaching academic vocabulary, consider the following main points:

- Explicitly linking a lesson's key content and language concepts to students' background knowledge and experiences enables them to forge connections between what they know and what they are learning.
- In addition, explicitly connecting past content and language learning to a new lesson's content and language concepts assists students in understanding that their previous learning connects to the lesson they will have today.
- English learners may have a difficult time with the academic vocabulary of various disciplines. Three types of academic vocabulary discussed in this chapter are: (1) subject-specific and technical vocabulary; (2) general academic: cross-curricular/process/function vocabulary; and (3) word parts: roots and affixes.
- Teaching ideas, such as using visuals to provide concrete meanings, Four Corners Vocabulary charts, differentiated signal words, and word clouds, engage students in interactive practice with words that promotes academic vocabulary development for English learners.

Discussion Questions

1. In reflecting on the content and language objectives at the beginning of the chapter, are you able to:
   a. Identify techniques for connecting students' personal experiences and past learning to lesson concepts?
   b. List elements of academic language and describe its importance for English learners?
   c. Select academic vocabulary for a SIOP lesson using words from these three groups: content vocabulary, general academic vocabulary, word parts: roots and affixes?
   d. Write a lesson plan incorporating attention to building background, links to students' past learning, and key academic vocabulary?
2. Some educators argue the importance of connecting new information to English language learners' own cultural backgrounds in order to make content concepts meaningful. Others disagree, stating that students relate more to popular American influences than they do to their parents' traditional cultural practices. What are some merits and problems with both positions? What about English learners born in the United States who have never lived in their native cultural setting?
3. Think about a joke or cartoon that you didn't understand, such as from a late-show monologue or a political cartoon. Why was it confusing or not amusing?

What information would you have needed for it to make sense? What are the implications for teaching content to all students, including English learners?

4. Add to the SIOP lesson you have started. Think about how you will activate students' prior knowledge and build background. What explicit connections to past learning can you make? What are your key academic vocabulary words, and how will you teach them? Choose some techniques or activities for the lesson.

CHAPTER 4

Comprehensible Input

Learning Outcomes

After reading, discussing, and engaging in activities related to this chapter, you will be able to meet the following **content** and **language objectives**:

Content Objectives

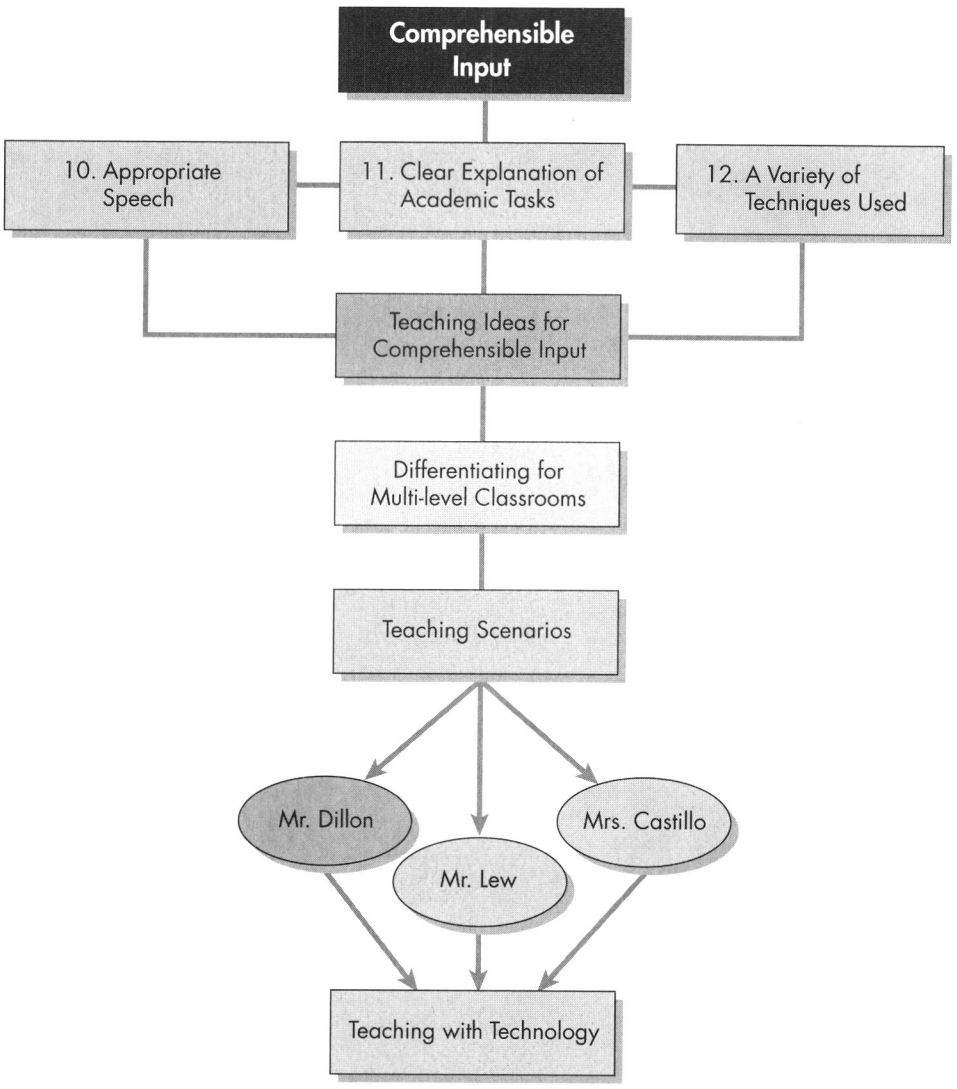
Identify techniques for presenting content information in ways that students comprehend.

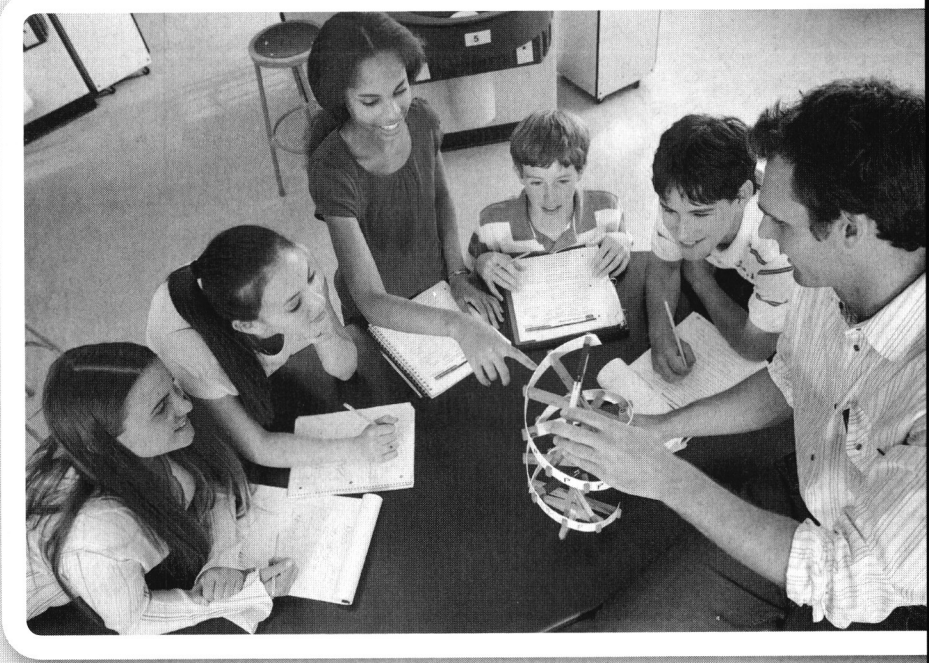
Review various ways to provide directions for completing academic tasks.

Language Objectives

Discuss modifications to teacher speech that can increase student comprehension.

Write the steps needed for students to perform an academic task and have a partner perform each step.





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As you look through the features of the **SIOP,** you will see that they reflect what we know about effective instruction for all students—English speakers and **English learners** alike. However, implementation of particular features is critical for making content understandable for English learners. The features of the Comprehensible Input component make SIOP instruction different from "just good teaching." While English learners benefit from many of the teaching practices that are effective for all students, these students also require modifications to make instruction meaningful (August & Shanahan, 2006, 2010). Making a message understandable for students is referred to as *comprehensible input* (Krashen, 1985). A **culturally responsive** SIOP teacher takes into account the unique linguistic needs of English learners and modifies teaching accordingly. Whether instruction is for a designated **English language development/ESL** lesson or for a content area lesson that makes subject matter accessible while also developing **English language proficiency**, comprehensible input techniques are essential. ●

Have you ever tried to water ski without a boat? Impossible, right? No matter how badly you want to ski, it can't happen without a boat. A teacher using the features of Comprehensible Input functions as the boat because English learners, no matter how motivated, can't be successful academically if they don't understand what the teacher is saying, what they are expected to do, or how to accomplish a task. Humans don't "pick up" language solely from exposure. For example, many of us have been around speakers of Spanish, Vietnamese, or Farsi, but we understand little, if anything of what is being said. Comprehensible input techniques are necessary for students to understand the essence of what is being said or presented. A SIOP teacher makes verbal communication more understandable by consciously using supports that are matched to students' levels of English proficiency.

In this chapter, we present ways to support English learners' comprehension so that lessons are understandable for them.

Background

Watch this video to see teachers demonstrate what comprehensible input is all about. Can you identify several techniques that are shown? How might you increase comprehensibility using some of the ideas mentioned by Dr. Vogt? https://www.youtube.com/watch?v=mTnHonxao70

Watch this video and notice how the teacher makes a multiple-meaning words lesson more comprehensible for English learners. Pay attention to her slower, well-articulated speech and the way she effectively uses gestures and pointing. What are some other ways she makes the lesson comprehensible?

Specialized teaching techniques are needed when working with English learners who are expected to master rigorous content material to meet high academic standards in a language they do not speak or comprehend completely. Acquiring a new language takes time and is facilitated by many "clues"—by speech that is geared to individual proficiency levels and by techniques that are used consistently in daily teaching routines.

Comprehensible input entails much more than simply showing pictures as visual clues during a lesson. It involves a conscious effort to make the lesson accessible through a variety of means. Communication is made more understandable through speech that is appropriate to students' proficiency levels. The teacher enunciates and speaks more slowly, but in a natural way, for students who are beginning English speakers. More repetition may be needed for beginners and, as students gain more proficiency in English, the teacher adjusts her speech to the students' levels. Teachers will increase students' understanding by using appropriate speech coupled with a variety of techniques that will make the content clear.

These techniques are particularly important as students aim to meet the **Common Core State Standards (CCSS)** and other state standards in each grade level. Across grade levels, the standards ask students to comprehend information presented orally and to express their understanding in a variety of ways, such as recounting key ideas and details, and paraphrasing or summarizing the information presented. The way information is presented orally will have a significant impact on the degree to which English learners will be able to achieve these standards.

We will discuss a number of ways to make teacher talk comprehensible to students in the next sections. In the scenarios that follow later in the chapter, you will see examples of teachers who use comprehensible input techniques with varying degrees of effectiveness.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 10:

Speech Appropriate for Students' Proficiency Levels

Watch this video to see how the teacher enunciates in a natural but effective way for her students. Also pay attention to her rate of speech. Select one technique she uses that you might use with your students.

For this feature, speech refers to (1) rate and enunciation and (2) complexity of language. The first aspect addresses *how* the teacher speaks and the second aspect refers to *what* is said, such as level of vocabulary used, complexity of sentence structure, and use of idioms.

Students who are at the beginning **levels of language proficiency** benefit from teachers who slow down their rate of speech, use pauses, and enunciate clearly while speaking. As students become more comfortable with the language and acquire higher levels of proficiency, a slower rate isn't as necessary. In fact, for advanced and transitional students, teachers should use a rate of speech that is normal for a regular classroom. Effective SIOP teachers adjust their rate of speech and enunciation to their students' levels of English proficiency.

Likewise, students will respond according to their proficiency level. The following example illustrates the variation in responses that may be expected when students at six different levels of English proficiency are asked to describe the setting in a story. The levels reflect the WIDA performance definitions (http://www.wida.us/standards/elp.aspx).

- Entering: "Cold day."
- Beginning: "Day is cold and there snow."
- Developing: "The day is cold and there is snow."
- Expanding: "The day is very cold and heavy snow is falling."
- Bridging: "It is a cold, winter day and it is snowing more heavily than usual."
- Reaching: "The unusually heavy snow on the day the story takes place causes a number of problems for the characters."

While still providing English learners with exposure to grade-level language, SIOP teachers carefully monitor the vocabulary and sentence structure they use with English learners in order to match the students' proficiency levels, especially with students at beginning levels of English proficiency. The following are ways to monitor classroom speech:

- Enunciate clearly. Sometimes it is easy to rush through information or instructions because of the time pressure of teaching by the clock or because you want the pace to move along so that students don't lose interest. For English learners, a brisk speaking pace is difficult to follow, especially if care isn't taken to enunciate clearly. When each syllable of each word isn't pronounced properly but naturally, the words get slurred together. Students have difficulty understanding, especially if there is other noise around the room.
- Ask students for elaboration. Especially with students at intermediate and advanced levels, teachers should frequently ask students to: explain their answers; provide evidence for their answers; say it another way; answer *why*, *how*, or *what if* questions; and show where they found something in the text. Teachers should also ask students to connect words, phrases, and short sentences into compound sentences that represent their ideas and thoughts. In this way, students not only use the language but also think about *how* to use it as well.
- Model what you want students to say before having them produce language. For example, in science the teacher might say, "We've been studying that there are many changes that occur in the earth's crust. Some come quickly and others take millions of years. Ask your partner, 'What is one change that comes quickly?'" In this way, students know what to say when they turn to their partners because they have heard correct sentence formation. Providing students with a model of what to say increases the likelihood that on-point discussion will occur.
- Avoid idioms, particularly with beginners. These common sayings that do not have exact translations create difficulty for students who are trying to make sense of a new language. Some common idioms include "below the belt" for unfair; "put one's foot down" meaning to be firm; "see eye to eye" for being in agreement; "get the hang of" meaning to become familiar with; and "get a person's back up" indicating to make someone annoyed. English learners are better served when teachers use language that is straightforward, clear, and accompanied by a visual representation.
- Employ paraphrasing and repetition to enhance understanding. English learners may require repeated exposures to a word in order to hear it accurately since they often lack the auditory acuity to decipher sounds of English words. Then they need

to see and hear the words used repeatedly, preferably in a variety of ways. Brain research tells us that repetition strengthens connections in the brain (Jensen, 2005).

- Point out cognates to promote comprehension for students whose **native language** has a Latin base. For example, using "calculate the mass/volume ratio" (*calcular* in Spanish) may be easier for some students to understand than "figure out the mass/volume ratio." (See Vogt and Echevarría, 2008, for more examples of cognates.)
- Simplify sentence structures to reduce the complexity that some English learners find confusing. Use subject–verb–object with beginning students and reduce or eliminate embedded clauses. For example, in a history lesson, the teacher may use the following complex sentence structure that is difficult to understand: "English colonists brought free enterprise, the idea of owning and controlling their own businesses, from England but because England's leaders wanted the colonies' financial support, laws were passed to limit the free enterprise system in the colonies." It might be better stated as, "English colonists brought the idea of owning and controlling their own businesses from England. This idea is called free enterprise. England's leaders wanted the colonies' financial support, so the laws were passed to limit the free enterprise system in the colonies." Reducing the complexity of language is effective for beginners but should be used judiciously. Oversimplification of spoken or written language eliminates exposure to a variety of sentence constructions and language forms (Crossley et al., 2007), especially complex text called for in the Common Core State Standards. The best way for English learners to acquire the language of complex texts is through exposure to those texts and explicit instruction in ways to make sense of embedded clauses such as those seen above. However, a text that is one proficiency level up *is* complex; beginners and low intermediates need scaffolding/support to build up to the complex texts given to native English speaker. Too often English learners are regarded as incapable of interacting with more rigorous text and are not given the opportunity to learn the very language they need.

Using appropriate speech patterns and vocabulary for English learners contributes to comprehensible input and provides a basis for students to be successful. It is difficult for students to learn if a teacher's way of delivering information is too fast, too complex, or inarticulate.

SIOP® FEATURE 11:

Clear Explanation of Academic Tasks

English learners at all levels (and **native English speakers**) perform better in academic situations when the teacher gives clear instructions for assignments and activities. In their discussion of working memory, which is central to learning, Baily & Pransky (2014) point out that when students are confused about the lesson's topic or the activity's purpose, they either disengage or frantically try to make connections with what they already know. In this process, they are wasting valuable working memory processing space. So, when the teacher isn't clear, there is more at stake than just taking up time repeating unclear instructions. Effective teachers present instructions in a step-by-step manner, preferably using modeling or demonstrating the task for students. Ideally, a finished product such as a business letter, a research report, or a graphic organizer is shown

to students so that they know what the **task** entails. Oral directions should always be accompanied by written ones so English learners can refer back to them at a later point in time as they complete the assignment or task. Students with auditory processing difficulties also require clear, straightforward instructions written for them to see.

According to case study data collected from English learners in **sheltered instruction** classes (Echevarría, 1998), middle school students were asked what their teachers do that makes learning easier or more difficult. The following are some student comments:

- "She doesn't explain it too good. I don't understand the words she's saying because I don't even know what they mean."
- "She talks too fast. I don't understand the directions."
- "He talks too fast. Not patient."
- "It helps when he comes close to my desk and explains stuff in the order that I have to do it."

These students' comments illustrate the importance of providing a clear explanation of teachers' expectations for lessons, including delineating the steps of academic tasks. This point cannot be overstated. In our observations of classes, many "behavior problems" are often the result of students not being sure about what they are supposed to do. A cursory oral explanation of an assignment can leave many students unsure about how to get started. The teacher, frustrated with all the chatter, scolds students, urging them to get to work. However, students do not know *how* to get to work and oftentimes do not know how to articulate that fact to the teacher. Bottom line: Making expectations clear to students contributes to an effective and efficient classroom.

SIOP teachers go over every aspect of the lesson, showing visuals with each step, if needed. For example, in a reading class, the teacher wants students to complete a graphic organizer with information about the characters, setting, problem, resolution of the problem, and theme of a piece of literature the class has been reading. Using this information, students will write a summary. Figure 4.1 contrasts clear directions and step-by-step instruction with unclear directions and unguided instruction. Think about the way you present directions to your students.

In the left column, the teacher uses a written agenda so that if students don't understand, weren't paying attention, or simply forgot, they have the written steps to guide them and keep them on task. Depending on the age and proficiency levels of the group, the teacher may need to model one or more of the steps. By the time students complete the graphic organizer, they have received feedback on the accuracy of the information they will use and have seen a model of a partially completed graphic organizer. Likewise, using information in the graphic organizer to write a summary is modeled for them. This type of teaching facilitates writing of an accurate, complete summary. In the right column, the teacher gives information and instructions orally, and only a handful of students participate in the discussion. When it is time to complete the graphic organizer, most likely many students are unsure about where to begin or what information is pertinent. Undoubtedly few students will be able to complete the homework assignment.

As a check of how clear your task explanations are, you might write out the directions you would give your students for completing an academic task and ask a colleague to follow them. It can be eye opening!

FIGURE 4.1 Clear Explanation Contrasted with Unclear Explanation

Clear Explanation	Unclear Explanation
The teacher writes on the board: 1. Review your notes from yesterday. 2. Use your notes to answer the 5 questions on the board. 3. Write your answers on your white board. 4. Complete the graphic organizer. After giving students a few minutes to review their notes with a partner (more fluent speaker paired with less-proficient; additional information is added as needed), the teacher gives them a set amount of time to answer the first of five questions. She gives them a 30-second signal and then asks the class to "show me" their white boards where they have written their answers. She can see from a glance at their boards who got it right and who needs assistance or clarification. This process continues until all five questions are answered. The teacher shows a copy of the graphic organizer on the document reader and completes the first part with the class. Then students take the information from the five questions and use it to complete the graphic organizer. Students are allowed to work with a partner on completing the graphic organizer, but the teacher circulates and observes to make sure that both partners have mastered the content. She asks questions and prompts to ensure understanding.	The teacher gives an oral review of what was discussed in the story the previous day. Then she asks a series of questions about the characters, the story's problem, and how the problem in the story was resolved. Several students raised their hands to answer the questions. The teacher talks about the theme and the importance of recognizing a story's theme. Then the teacher hands out a graphic organizer and tells the students that they have the remainder of the period to complete it using the story and the information they have talked about.

In the area of writing, students need to be shown very specifically—and have opportunities to practice what has been clearly explained—the essential elements of good writing. Showing students what constitutes good writing, explaining it clearly, and providing opportunities to practice will result in improved writing (Echevarría & Vogt, 2011; Graham & Perin, 2007; Schmoker, 2001). For intermediate and advanced speakers, focused lessons on "voice" or "word choice" may be appropriate, while beginning speakers benefit from models of complete sentences using adjectives or forming a question.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 12:

A Variety of Techniques Used to Make Content Concepts Clear

Effective SIOP teachers make content concepts clear and understandable for English learners through the use of a variety of techniques. We have observed some teachers who teach the same way for English learners as they do for native English speakers,

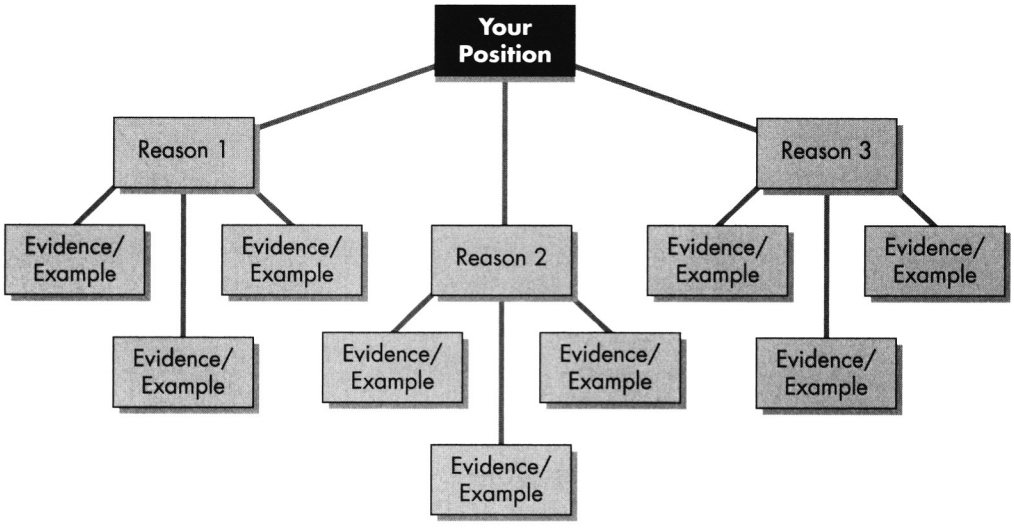
except that they use pictures to illustrate ideas or words for English learners. English learners benefit from a wider range of supports to make the material understandable. The actual techniques a teacher uses should match the task. For example, when explicitly teaching academic vocabulary words in depth, the teacher might use examples and non-examples, video clips, and other concrete representations of the words (Baker et al., 2014). High-quality SIOP lessons offer students a variety of ways for making the content accessible to them. Some techniques include:

- Use gestures, body language, pictures, and objects to accompany speech. For example, in a lesson on informational text the teacher points to a poster that illustrates text features and says, "There are a number of features used in informational text that help the reader. One is (holds up 1 finger) headings (points to the heading). Headings tell us what the text will be about. What is the heading for this text? (Class reads together). Another feature is captions (points to the caption below an illustration). Captions give information about a photo or illustration. There are also bold words (points to bold words). These words are important for understanding the text." Gestures and visual aids assist students in organizing and making sense of information that is presented verbally.
- Provide a model of a process, task, or assignment. For example, as the teacher discusses the process of water taking on the form of ice, she shows or draws a model of the process as it is being described. When students are later instructed to record conditions under which the change in ice from a solid to a liquid is accelerated or slowed, the teacher shows an observation sheet that is divided into three columns on the overhead projector (or document reader or interactive whiteboard). The teacher has a number of pictures (e.g., lamp, sun, and refrigerator) that depict various conditions such as heat and cold. She demonstrates the first condition, heat, with a picture of the sun. She models how students will describe the condition in the first column (e.g., heats). Then she asks students what effect the sun, or heat, has on ice. They answer and in the second column she records how the ice changed (e.g., melted), and in the third column she indicates if the process was accelerated or slowed by the condition (e.g., accelerated). Providing a model as the students are taken through the task verbally eliminates ambiguity and gives the message in more than one way. Students are then able to complete the rest of the worksheet.
- Preview material for optimal learning. When students' attention is focused on the specific material they will be responsible for learning in the lesson, they are able to prepare themselves for the information that is coming, making it more comprehensible for them. Further, they have an opportunity to access prior knowledge and make the connections that they will need to understand the lesson.
- Allow students alternative forms for expressing their understanding of information and concepts. Often English learners have learned the lesson's information but have difficulty expressing their understanding in English, either orally or in writing. Hands-on activities can be used to reinforce the concepts and information presented, with a reduced linguistic demand on these students.
- Use multimedia and other technologies in lessons. Teachers may use PowerPoint slides, interactive whiteboards, a document projector, or relevant Web sites and

apps as supplements to a presentation. In so doing, they not only provide more visual support but also model the use of the technology.

- Provide repeated exposures to words, concepts, and skills. English learners are learning through a new language, and in order for the input to be comprehensible, they need repetition. However, excessive practice of a single word or skill can become monotonous and defeat the purpose. Jensen (2005) discusses a process for introducing material repeatedly in a variety of ways. He suggests introducing terms and skills well in advance of learning the material (pre-exposure); explicitly previewing the topic at the start of the lesson; exposing students to the target information (priming); reviewing the material minutes after students have learned it; and allowing students to revise or reconstruct information hours, days, or weeks after the lesson to revisit the learning. Research indicates that teachers ought to provide students with the specifics of what they need to learn—the key details of the unit—and then find ways to expose students to the details multiple times (Marzano, Pickering, & Pollock, 2001).
- Use graphic organizers effectively. New ideas and concepts presented in a new language can be overwhelming for English learners. Graphic organizers take the information, vocabulary, or concept and make it more understandable by showing the key points graphically. To paraphrase the saying "a picture is worth a thousand words," a graphic organizer can capture and simplify a teacher's many potentially confusing words. While graphic organizers are used commonly in school, they are most effective when they match the task and lead to attaining the lesson's objectives.

  Some graphic organizers may be simple, such as a problem/solution chart or a web with vocabulary definitions. For older students, graphic organizers may be more elaborate. For example, the CCSS and other state standards call for students to have an understanding of the argumentation process. Prior to giving a presentation that requires argumentation or an argumentative writing assignment, a **scaffold** might be to have students complete the following Argumentation Map:



See Vogt and Echevarría (2008) *99 Ideas and Activities for Teaching English Learners with the SIOP® Model* for many SIOP-appropriate graphic organizers.

- Audiotape texts for greater comprehension. There are a variety of commercially available resources that provide an audio version of a story or book. Publishers often include access to audio versions of a text. Also, software exists for creating MP3 files by scanning text and reading it aloud. Students can listen to the file on a smartphone or tablet. An audio version of the text not only allows for multiple opportunities to hear the text, but also enables adjustments for different proficiency levels. When the teacher (or someone else) records the text himself or herself, the same passage may be read more slowly with clear enunciation for beginning speakers, or synonyms may be substituted for difficult words.

Watch this video of a teacher who exemplifies all three features of the Comprehensible Input component in this SIOP lesson. Do you think the students will learn the vocabulary terms well? What are some of his techniques that you might employ?

The Comprehensible Input techniques we present in this chapter assist English learners in understanding the lesson's information, especially when it is presented orally. Whether the teacher is giving directions, conveying content information, or teaching a skill or concept—any time a message is delivered verbally—it must be made understandable for all students. Many English learners adapt to the classroom environment by pretending they understand, when, in fact, they may not. SIOP teachers use frequent checks to gauge how well students comprehend material and to discern how speech may need to be differentiated based on proficiency.

Teaching Ideas for Comprehensible Input

In the section that follows, you will find some teaching ideas to help you with preparing SIOP lessons.

- Record step-by-step instructions for completing a task or project, using an electronic tablet application. English learners, individually or in pairs, listen to the instructions as many times as needed, using the speech speed feature to slow the output to their level of understanding. You may also generate questions for partners to ask each other, such as "Which pages do we read before completing the graphic organizer?" or "Are the words we use in the graphic organizer found in the reading passage or somewhere else?" In this way, students listen to the instructions again with a focus on specific questions whose answers will help them complete the task. English learners may be unaware that the headings or bolded words in a text are those used to complete a graphic organizer.
- Use sentence strips. This common technique can be used in a variety of ways at all grade levels. In reading/language arts, students can review events in a story by writing each event on a sentence strip, then sequencing the strips to retell the story. This technique can be applied in science to sequence steps in an experiment. For optimal engagement, students in math might work in groups to sequence the steps for problem solving. After the group has put the strips in the correct order, each student takes a strip and lines it up in the order of how the math problem is solved. Other groups provide feedback as to whether the order is correct.

- Show a brief (2–4 minutes) video clip that reinforces the content objective and complements the reading assignment prior to reading a passage of informational text. Have students work in pairs to discuss specific questions about the video clip so that they have a grasp of the big ideas before participating in reading (Reutebuch, 2010).
- Spell difficult words or math formulas to the tune of B-I-N-G-O or another song while clapping out each letter, number, or symbol.
- Make lectures or presentations more compelling to the brain by using objects, photographs, slides, graphs, bulletin board displays, and color. Visuals are important for remembering information. Change things up: Use vivid posters, drawings, videos, and other ways to grab attention (Jensen, 2008).

Differentiating Ideas for Multi-level Classes

We know that most classes with English learners have students with multiple proficiency levels. Even those designated **ESL** 2, for example, may have some students who have stronger listening skills than writing skills or stronger reading skills than speaking ones. Teachers have at their disposal a variety of ways to differentiate spoken English to make it comprehensible for our diverse English learners. Almost every utterance can be modified in some way to address the variety of proficiency levels of students in your classrooms. Several considerations include the following.

- Use a slower rate, clear enunciation, and simple sentence structure for beginning speakers; use a more native-like rate and sentence complexity for intermediate and advanced speakers of English.
- Remember that you make a huge contribution to your students' attitude toward school. Particularly in the early grades, students' experiences form their impressions about school and learning. At any age, learners in a positive environment are more likely to experience enhanced learning, memory, and self-esteem (Jensen, 2008, 2013). Differentiating how information is delivered so that it is comprehensible helps students with lower levels of proficiency feel accepted, understood, and as much a part of the class as native speakers of English.
- Allow students to provide differentiated responses to questions and assignments. For oral responses, provide sentence frames for those students who need them. With written assignments, beginning speakers may require partially completed information (e.g., Cloze procedure), while advanced speakers may only need a word bank, or other support, to complete the assignment. Level of support should be differentiated so that students at each level of proficiency are able to understand expectations and be successful in lessons.

The Lesson

Buoyancy (Ninth Grade)

The following lessons take place in an urban high school where English learners make up 35% of the school population. In the classrooms described, all the students are beginning to advanced-beginning speakers of English, and they have varying levels of literacy in their native languages.

Ninth-grade teachers Mr. Dillon, Mr. Lew, and Mrs. Castillo are all teaching a unit that addresses the NGSS Scientific and Engineering Practices to teach the physical science concept of buoyancy. The standards associated with the unit require that students understand why some objects float while others sink. In addition, the teachers review the concepts of *mass,* which is a quantity of matter of nonspecific shape, and *volume,* which is the capacity of a three-dimensional object. The goal is for students to understand that an object will float as long as the mass doesn't exceed the object's capacity, or volume. Students have calculated mass/volume ratios prior to this unit, although the application of these concepts to buoyancy is new. Part of the curriculum is a short video, *Archimedes' Principle of Buoyant Force*, which all teachers show. You will see in the lesson descriptions that the teachers have their own way of helping students understand that an object's ability to float is based on its mass/volume ratio.

Teaching Scenarios

Mr. Dillon

Mr. Dillon began the lesson by having students open their science texts to the chapter on buoyancy. He told them that in this unit they would learn what makes objects buoyant. He gave a five-minute oral introduction to the concepts behind buoyancy, discussing the fact that if the object's mass exceeds its volume, then it will sink. Mr. Dillon used his normal, somewhat rapid manner, the same speaking style he used with all his classes. He then showed the video *Archimedes' Principle of Buoyant Force*. When it was over, he directed the students' attention to 13 vocabulary terms written on the whiteboard and told the class to copy each word, look up the definition in the glossary, and copy the definition onto their papers. After students looked up vocabulary words in the glossary, Mr. Dillon asked them to put the papers in their homework folders. He told them that they needed to take the words home, and their homework assignment was to use each word in a sentence. He emphasized that students needed to complete their homework since he had been frustrated by low homework response rates in this class.

Then Mr. Dillon turned to the science text, telling students to open their books to the beginning of the chapter. He proceeded to lecture from the text. Since Mr. Dillon had attended a series of professional development sessions on the Next

Generation Science Standards, he knew that it was an important part of scientific and engineering practices to ask questions (for science) and define problems (for engineering). Mr. Dillon asked students questions based on the text to stimulate a class discussion and get students to think about how to define problems. Most students were reluctant to speak up. After lecturing and questioning on the material in the first five pages of the text, Mr. Dillon gave students a worksheet about buoyancy. He told them they could work in pairs or alone, calculating the mass/volume ratio of the objects shown on the worksheet and then stating why each object would or would not float based on mass/volume ratios. He said, "You remember how to calculate mass/volume ratios? First you determine the volume of the object, and then you take the mass and divide it by the volume. Okay, just calculate the ratios for each object shown on the worksheet, and address the problem of buoyancy. When you finish, you may begin doing your homework."

After the class completed the worksheet for calculating mass/volume ratios and concluding whether or not each object would float, Mr. Dillon went over the answers with the whole group. He began by demonstrating how to calculate the first problem. He wrote the numbers on the overhead and went through the process. When he finished, he said, "If you got the same answer as I did, raise your hand." About half of the students raised their hands. Then he asked about the object's buoyancy. Mr. Dillon determined that he needed to demonstrate a few more problems so that more students would understand the process. He continued with the next three problems, asking students what they did differently.

Finally, he told the class to work in pairs to review their work, checking the final problems against the process he demonstrated.

Check your understanding: On the SIOP form in Figure 4.2, rate Mr. Dillon's lesson on each of the Comprehensible Input features.

Mr. Lew

As Mr. Lew began the lesson, he drew students' attention to the objective written on the board and told them that the purpose of the unit was to understand why some objects float and others sink. As he said the word *float*, he pointed to an orange floating in the aquarium at the front of the room, and as he said the word *sink*, he dropped a peeled orange into the water, and it sank to the bottom. Then, while pointing at the corresponding object, he repeated, "Some things float and others sink." He went on to tell the students that at the end of the unit they would be able to calculate and predict whether something has buoyancy. The words *float, sink, calculate, predict*, and *buoyant* were written in the Word Bank for students to see. The word list included content vocabulary (*buoyant, float*, and *sink*) as well as functional language (*calculate* and *predict*). Since many of Mr. Lew's students were recent immigrants and had gaps in their educational backgrounds, Mr. Lew was careful to make sure students not only knew the meaning of content vocabulary, but also knew the meaning of words associated with academic tasks, such as *predict* and *calculate.* Then Mr. Lew gave students a worksheet with two images from the video (a ship floating, then sinking) and provided a brief introduction to the video. After showing the video, he told students to work in pairs to label the objects using vocabulary from the word bank.

FIGURE 4.2 Comprehensible Input Component of the SIOP® Model: Mr. Dillon's Lesson

4	3	2	1	0
10. **Speech appropriate** for students' proficiency levels (e.g., slower rate, enunciation, and simple sentence structure for beginners)		**Speech** sometimes inappropriate for students' proficiency levels		**Speech** inappropriate for students' proficiency levels
4	3	2	1	0
11. **Clear explanation** of academic tasks		**Unclear** explanation of academic tasks		**No** explanation of academic tasks
4	3	2	1	0
12. **A variety of techniques** used to make content concepts clear (e.g., modeling, visuals, hands-on activities, demonstrations, gestures, body language)		Some techniques used to make content concepts clear		No **techniques** used to make concepts clear

Reflect and Apply

Click here to explain your ratings for Mr. Dillon's lesson on each of the Comprehensible Input features.

Throughout the lesson, Mr. Lew used language structures and vocabulary that he believed the students could understand at their level of proficiency. He spoke slowly, often contextualizing vocabulary words, and enunciated clearly. Also, he avoided the use of idioms, and when he sensed that students did not understand him, he paraphrased to convey the meaning more clearly. He repeated important words frequently and wrote them for students to see.

As the lesson progressed, he asked the students to complete an activity while working in small groups. Mr. Lew was very explicit in his instructions. He had prepared a PowerPoint slide with the instructions and projected it on a screen; then he went over each step orally. He said, "First, you will get into your assigned groups and prepare to perform the role that has been assigned to you. Second, you will make shapes out of aluminum foil and try to get them to float (he put a small aluminum foil boat on the water and it floated). Third, you will calculate the object's volume (the students already know how to do this) and write it on the worksheet, and fourth, you will determine the maximum mass the boat will hold before it sinks. Finally, you will calculate the mass/volume ratio. You will write all of these numbers on the worksheet." Then Mr. Lew told the students to watch as he demonstrated. He took a piece of aluminum foil and shaped it into a long, narrow boat. He pointed to #2 on the screen. Then he took the boat, filled its interior space with water, and then poured the water from the boat into a measuring cup to calculate the volume. He wrote the amount on the worksheet. Mr. Lew went on to determine the maximum mass and the mass/volume ratio, typing each step on a PowerPoint slide as he made

the calculations. He told the students that they must make at least five different boat shapes during the experiment. He wrote the number 5 next to step #2 on the PowerPoint slide.

After Mr. Lew showed students the steps for calculating mass/volume ratios described above, he gave students thirty seconds to get into their assigned group, get their items organized for the experiments, and begin working. Mr. Lew circulated through the classroom, supervising the students and answering their questions. After about five minutes, Mr. Lew determined that all the groups except one were clear about their assignment. To clarify for the other group, Mr. Lew drew that group's attention to another group that was doing well. He asked one student to stand and explain the steps of what they were doing. As the student talked, Mr. Lew pointed to the step-by-step instructions projected on the screen. When the student finished explaining, Mr. Lew asked a volunteer from the group that was having difficulty to explain what they were going to do.

After all groups had calculated at least five boats' mass/volume ratios, Mr. Lew used the document reader to show a table with columns for mass and volume figures. He asked students to pool their data by selecting two boats per group and reporting their mass and volume. A representative from each group wrote the group's figures in the appropriate columns on the document reader. Then Mr. Lew told the class that they would use these data to construct a graph, plotting the maximum mass held by the boat on the *y*-axis and the boat's volume on the *x*-axis. Each student then plotted the mass-to-volume ratios on their individual graphs. At the end of the lesson, Mr. Lew had the class look at the objective written on the board and asked each student to write on his or her paper why some objects float and others sink.

Check your understanding: On the SIOP form in Figure 4.3, rate Mr. Lew's lesson on each of the Comprehensible Input features.

Mrs. Castillo

As is her practice, Mrs. Castillo wrote the objective, "Find the mass/volume ratio for objects that float," on the board. She began the lesson by discussing the fact that some things float and others sink, giving examples of objects that float, such as a large ship, and others that sink, such as a small coin. Then she asked the class if they knew what makes some objects float and others sink. A few students guessed, but nobody was able to give an accurate explanation. During the discussion, Mrs. Castillo's rate of speech was normal for her speech style, with a mix of both simple and slightly complex sentences. When the discussion was completed, she noticed that some of the students still seemed confused. She thought that watching the video might clear up any questions students might have.

After the video, Mrs. Castillo told the students that the information they had learned from the video about buoyancy was also in their text. She asked them to read the first three pages of their text to themselves and stated that they would discuss it when they'd finished. After the students indicated that they were done reading, Mrs. Castillo asked if there were any words in the text they did not know. Several students called out unfamiliar words, and the teacher wrote them on the

FIGURE 4.3 Comprehensible Input Component of the SIOP® Model: Mr. Lew's Lesson

4	3	2	1	0
10. **Speech** appropriate for students' proficiency levels (e.g., slower rate, enunciation, and simple sentence structure for beginners)		**Speech** sometimes inappropriate for students' proficiency levels		**Speech** inappropriate for students' proficiency levels
4	3	2	1	0
11. **Clear explanation** of academic tasks		**Unclear** explanation of academic tasks		**No explanation** of academic tasks
4	3	2	1	0
12. **A variety of techniques** used to make content concepts clear (e.g., modeling, visuals, hands-on activities, demonstrations, gestures, body language)		Some techniques used to make content concepts clear		No **techniques** used to make concepts clear

Reflect and Apply

Click here to explain your ratings for Mr. Lew's lesson on each of the Comprehensible Input features.

overhead. Then she assigned students at each table a word to look up in the glossary. After several minutes, she asked the students what they had found. Only about half of the words were included in the glossary, since the other words were not science terms per se, but words such as *therefore* and *principle*. Mrs. Castillo orally gave students the definitions of those words that were not in the glossary and then summarized the information the students had read in the text. While reading, she intermittently asked questions to encourage scientific thinking but students were reluctant to respond. As she talked, she occasionally spoke rapidly, using long, detail-laden sentences in her summary. When she noticed that students were not paying attention, she slowed her rate of speech to make it understandable and to regain students' interest.

Mrs. Castillo continued the lesson following the same format as described previously. She asked students to read a portion of the text, paused to clarify unknown vocabulary, and summarized the part of the text students read. When they completed the chapter, Mrs. Castillo selected several end-of-chapter questions for students to answer. She let students work in pairs or groups to complete the questions, and then the class discussed the answers together.

Check your understanding: On the SIOP form in Figure 4.4 on the following page, rate Mrs. Castillo's lesson on each of the Comprehensible Input features.

FIGURE 4.4 Comprehensible Input Component of the SIOP® Model: Mrs. Castillo's Lesson

4	3	2	1	0
10. **Speech** appropriate for students' proficiency levels (e.g., slower rate, enunciation, and simple sentence structure for beginners)		**Speech** sometimes inappropriate for students' proficiency levels		**Speech** inappropriate for students' proficiency levels
4	3	2	1	0
11. **Clear explanation** of academic tasks		**Unclear** explanation of academic tasks		**No** explanation of academic tasks
4	3	2	1	0
12. **A variety of techniques** used to make content concepts clear (e.g., modeling, visuals, hands-on activities, demonstrations, gestures, body language)		Some techniques used to make content concepts clear		**No techniques** used to make concepts clear

Reflect and Apply
Click here to explain your ratings for Mrs. Castillo's lesson on each of the Comprehensible Input features.

Discussion of Lessons

10. *Speech Appropriate for Students' Proficiency Level (Rate and Complexity)*

Mr. Dillon: 0

Mr. Lew: 4

Mrs. Castillo: 2

As you can see in the lesson descriptions, the teachers varied in their attention to the unique language needs of the English learners in their classes.

- **Mr. Dillon** seemed unaware that his students would understand more if he adjusted his oral presentation to accommodate the proficiency levels of English learners in his class. He lectured about new, complex concepts without regard to either his rate of speech or the complexity of his speech, variables that impact English learners' ability to comprehend information in class. Also, copying definitions for new terms and creating original sentences are inordinately difficult tasks for English learners. Unwittingly, Mr. Dillon set the students up for failure and then was frustrated by the low number of completed homework assignments. While he believed students chose not to complete assignments, in reality they *could not* complete the type of assignment he gave.

Mr. Dillon did not discuss the lesson content or the class or homework assignments in any meaningful or understandable way for English learners. He thought that discussing the material in the chapter and asking questions during his lecture would make the concepts clear for his students, but the type of language he used did little to facilitate learning for them. His efforts were lost on the English learners who needed richer, comprehensible development of the lesson's concepts to understand the text or lecture. The few students who participated in the discussion gave Mr. Dillon the inaccurate impression that the class was following along.

- **Mr. Lew** was the most attuned to the benefit of modulating his speech to make himself understood by the students. He slowed his rate of speech and enunciated clearly when he addressed beginning speakers; he adjusted his speech for the other, more proficient speakers of English. He used a natural speaking voice but paid attention to his rate of speed and enunciation. Further, Mr. Lew adjusted the level of vocabulary and complexity of the sentences he used so that students could understand. Since most students were beginning English speakers, he selected words that were appropriate to their proficiency level. Although the science book highlighted nearly fifteen terms for the unit on buoyancy, Mr. Lew knew from experience that it is better for his students to learn fewer vocabulary words thoroughly than to give superficial treatment to dozens of content-associated vocabulary words. His students will be able to use and apply the selected words and their concepts since they have a complete understanding of their meaning.
- **Mrs. Castillo's** rate of speech and enunciation vacillated between that used with native speakers and a rate that her students could understand. She didn't consistently adjust her speech (rate or complexity) to the variety of proficiency levels in the class. She was aware that her English learners needed extra attention in understanding the language, but she only addressed their needs by asking for unfamiliar vocabulary and with occasional comprehension questions. She could have paraphrased, using simpler sentence structure, and she could have used synonyms for words that appeared too difficult for students to understand. The questions could have been structured so that they were comprehensible.

11. *Clear Explanation of Academic Tasks*

Mr. Dillon: 1

Mr. Lew: 4

Mrs. Castillo: 1

Making your expectations crystal clear to students is one of the most important aspects of teaching, and when working with English learners, explicit, step-by-step directions can be critical to a lesson's success. It is difficult for almost any student to remember directions given only orally, and oral directions may not even be understood by many English learners. A lesson is sure to get off to a rocky start if students don't understand what they are expected to do. Written procedures and modeling provide students with a guide.

- **Mr. Dillon** had a tendency to be unclear about his expectations but then blamed the students for not completing work. It is obvious that he doesn't understand the importance of making sure students are given explicit instructions at their level of understanding. First, he made unsubstantiated assumptions about the students' knowledge and ability to complete tasks. He said, "You remember how to calculate mass/volume ratios? . . . Okay, just calculate the ratios for each object and address the problem of buoyancy . . . ." and left them to work independently. Some students did not know how to calculate the ratios or express in writing whether or not the object would float, but were left on their own to try to do so.

  Second, while he did demonstrate how to calculate ratios, Mr. Dillon should have done that kind of demonstration *before* asking students to do it independently. He should have also modeled writing a statement about the object's buoyancy. Teaching is more effective when a good model is demonstrated prior to the exercise, rather than a post hoc review of student work, correcting their mistakes after completion. The process of explaining the assignment *after* students completed the worksheet was particularly confusing for the English learners in his class who struggled to make sense of the assignment only to find out that they had calculated most of the problems incorrectly and therefore couldn't determine the object's buoyancy.

  Third, Mr. Dillon did not make his expectations—for in-class assignments and for homework—clear by modeling and discussing what students were to do. He should have provided a step-by-step explanation of the academic tasks he asked the students to complete.

- As an experienced teacher, **Mr. Lew** understood the value of being explicit in what he wanted the students to do. He walked them through each step of the buoyancy experiment, demonstrating what they were expected to do. When a group hadn't gotten started, he had other students model the steps of the assignment for the class, drawing their attention again to the instructions on the PowerPoint slide. The effort that Mr. Lew put into making sure students knew what to do contributed to the success of the lesson and enhanced learning.

- **Mrs. Castillo,** on the other hand, did not explain to the students what was expected during the lesson, although the expectation was implied by the format she used: read material, discuss unknown terms, answer questions, summarize material. Since Mrs. Castillo followed the same format whenever the class read from the text, the students knew what was expected, however uninteresting the format made the lessons.

  The focus of this feature is explaining tasks clearly so students know what they are expected to do. However, it is also important that the tasks themselves reflect high expectations. Mrs. Castillo's lesson did not have the rigor or practices that are reflected in the NGSS.

12. *A Variety of Techniques Used*

    Mr. Dillon: 2

    Mr. Lew: 4

    Mrs. Castillo: 0

Concepts become understandable when teachers use a variety of techniques, including modeling, demonstrations, visuals, and body language.

- **Mr. Dillon** attempted to employ a number of techniques to make concepts clear, such as using the text as a basis for discussion, showing the video, providing a worksheet that showed different-size boats and other objects, and demonstrating some of the calculations. Also, he let students work in pairs to calculate the mass-to-volume ratios and determine the buoyancy of each object. However, Mr. Dillon should have introduced the video more effectively by, for instance, reviewing the meaning of the terms used in the video or giving an outline of the concepts presented. The video would have been more meaningful if he had debriefed it with students. In the lesson he also could have used more visuals, modeled what he expected from the students *before* he asked them to work independently, and provided a hands-on activity for this lesson. Some lessons, like this one, lend themselves easily to hands-on activities, but Mr. Dillon did not take advantage of the opportunity.
- Throughout his lesson, **Mr. Lew** did an excellent job of providing visuals through the use of the tanks and aluminum foil, as well as by using PowerPoint slides, video, and the document reader. Not only did he write the vocabulary and assignment for students to see, but also he consistently referred back to the visual information. In addition to providing a clear explanation of the assignment, this technique teaches students to use visual clues to gain understanding. Also, Mr. Lew used graphing and writing effectively to review the concepts of the lesson. Notice that these academic tasks came after students were already familiar with the lesson's concepts and vocabulary, which increased the likelihood that students would be able to successfully complete the academic tasks.

  Finally, students were able to apply their knowledge through the hands-on activity, making the concepts of mass, volume, and buoyancy tangible, and thus more understandable. Measuring a boat's actual volume and determining maximum mass by adding to the mass by hand makes the concepts come alive for students. Compare the benefit of this hands-on activity to the other scenarios where the students simply went through a paper-and-pencil task. Surely those students learned and remembered less about buoyancy and mass-to-volume ratios than did the students in Mr. Lew's class.
- **Mrs. Castillo** is a compassionate teacher who is concerned about the academic success of the English learners in her class. She wanted to include scientific and engineering practices by asking questions and analyzing and interpreting data but she was concerned that those practices would be too difficult for her students. Her effort to help English learners understand the material included clarifying unknown vocabulary (in a somewhat random fashion), paraphrasing or summarizing the chapter (done orally, without visuals or other contextual clues), asking some oral questions, reducing the number of end-of-chapter questions (done independently by students), and having the students work together in answering questions (with no systematic checks for understanding). Although she had good intentions and wanted her

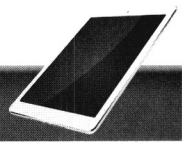
students to understand the concept of buoyancy, Mrs. Castillo did not use the kinds of techniques that make rigorous science content accessible for English learners.

The atmosphere in Mrs. Castillo's classroom was warm and nonthreatening for English learners. She chatted with students throughout the class and showed genuine interest in their well-being. Although it is clear that she enjoys working with students from diverse cultural backgrounds, she needs to develop practices that challenge students to engage in scientific inquiry. The lesson was presented almost entirely orally, which was difficult for the beginning English speakers in her class to follow. Having students read a portion of the text followed by her summary was a good idea, except that there were no techniques used to ensure students understood the text, which was likely too difficult for them to read independently. Also, she did not teach them the necessary skills so that eventually they could read texts on their own. The summary was given orally, which makes it likely that beginning English speakers gained little understanding from it. Mrs. Castillo should have had a more structured approach to reading the text and discussing the concepts followed by an activity where students applied the knowledge they had gained through reading. Finally, she should have adjusted the number of questions students had to answer according to their ability level. The students worked diligently on the assignment because they liked Mrs. Castillo and wanted to please her, but they needed assistance in making the information meaningful—assistance beyond what Mrs. Castillo provided.

Watch this video as Dr. Deborah Short describes the features of CI. To what extent is each of the three SIOP features for Comprehensible Input present in the science lesson?

(For more examples of lesson and unit plans in science for grades K–12, see Short, Vogt, and Echevarría, 2010.)

Teaching with Technology



After talking with the teachers and discussing the lessons you read about in the Scenarios earlier in the chapter, our tech integrator, Ms. Palacios, offered some technology suggestions to enhance the teachers' lessons.

Put the Pieces Together with Presentation Software: During a conversation with Ms. Palacios, Mr. Lew decided to expand his use of PowerPoint for the buoyancy lesson. He wanted to move beyond using just a few slides with instructions. Mr. Lew wanted to make sure the students were engaged and had access to the content. He designed his first slide to read *Sink vs. Float: What is buoyancy?* On that initial slide, in addition to the catchy title, he inserted images that clearly represented those concepts. The subsequent slide revealed the objectives of the lesson. After the objectives were slides with important vocabulary accompanied by related images. For example: for the word *predict*, Mr. Lew added clipart images of a fortuneteller and the weather forecast. His final slides described the tasks the students must complete.

While revising the presentation. Mr. Lew decided to impose a few creative constraints. First, he limited the presentation to eight slides only. This limitation would cause him to be precise in his language use and not risk

overwhelming his students with too much information. Second, he knew that visuals were essential. In addition to the images, he searched YouTube and found a number of videos showing experiments with buoyancy. Mr. Lew then added an animation showing the equation for density and a problem being solved.

Mr. Lew posted the presentation on his teacher Web site, where students used it as a reference while completing the related buoyancy assignments. For the next lesson, Mr. Lew followed the same presentation format to reinforce his new method of lesson launch and to ensure an accessible amount of information shown in a comprehensible manner.

Related Tools: *Keynote, Google Slides, Prezi, Haiku Deck*

Student Response System: Mr. Dillon reflected on his lesson and felt his students could benefit from another introduction to buoyancy. He wondered if there was a technology component that might enhance the lesson. He noticed that Ms. Palacios mentioned new tools in her weekly tech news e-mail. She described a student response system called *Socrative* that allows students to answer short quizzes, participate in polls, and complete Do Nows and exit tickets from various devices. Ms. Palacios explained that often these tools don't require students to create accounts, making the process easier. The newsletter described how many of these systems allow you to see students' responses in real time and to track data over multiple lessons. Mr. Dillon thought this sounded like an interesting tool and decided to include it as part of his lesson.

Ms. Palacios came to Mr. Dillon's classroom a few minutes before the period began. She set up iPads on tables in Mr. Dillon's room. She used her low cost iPad holders (dish drying racks) to arrange them for easy student access. There weren't enough iPads for each student in the class, but Mr. Dillon decided pairing students would generate more interaction among them because together they would have to debate the answers to the questions.

At the beginning of class, Ms. Palacios demonstrated how to use *Socrative*, which students accessed on the tablets. She walked the students through joining Mr. Dillon's "room" using a code generated by the site. Then they answered a practice question about their favorite breakfast foods. Taking a few tips from Mr. Lew's lesson, Mr. Dillon asked the students to predict whether certain objects would float or sink. Students responded to the questions and Mr. Dillon was able to track answers on his iPad and discuss the answers with the students. He also added an exit ticket to help him learn more about the students' understanding and plan where his next lesson should begin.

Other terms for this type of tool: student clickers, audience response systems

Related Products: *Verso, Kahoot, Poll Everywhere, Geddit* and other products that connect with various brands of interactive whiteboards.

Due to the constantly evolving nature of the Internet, it is a challenge to ensure that all of the links and Web services listed here are updated and functional when you read the technology sections. While specific tools or services may appear in the narrative, we have also included the general term for each tool. If a specific service does not work or is no longer available, search with the general term for the tool and you should be able to find a comparable Web site.

Check Your Understanding
Click here to check your understanding of Chapter 4, Comprehensible Input.

Summary

As you reflect on this chapter and consider the impact of comprehensible input on learning, consider the following main points:

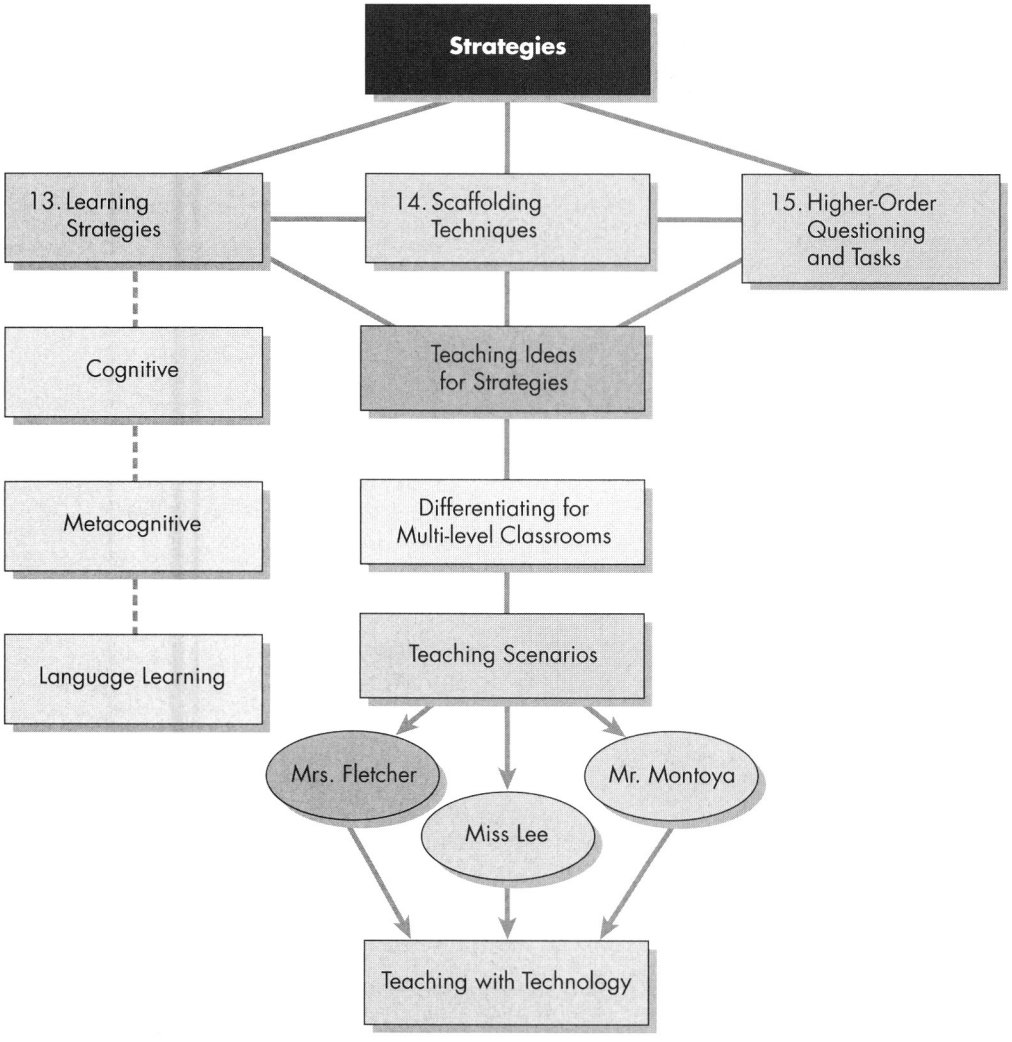
- Although English learners learn in many of the same ways as fluent English-speaking students, they do require special supports or accommodations to make instruction understandable (August & Shanahan, 2006; Goldenberg, 2008).
- Effective SIOP teachers constantly modulate and adjust their speech to ensure that the content is comprehensible.
- Concepts are taught using a variety of techniques, including modeling, gestures, hands-on activities, and demonstrations, so that students understand and learn the content material.
- Effective SIOP teachers provide explanations of academic tasks in ways that make clear what students are expected to accomplish and that promote student success.

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 techniques for presenting content information in ways that students comprehend?
   b. Review various ways to provide directions for completing academic tasks?
   c. Discuss modifications to teacher speech that can increase student comprehension?
   d. Write the steps needed for students to perform an academic task and have a partner perform each step?
2. Many times in classrooms, discipline problems can be attributed to students not knowing what they're supposed to be doing. If students don't know what to do, they find something else to do. What are some ways that you can avoid having students become confused about accomplishing academic tasks?
3. If you have traveled in another country, or if you are an English learner, reflect on difficulties you had in understanding others. What are some techniques people used to try to communicate with you? What are some techniques you can use in the classroom?
4. Using the SIOP lesson you have been developing, add to it so that the Comprehensible Input features in the lesson are enhanced.
5. For the lesson on buoyancy, what are some comprehension checks that are quick, nonthreatening, and effective for determining if a student is ready to move on?

CHAPTER 5

Strategies



Learning Outcomes

After reading, discussing, and engaging in activities related to this chapter, you will be able to meet the following **content** and **language objectives**.

Content Objectives

Identify the learning strategies that your students are currently using, and suggest others that they need to learn and practice.

Identify techniques for verbal, procedural, and instructional scaffolding.

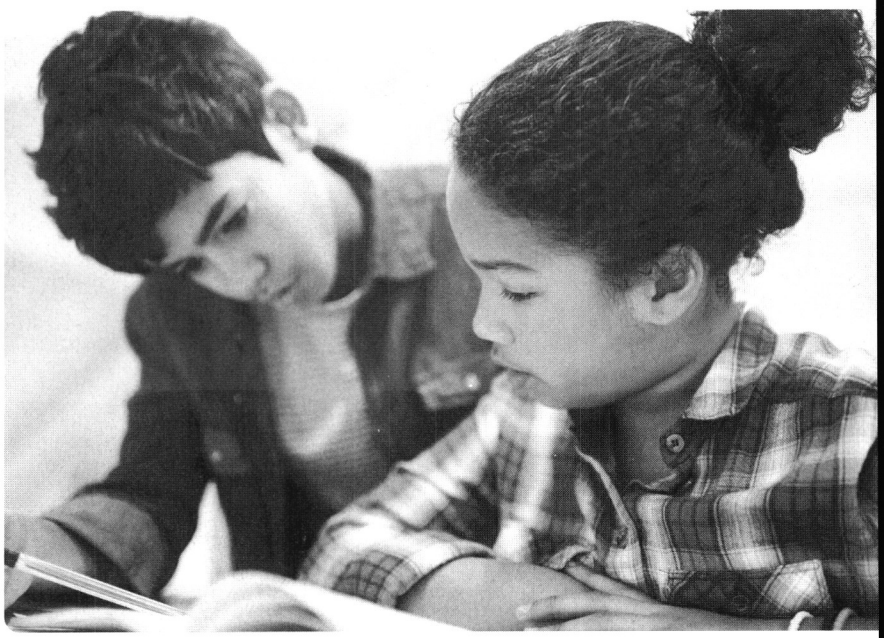
Language Objectives

Identify language learning strategies to include in a lesson.

Write a lesson plan that includes explicit instruction with learning strategies, and varied techniques for scaffolding student understandings.

Write a set of questions or tasks on a chosen topic with increasing levels of cognition.

Think about a time when you had to solve a really challenging problem. For example, you were trying to balance the family budget; or perhaps you were trying to find a particular location while driving, and your GPS was taking you in what seemed like the opposite direction; or maybe you were reading an important document that you didn't understand, and even though you read it twice, you still didn't get it.



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If these were actual problems you were facing, what would you do to solve each one? More than likely, as an experienced learner, you would activate a plan for dealing with each problem, and you would do so by relying on a repertoire of strategies you have developed over the years, for balancing a budget, for finding your way from point A to point B, or for navigating difficult reading material. As you think about these strategies, which were taught to you by someone with more experience? Which did you learn by yourself through trial and error? ●

Background

As introduced in Chapter 3, researchers have found that information is retained and connected in the brain through "mental pathways" that are linked to an individual's existing schemata (Anderson, 1984; Barnhardt, 1997). If schemata for a particular topic are well developed and personally meaningful, new information is easier to retain and recall, and proficient learners initiate and activate their associations between the new and old learning. In cognitive theory, initiation and activation are described as the mental processes that enhance comprehension, learning, and retention of information.

Teachers of **English learners** sometimes have difficulty determining their students' proficiency with learning strategies, especially in the beginning stages of their acquisition of English. Teachers may observe English learners' lower *English* proficiency and misjudge it as a symptom of poor or underdeveloped *learning*

strategies. In this chapter, we discuss the importance of teaching and providing practice with a variety of learning strategies that facilitate knowledge acquisition. We also suggest that all students, including English learners, benefit from questions and tasks that involve higher levels of thinking. In order to accomplish these goals, teachers must carefully scaffold instruction for those who need additional support.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 13:

Ample Opportunities Provided for Students to Use Learning Strategies

There is considerable evidence from research over the past four decades supporting the assertion that explicitly teaching a variety of self-regulating strategies improves student learning and reading (August & Shanahan, 2010; Dole, Duffy, Roehler, & Pearson, 1991; Pressley, 2000; 2002; Snow, Griffin, & Burns, 2005; Vogt & Nagano, 2003). Many of these research studies focused on highly effective readers and learners who use a variety of strategies in an interactive and recursive manner. These readers use learning strategies that are flexible and appropriate to the task. They are also active and strategic thinkers who can readily transfer strategies to new tasks.

Watch this video in which Dr. MaryEllen Vogt describes learning strategies—what they are and how we can teach them meaningfully. Consider your own learning—under what conditions do you learn best, and which cognitive and metacognitive strategies do you regularly use? https://www.youtube.com/watch?v=rhYI3w5I0EA

As English 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 (Chamot, 2009; Dymock & Nicholson, 2010; National Institute of Child Health and Human Development, 2000; Vogt, Echevarría, & Short, 2010).

Among the strategies that can be taught and that generally transfer to new learning are:

1. **Cognitive Learning Strategies.** Cognitive strategies are used by learners when they mentally and/or physically manipulate information, or when they apply a specific technique to a learning task (McLaughlin, 2010; Vogt & Shearer, 2011). Examples of cognitive strategies include the following:
   - Previewing a story or chapter before reading
   - Establishing a purpose for learning
   - Consciously making connections with past learning
   - Using mnemonics
   - Highlighting, underlining, or using sticky notes to identify important information
   - Taking notes or outlining
   - Rereading to aid understanding
   - Mapping information or using a graphic organizer
   - Identifying key vocabulary
   - Identifying, analyzing, and using varied text structures
2. **Metacognitive Learning Strategies.** *Metacognition* is the process of purposefully monitoring our thinking (Baker & Brown, 1984). The use of metacognitive strategies implies awareness, reflection, and interaction, and effective learners

use these strategies in an integrated, interrelated, and recursive manner (Dole, Duffy, Roehler, & Pearson, 1991). Studies have found that when metacognitive strategies are taught explicitly and practiced frequently, reading comprehension is improved (Duffy, 2002; Snow, Griffin, & Burns, 2005; Vogt & Nagano, 2003). Examples of metacognitive learning strategies include:

- Predicting and inferring
- Generating questions and using the questions to guide comprehension
- Monitoring and clarifying ("Am I understanding? If not, what can I do to help myself?")
- Evaluating and determining importance
- Summarizing and synthesizing
- Making mental images (visualizing)

3. **Language Learning Strategies.** As with other aspects of learning, effective language learners consciously use a variety of strategies to increase their progress in speaking and comprehending the new language (Cohen & Macaro, 2008). Examples of language learning strategies include:
   - Conscientiously applying reading strategies, such as previewing, skimming, scanning, and reviewing
   - Analyzing and using forms and patterns in English, such as the *prefix* + *root* + *suffix* pattern
   - Making logical guesses based on contextual and syntactic information
   - Breaking words into component parts
   - Purposefully grouping and labeling words
   - Drawing pictures and/or using gestures to communicate when words do not come to mind
   - Substituting a known word when unable to pronounce an unfamiliar word
   - Self-monitoring and self-correcting while speaking English
   - Paraphrasing
   - Guessing and deducing
   - Imitating behaviors of native English-speaking peers to successfully complete tasks
   - Using verbal and nonverbal cues to know when to pay attention

Other language learning strategies include those described as social-affective, such as seeking out conversational partners, taking risks with the new language, practicing English when alone, and combatting inhibition about using English by having a positive attitude. Another important social-affective strategy is asking for clarification, something that is often difficult for English learners.

Things to Consider When Teaching Learning Strategies

- The **Common Core State Standards** require that students adapt their communications for varied audiences, purposes, and tasks. While reading, writing, and speaking, students should be able to set and adjust their purposes as needed

by the particular tasks (© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.) This is precisely what it means to be an effective user of reading and language strategies.

- Whichever sets of strategies are emphasized, learned, and used, it is generally agreed that they can be taught through explicit instruction, careful modeling, and scaffolding (Fisher & Frey, 2014; Harvey & Goudvis, 2013; Vogt & Shearer, 2011).
- Lipson and Wixson (2012) suggest that just teaching a variety of strategies is not enough. Rather, learners need not only *declarative* knowledge (What is the strategy?), but also *procedural* knowledge (How do I use it?) and *conditional* knowledge (When and why do I use it?). Also, it is important that students practice and apply strategies with different tasks and genres.
- Many English learners who have been well schooled in their **home language** have developed a variety of learning strategies that they can talk about once they learn the English terms for them. Therefore, it's important to know your students' educational backgrounds and their native language literacy proficiency so you can be aware of what they already know and can do regarding strategy use in their home language.

  Strategies transfer to learning in the new language. For example, once you know how to find a main idea in a text written in your home language (L1), you can do it with a text in your target language (L2). Likewise, if you know how to make predictions in your L1, you can engage in making predictions in your L2.
- Remember that having students list, identify, and label strategies is not the end goal. Instead, the desired outcome is for students to engage in various learning strategies while they're reading, listening, writing, speaking, and working with other students (Marcell, DeCleene, & Juettner, 2010, p. 687).
- To assist students in becoming effective strategy users, see the section Teaching Ideas for Strategies, later in this chapter. In particular, note the following instructional activities: Directed Reading-Thinking Activity (DR-TA), SQP2RS (Squeepers), Question-Answer Relationships (QAR), and Questioning the Author (QtA). Also, see Mr. Montoya's lesson on The Rainforest in this chapter, and determine which cognitive, metacognitive, and language learning strategies his lesson incorporates.

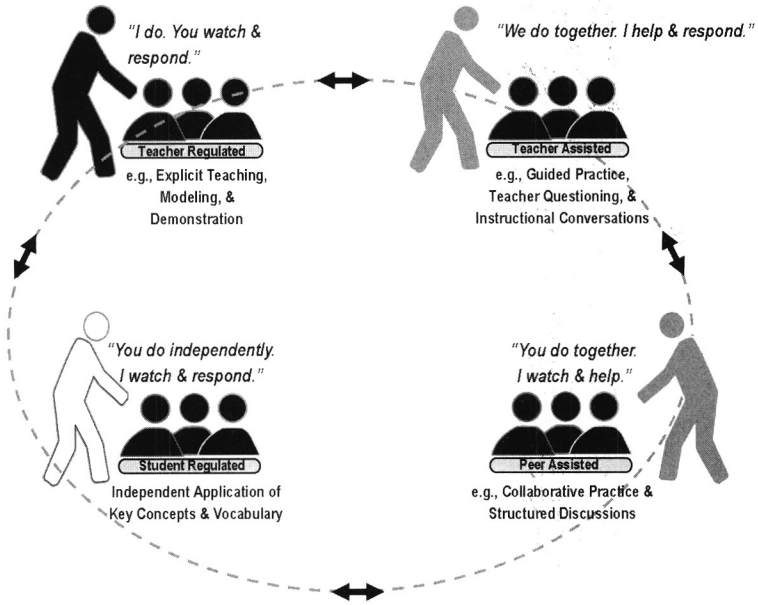
SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

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 a child can accomplish alone and what he or she can accomplish with the assistance of a more experienced individual. The assistance that is provided by a teacher is called *scaffolding.*

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. (2017). *Making Content Comprehensible for English Learners. The SIOP Model* (5th Ed.) Boston: Pearson/Allyn & Bacon.

Watch this video to see teacher Megan Montgomery talk about scaffolding for her students in grades 5–6. Compare Ms. Montgomery's scaffolding scheme to Figure 5.1. What are the implications of each scheme for you and your students? http://www.youtube.com/gleNo8dqHb8?list=PLFUCLV4pZkjMw-UAFV1NnRAOnNqSGhCYb

Pearson and Gallagher (1983) described ZPD and scaffolding as the "gradual release of responsibility" (GRR) as it relates to classroom practices. Do a Web search for "gradual release of responsibility" and you will find several interesting graphics depicting the move from teacher-regulated learning to student independence. 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 is the notion that teaching is a recursive, not linear, process. Therefore, we offer an alternative to GRR that has as its focus recursive teaching, which is essential for English learners and struggling students (see Figure 5.1). With GISI, after explicitly teaching a concept (*I do. You watch and respond.*), students practice what has been taught with assistance from the teacher (*We do together. I help and respond.*). Students who are successful can then practice 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 again 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 is definitely not linear and it leads to differentiated teaching, enabling those who can move forward to do so. But for those who need additional modeling and support, opportunities are provided. Whether you are using the Common Core, the Next Generation Science, or other rigorous standards, it is essential for all students, including English learners, to have appropriate, scaffolded instruction that leads to eventual independence.

Three Types of Scaffolding

Three types of scaffolding can be used effectively with English learners: Verbal, Procedural, and Instructional.

1. **Verbal Scaffolding.** Teachers who are aware of English learners' existing levels of language development use prompting, questioning, and elaboration to facilitate students' movement to higher **levels of language proficiency**, comprehension, and thinking. The following are examples of verbal scaffolding:
   - 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 structured models of how effective strategy users think and monitor their understandings usually are provided by the teacher, but they can also be modeled by other students.
   - Reinforcing contextual definitions: An example is "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.
   - Providing correct pronunciation by repeating students' responses: When teachers repeat English learners' correct responses, enunciating carefully and naturally, students have an additional opportunity to hear the content information, pronunciation, and inflection. Saunders and Goldenberg (2010) also suggest that dedicating time to work on pronunciation may be beneficial.
   - 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.
2. **Procedural Scaffolding.** Effective 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.
   - Partnering or grouping students for reading and content activities, with more experienced readers assisting those with less experience.
3. **Instructional Scaffolding.** Teachers use *instructional scaffolding* to provide English learners with access to content and language concepts. Examples include:
   - Graphic organizers are used as a prereading tool to prepare students for the content of a textbook chapter. The organizer can also be used to illustrate a chapter's text structure, such as comparative or chronological order (Vogt & Echevarría, 2008).

- Models of completed assignments are instructional scaffolds, too. Teachers can show students sample products, such as posters, booklets, podcasts, and the like, to give them a clear picture of their goal.

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. Current assessments related to the Common Core State Standards require that students complete assessment tasks without teacher scaffolding, so stay alert to students' increasing independence with learning tasks.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 15:

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

Another way that effective SIOP teachers can promote strategy use is by asking questions and providing tasks that promote critical thinking. Sixty years ago, Benjamin Bloom and colleagues (1956) introduced a now-familiar taxonomy of educational objectives that includes six levels, listed here from lowest to highest: *Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation*. This taxonomy was formulated on the principle that learning proceeds from concrete knowledge to abstract values, or from the denotative to the connotative. For decades, educators adopted this taxonomy as a hierarchy of questioning that, when used effectively in the classroom, elicited varied levels of student thinking.

Watch this video to see a middle school science lesson with teacher Brian Fireng. What are some of the higher-order thinking skills and learning strategies that his students are using during this lesson?

Subsequently, D. R. Krathwohl, who originally worked with Bloom and his colleagues, published a revised taxonomy (see Anderson & Krathwohl, 2001). In the revised taxonomy, the six levels are, again from lowest to highest: *Remember, Understand, Apply, Analyze, Evaluate, and Create.* Webb (1997) developed a similar, but more complex system and criteria for aligning **standards**, teaching, and **assessment**, called Depth of Knowledge (DOK).

Whichever taxonomy teachers choose to use when designing lessons, it is important to carefully plan higher-order questions and tasks prior to lesson delivery. It is just too difficult to think of these questions on the spot when you're teaching.

In fact, of the approximately 80,000 questions the average teacher asks annually, 80% of them are at the literal level (Gall, 1984; Watson & Young, 1986). This is especially problematic with English 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 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 one or smooth one? Or this

one that has fuzzy hairs? Why do you think so?" Encouraging students to respond with higher levels of thinking requires teachers to consciously plan and incorporate questions and tasks at a variety of levels.

Teaching Ideas for Strategies

In the section that follows, you will find some teaching ideas to help you with preparing SIOP lessons.

- **Digital Storytelling** (Sylvester & Greenidge, 2009). A digital story combines old and new literacies as students speak, write, and create a multimedia text consisting of still images and a narrated soundtrack. Especially appealing to students who struggle with writing, including some English learners, digital stories provide an exciting, hands-on, and innovative way to create stories. In their stories, students focus on elements such as point of view, emotional content, pacing, and music to hold the viewer's interest (Sylvester & Greenidge, 2009). Note that creating and sharing digital stories requires students to engage with cognitive, metacognitive, and language learning strategies.
- **Directed Reading-Thinking Activity (DR-TA)** (Ruddell, 2007; Stauffer, 1969; Vogt & Echevarría, 2008). DR-TA is a very effective activity for encouraging strategic thinking while students are reading or listening to narrative (fiction) text. It's effective in all grades with the steps given below; only the difficulty level of the text changes for older students. The text to be read should be rich, interesting, and, if possible, have a surprising or unanticipated ending. Throughout the reading of the story, stop periodically and have students contemplate predictions about what might follow logically in the next section of the text. Begin the DR-TA lesson with a question about what the class members think the story or book will be about, based on the title. As students respond, include a variety of probes, such as:
  - "With a title like . . ., what do you think this story will be about?"
  - "Let's read to find out."
  - "Did . . . happen? If not, why not?" (revisit predictions)
  - "What do you think is going to happen next? What makes you think so?"
  - "Where did you get that idea?"
  - "What made you 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. Students can "vote" on which predictions are most likely as they focus their thinking on character and author motivations, problems characters face, reasons for characters' behaviors, and how the plot unfolds. Note that a somewhat adapted DR-TA is also effective in the upper grades for longer novels, with chapter-to-chapter discussions focusing on what students think will happen, what really happened, and why. (In Chapter 3, Mrs. Ornelas's lesson vignette includes a DR-TA activity.)

- **SQP2RS ("Squeepers")** This instructional framework for teaching content with expository texts includes the following steps (Vogt, 2000, 2002; Vogt & Echevarría, 2008):

  1. ***S*urvey:** Students preview and scan the text to be read for about one minute to determine key concepts that will be learned. For children in grades pre-K–2, preview an informational Big Book with your students.
  2. ***Q*uestion:** In groups, students generate questions likely to be answered by reading the text. Post student questions, one by one on chart paper, and mark an asterisk by the question for each group that had the same or similar question. This is a great opportunity to model for beginning English speakers how questions are formed in English.
  3. ***P*redict:** As a whole class, students come up with three or four key concepts they think they will learn while reading; the predictions are based on the previously generated questions, especially those marked with asterisks. Model this step with younger children.
  4. ***R*ead:** While reading (with partners or small groups, or with you in a small group), students search for answers to their generated questions and confirm or disconfirm their predictions. Use sticky notes or sticky strips to mark answers to questions and to indicate spots where predictions have been confirmed.
  5. ***R*espond:** Students answer questions (not necessarily in writing) with partners or group members and formulate new ones for the next section of text to be read (if the text is lengthy); then, lead a discussion of key concepts, clarifying any misunderstandings.
  6. ***S*ummarize:** Orally or in writing, alone or with a partner or group, students summarize the text's key concepts, using key vocabulary where appropriate.

  Read Mr. Montoya's lesson later in this chapter to see Squeepers in action. For math, see the adaptation of the Squeepers process in Figure 5.2. For more information on Squeepers, see Vogt and Echevarría (2008).

- **GIST (Generating Interactions between Schemata and Texts)** This summarization procedure assists students in "getting the gist" from extended text (Cunningham, 1982; as cited in Muth & Alvermann, 1999). Together with students, read a section of text (150 to 300 words) displayed on a whiteboard, in a PowerPoint presentation, or in a handout. After reading, assist students in underlining 10 or more words or concepts that are deemed "most important" to understanding the text. List these words or phrases on the board. Without the text, together write a summary sentence or two using as many of the listed words as possible. Repeat the process through subsequent sections of the text. When finished, write a topic sentence to precede the summary sentences; the end result can be edited into a summary paragraph. This technique is also useful when viewing video clips. Students watch, record 10 key words or phrases, and then create summary sentences.
- **Graphic organizers** Graphic organizers provide scaffolding for students in the form of a visual representation of language (August & Shanahan, 2010). They are schematic diagrams of key concepts and other information, and students use them to organize the information they are learning. Examples include Venn diagrams,

FIGURE 5.2 SQP2RS ("Squeepers") for Math

Note that this Squeepers adaptation works well for math lessons. The steps are the same, but how they work in the lesson is slightly different.

SURVEY Before you read, ask yourself: What will this lesson be about? Look at the types of problems you will solve.

QUESTION After your text survey, write 1–3 problems you may be able to solve by the end of this lesson.

PREDICT Predict 1–3 math skills you might use to solve the problems in this lesson. What prior knowledge or new knowledge is necessary?

READ Read the lesson.

RESPOND After you read, try to answer the sample questions and confirm your predictions about the necessary math skills.

SUMMARIZE After you read, write a 4-sentence summary:
Sentence 1: The big idea of the lesson.
Sentences 2–4: How would you explain how to solve the problems in this lesson to a classmate who was absent?

(SQP2RS math adaptation created by Karlin LaPorta and Melissa Canham, Downey Unified School District. Used with permission.)

timelines, flow charts, semantic maps, and so forth. See Buehl (2013) and Vogt and Echevarría (2008) for many examples of effective graphic organizers.

- **Reciprocal Teaching** (Oczkus, 2010; Palinscar & Brown, 1984) Reciprocal Teaching incorporates four metacognitive strategies that teachers and students practice to improve comprehension of text:
  - Predicting
  - Questioning
  - Clarifying
  - Summarizing

  After students have learned each of the strategies, they meet in small groups to discuss which strategies they are using while reading. We have learned through teaching both techniques that when students learn to use the SQP2RS (Squeepers) steps first, they more readily engage in Reciprocal Teaching in small groups. (For detailed lesson plans, task cards, and other RT resources, see Oczkus, 2010).
- **Question-Answer Relationships (QAR)** (Raphael, 1984; Raphael, Highfield, & Au, 2006; Vogt & Echevarría, 2008). Students can become more strategic readers when they learn how to determine the levels of questions they are asked. Some questions can be answered by looking "In the Book" (*Right There* or *Think and Search*). Other questions need to be answered with prior knowledge and experience, and they'll be found "In My Head" (*Author and Me* or *On My Own*).
- **Pre-Questioning** Burke (2002) explains the importance of older elementary students writing their own research questions *before* they use the Internet to find information, so that they steer, rather than surf for answers. In science, students could also use this technique prior to making a hypothesis.
- **Questioning the Author (QtA)** (Beck & McKeown, 2006) Successful learners know how to use question-asking to help them construct meaning while they read (Taboada & Guthrie, 2006). They ask questions and challenge what the author says if something does not make sense to them. Beck and McKeown (2002, 2006) recommend using the instructional approach known as Questioning the Author (QtA)

to develop students' comprehension of textbook material because it sometimes can be disjointed and lacking in connections between ideas and key concepts. QtA values the depth and quality of students' interactions with texts, and their responses to authors' intended meanings. It assists students in developing the ability to read text closely, as if the author were there to be questioned and challenged.

Differentiating Ideas for Multi-level Classes

Within the Strategies component, scaffolding is a focus, and by definition, scaffolding leads to **differentiated instruction**. One way to scaffold for English learners' varied language development needs while teaching learning strategies 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.

- *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 . . .
- *Visualizing*
  - I can picture . . .
  - In my mind, I see . . .
  - If this were a movie, . . .
- *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 . . .

(For more examples of SIOP lesson and unit plans in language arts, see Vogt, Echevarría, and Short, 2010.)

The Lesson

The Rain Forest (Middle School)

The three classrooms described in the teaching scenarios in this chapter are heterogeneously mixed with **native English speakers** and English learners who have mixed levels of fluency. The middle school is in a suburban community, and Hispanic English learners make up approximately 75% 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 rain forests taken from a science news magazine designed for middle school students. This lesson focuses on the rain forest as an ecosystem under attack and the resulting impact on organisms. The following middle school standard from the Next Generation Science Standards (NGSS Lead States, 2013), guided the development of the following lessons:

MS. Interdependent Relationships in Ecosystems. Students who demonstrate understanding can:

- Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.

Common Core State Standards Connections (Reading, Grades 6-8; CCSS, 2010) include:

- Cite specific textual evidence to support analysis of science and technical texts.
- 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 English learners, we look at how each designed a lesson on the rain forest, using the magazine article to introduce the topic to students.

Mrs. Fletcher

Mrs. Fletcher began her lesson by distributing the rain forest article to the students and asking them to read together the title, "The Deforestation of our Rain Forests." 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.* Mrs. Fletcher then began reading the article, stopping once to ask the class, "What do you think will happen to the plants and animals in this rain forest? 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 rain forests 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 rain forest 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 5.3, rate Mrs. Fletcher's lesson on each of the Strategies features.

FIGURE 5.3 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**

Reflect and Apply
Click here to explain your ratings for Mrs. Fletcher's lesson on each of the Strategies features.

Miss Lee

Miss Lee introduced the magazine article by presenting a 15-minute lecture on the rain forest and by showing a variety of photographs of the rain forest 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 and provided assistance, students independently wrote answers to the following questions:

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

FIGURE 5.4 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 a 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**

Reflect and Apply
Click here to explain your ratings for Miss Lee's lesson on each of the Strategies features.

In addition to the rain forest 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 "rain forest" on a search engine to begin their search, and to keep track of the electronic Web sites they explored.

When the students had finished writing their responses, they were to compare them to those of their group members. 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 5.4, rate Miss Lee's lesson on each of the Strategies features.

Mr. Montoya (see Figure 5.5 for a complete 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. After distributing the magazine article on the tropical rain forest to his class, he engaged his students in a SQP2RS activity ("Squeepers;" p. 134). First,

FIGURE 5.5 SIOP® Lesson: Tropical Rain Forests (Science) Grade 7

Key: SW = Students will; TW = Teacher will; SWBAT = Students will be able to . . .; HOTS = Higher-Order Thinking Skills

Content Standards:

Next Generation Standards

- Construct an explanation that predicts patterns of interactions among organisms across multiple ecosystems.
- Cite specific textual evidence to support analysis of science and technical texts.
- 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.

Physical Science

- Students know how light can be reflected, refracted, transmitted, and absorbed by matter.

Key Vocabulary: Vocabulary Self-Collection Strategy (VSS); students will select key vocab after reading; teacher choices for VSS: *rain forest; deforestation; ozone layer*

Visuals/Resources: Article on deforestation of tropical rain forests; photographs from space depicting hole in the ozone layer; chart paper and markers

HOTS:

1. Why are we dependent on the rain forests for our survival on Earth?
2. Compare and contrast the arguments of foresters and environmentalists. With which argument do you most agree? Why?
3. Imagine the Earth in one hundred years. How would you describe it if the present rate of deforestation continues?
4. Pretend you are the president of the U.S. Write a letter to the president of the lumber company that is responsible for the overseas burning of many acres of rain forest. Try to convince her to stop destroying the rain forest and practice sustainable lumber development.

Connections: Prior Knowledge/Building Background/Previous Learning

TW review previously taught steps to SQP2RS including how to effectively survey expository text. In small groups, SW list responses to the following: "Based on our reading and discussions from last week, what are three reasons why some animals and plants have become extinct over time?" SW review notes and text for answers, if necessary.

Content Objectives	*Meaningful Activities: Lesson Sequence*	*Review/Assessment*
SW analyze the impact of deforestation of tropical rain forests on the environment.	TW post and orally explain content and language objectives. TW review SQP2RS process for reading expository texts.	Summative assessment of content objective will be: answers to student-posed questions; class discussion; summary sentences; selection of question for oral debate of HOTS questions; tomorrow's debate

(continued)

FIGURE 5.5 SIOP® Lesson: Tropical Rain Forests (Science) Grade 7 *(continued)*

Language Objectives

SW ask questions and predict key concepts prior to reading about tropical rain forests. SW select and define 2–3 key vocabulary words related to deforestation and rain forests. SW write summary sentences about deforestation, tropical rain forests, and the impact on the environment. SW orally defend a position on deforestation of the rain forests.	SW work in partners to survey rain forest article to generate 2–3 questions they think will be answered by reading article; TW post questions using asterisks to indicate multiple group responses. Class will predict 4–5 key concepts that will be learned by reading article. TW begin reading; SW read to confirm/disconfirm predictions. SW use sticky notes to find answers to posted questions; SW mark in text answers and confirmed and disconfirmed predictions (+ or –). SW with partners find and define VSS words that are important to the topic of deforestation and the rain forests. TW lead discussion of VSS words, clarifying meanings, while SW explain why the selected VSS words related to the rain forest are important to know. SW write summary sentences on the impact of deforestation of rain forests, using key vocabulary selected during VSS. SW select a HOTS question to take home and discuss with parents or caretaker in preparation for informal discussion tomorrow. TW review rules of informal debate.	Questions and predictions about the rain forest posted on chart paper SW show in text answers to questions; where predictions are confirmed. SW in small groups compare answers marked by sticky notes. VSS words and definitions Summary sentences and use of key vocabulary Selected questions

Wrap-up: Check for understanding of key vocabulary and clarify questions about the debate questions; review content and language objectives. Hold up fingers for level of understanding for each objective: 1 = I can do it; 2 = I think I can do it, but I still have questions; 3 = I need more information or review.

Lesson plan format created by Melissa Castillo & Nicole Teyechea. Used with permission.

students were directed to preview the article, starting with the title. He asked them to take one to two minutes individually or with a partner to page through the article, examining illustrations, photographs, bold or italicized print, charts, and bolded questions (**S**urvey). They were also directed to use their survey information to figure out one of the words in the title: *deforestation*. Surveying a text was a familiar strategy for his students because Mr. Montoya had previously taught and modeled how to do it. After about one minute, Mr. Montoya stopped the survey and directed the students to work with a partner to write two or three questions they thought they would find answers to by reading the article (**Q**uestion). When finished, the partners shared their questions with another pair and then with the class. As the groups shared their questions, Mr. Montoya wrote them on chart paper and marked with asterisks those that were generated by more than one group; repeated questions were not rewritten. From the student-generated questions, the class predicted the five most important things they thought they would learn from the article (**P**redict), and Mr. Montoya recorded them on chart paper, next to the list of questions.

Mr. Montoya asked students the meaning of two words in the title: *deforestation* and *ecosystem*. While the first word was new to most students, *ecosystem* was a recent vocabulary word. Therefore, he had students ask group members what strategy they would use to figure out these two words. Most groups recommended "dividing the words into syllables." Mr. Montoya confirmed their responses and wrote on the board:

de + *forest* + *ate* + *ion*
eco + *system*

Together, the class informally defined each of the words, using the words' structure, and students were reminded to enhance these definitions after they read the entire article.

Mr. Montoya then read aloud the first two paragraphs of the article while the students followed along in their copies of the text. At the end of each paragraph, students were asked to take a moment to go back into the paragraph to find sentences with key concepts and/or key vocabulary. They were to underline these for later use. Mr. Montoya repeated the process for two more paragraphs, and then referred students back to the list of predictions on the chart paper. As students read each of the class's predictions and used the sentences they had earlier underlined, they determined if each prediction had been confirmed thus far in the article, or disconfirmed. Next to each prediction that had been confirmed by the text reading, a plus (+) was marked; one prediction that was disconfirmed was marked with a minus (−). One prediction that was unlikely to be discussed in the remainder of the article was marked with a question mark (?). A few additional questions and predictions were then 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 (**R**ead). Again, students were encouraged to underline or circle key content concepts and vocabulary that could be used as supportive evidence. 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.

When students finished the group reading activity, they were directed to find two or three vocabulary words they thought were important to the topic of the rain forest (VSS [Vocabulary Self-Collection Strategy]; see p. 84). Mr. Montoya led the class in a brief discussion of the vocabulary words, including clarification of *deforestation* and *ecosystem*, and the class voted on 10 words or phrases that they felt were most important. These were posted on the chart for future discussion during the unit.

In groups, the students then reviewed the questions that had been posted earlier to see if they had found answers during their reading, and they used sticky notes and strips to indicate in the article where the answers were found. They checked their predictions according to the process Mr. Montoya had previously modeled (**R**espond). Next, students individually wrote summary sentences about what they had read, using their generated questions and predictions as a guide, and the VSS words (**S**ummarize).

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

1. Why are we dependent on the rain forests for our survival on Earth?
2. 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?
3. Imagine the Earth in one hundred years. How would you describe it if the present rate of deforestation continues?
4. Pretend you are the president of the United States. Write a letter to the president of the lumber company that is responsible for the overseas burning of many acres of rainforest. Try to convince her to stop destroying the rain forest and to practice sustainable lumber development.

After reading the questions aloud, Mr. Montoya briefly clarified them, and asked each student to select one. For homework, he asked students to copy the question they chose and to discuss it, along with the article, with parents or caregivers that evening. Students were asked to jot notes as to how they would answer the question, using the information from the article, their discussions at home, and the VSS words. He announced that these questions would be discussed further during the next day's class.

Check your understanding: On the SIOP form in Figure 5.6, rate Mr. Montoya's lesson on each of the Strategies features.

FIGURE 5.6 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 a use **learning strategies**		No opportunity provided for students to use **learning strategies**
4	**3**	**2**	**1**	**0**
14. **Scaffolding techniques** consistently used throughout lesson, 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**

Reflect and Apply
Click here to explain your ratings for Mr. Montoya's lesson on each of the Strategies features.

Discussion of Lessons

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. After accepting some predictions, Mrs. Fletcher moved on, rather than probing the responses to elicit deeper thinking about the topic. Often, teachers ask for predictions, accept them, and move on without expanding on them or coming back to revisit them later in lesson. For example, Mrs. Fletcher might have asked, "What made you think that?" or "How did you come up with that idea? Tell us more." 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 attention to other learning strategies, and perhaps 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 at the end of the reading—providing students with a chance to demonstrate their understanding—she missed the opportunity to model summarizing as a language learning strategy. This would have made the letter-writing activity more accessible to English learners and struggling readers.

- **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 several metacognitive strategies when he engaged his students in the SQP2RS/Squeepers activity for the expository text selection: prediction, self-questioning, monitoring and clarifying, evaluating, and summarizing. 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 information. Further, he incorporated the Vocabulary Self-Collection Strategy (VSS), during which students carefully select and discuss vocabulary that is key to the topic being studied (Ruddell, 2007). Evidence shows that when students are guided in how to select important vocabulary (another language learning strategy) and in how to apply strategies through SQP2RS, their comprehension is enhanced (Blachowicz & Fisher, 2000; Shearer, Ruddell, & Vogt, 2001; Vogt, 2002).

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. Including a "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 rain forests. 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 he or she wishes to read a page, a paragraph, or pass on the oral reading. English 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 rain forest 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 a variety of techniques that provided support with the expectation that his students eventually would be able to apply the various strategies independently. He used several grouping configurations during the lesson, including whole class, small groups, triads, and partners. Students had the opportunity to confer with each other, receiving support and assistance if necessary. Mr. Montoya also carefully modeled the strategies 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. Choice also played a critical role in this lesson when students were encouraged to select key vocabulary and the question for homework that most interested them.

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

Mrs. Fletcher: 1

Miss Lee: 1

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 rain forests, Mrs. Fletcher could have used the student's question to develop inquiry skills in her students, and these questions could then 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 rain forests. 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 "1" 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 rain forest 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 rain forest; and use several key words to yield the information they were seeking while narrowing the field of potential Web sites.

Watch this video and see Sarah Russell continue the lesson on *The Cask of Amontillado* (see Chapter 2, Summary). Using the SIOP protocol, see if you can recognize which of the three features of the Strategies component are apparent this video.

- **Mr. Montoya's** lesson received a "4" for questioning. He incorporated questioning throughout the lesson, first during the SQP2RS (Squeepers) activity, when students generated their own questions based on the text information, and then with the discussion questions. Note the varied levels of the questions at the end of the lesson plan: The first is a literal-level question, the second requires analysis and evaluation, the third requires application and synthesis, and the fourth requires synthesis and evaluation. Mr. Montoya effectively reduced the text's difficulty through the SQP2RS activity, not by lowering the cognitive demand of the questions (see Figure 5.5 for the lesson plan).

Teaching with Technology

After talking with the teachers and discussing the lessons you read about in the Scenarios earlier in the chapter, our tech integrator, Ms. Palacios, offered some technology suggestions to enhance the teachers' lessons.

Student Selector and Question Stems. One afternoon, Ms. Palacios was at the middle school working with the science teacher, Miss Lee, to update her laptop computer. On Miss Lee's desk, Ms. Palacios spotted a large can filled with sticks (such as tongue depressors) that were labeled with students' names. She asked the teacher if she could borrow the can for that week's after-school tech workshop.

Ms. Palacios, while a strong proponent of technology in the classroom, often reminds teachers when adopting a new technology tool to assess whether the tools are actually improving learning. To begin the workshop, Ms. Palacios put the can with the labeled sticks on the table in front of her, and asked the teachers in the room if they were using a similar technique with sticks, index cards, or another analog tool. She then challenged them to consider their tool and to evaluate if a tech tool might be better. Ms. Palacios then showed them *StickPick*, an app available for iOS, Android, or laptops.

To demonstrate the benefits of *StickPick*, Ms. Palacios connected her iPad to the classroom projector, allowing all of the participating teachers to see her screen and observe the process of using the app. She asked Miss Lee to tell her the names of a few of her students and then entered them into the app. Ms. Palacios then asked about their approximate levels and which ones were English learners. Within a few moments they put together a class profile for the small group.

Ms. Palacios gently shook the iPad and the teachers noticed that one of the students was randomly picked. The student screen showed the pre-set questions with stems. After choosing a stem and hearing the student's response to that question, the app allowed the user to assess the student's response with a quick rubric that Ms. Palacios demonstrated. She repeated the process, inputting scores for hypothetical student answers. The teachers then saw that data from these responses were compiled as simple statistics in student reports. After seeing the app in action, the teachers were excited to try the new tool that could not only replace cans of sticks or stacks of index cards, but also enhance their classroom discussions.

Miss Lee decided to test it out on one section of her middle school science class. To launch a review for the rain forest unit, she posted two questions on the board and asked the students to discuss them with a partner, informing them that there would be follow up questions after turn-and-talk time. After allowing the partners to work for a few moments, Miss Lee started using the app in her phone to help her call on students and prompt them with questions. Reflecting on the discussion portion of the lesson, Miss Lee found the app to be helpful. She looked forward to seeing trends in students' responses, but also felt the tool would encourage her to maintain consistency when asking various types and levels of questions.

Other terms for this type of tool: random student generator, random name picker

Related Tools: *Pick Me!* app for iOS, *Make My Groups* iOS

Other tools worth exploring*: Group picker*

Check Your Understanding
Click here to check your understanding of Chapter 5, Strategies.

Summary

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:

- In this chapter, we have described how to promote critical and strategic thinking for all students, but most especially for English learners. Learning is made more effective when teachers actively assist students in developing a variety of learning strategies, including those that are cognitive, metacognitive, and language based. Learning strategies promote self-monitoring, self-regulation, and problem solving.
- 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 and frequent repetition; 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, English learners can participate in lessons that involve strategic and critical thinking.
- We frequently remind teachers, "Just because the students don't read well doesn't mean they can't think!" A similar adage to this might be said of English learners: "Just because they 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. Select student learning strategies that are appropriate to a lesson's objectives?
   b. Incorporate explicit instruction and student practice with learning strategies when planning lessons?
   c. Identify techniques for verbal, procedural, and instructional scaffolding?
   d. Identify language learning strategies to include in lessons?
   e. Write lesson plans that include varied techniques for scaffolding student understandings?
   f. Write a set of questions or tasks on a chosen topic with increasing levels of cognition?
2. Describe a learning situation you participated in or observed in which the teacher modeled how to do something. Describe a recent lesson in which you modeled a process, gave directions for students to follow, or provided steps for an experiment. What did you have to do to ensure that students could follow

your instruction? What worked and what didn't? How could you have made things more clear?

3. If the concept of scaffolding is somewhat new for you, the definition in the glossary may be helpful, as may be the following construction analogy. Picture a high-rise building as it is under construction. As new floors are added, scaffolding is built along the outside of the previously constructed floor (or level). This scaffolding allows access for the construction workers—they need to be able to get into the upper stories in order to continue the building process.

   Now, think of a content topic that you must teach that is challenging to students acquiring English as a second (or multiple) language. What types of scaffolds must you put in place for your students to successfully access the lesson's content and language objectives?

4. 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 English learners? Use one of the taxonomies (Bloom's [1956] or Anderson & Krathwohl, 2001), or the Depth of Knowledge levels (Webb, 1997) to guide you.

5. The answers to higher-order thinking questions may involve language that is beyond a student's current level of English proficiency. Discuss the advantages and/or disadvantages of allowing English learners to use their **native language** for part of the lesson, if doing so enables them to participate at a higher cognitive level.

6. Using the SIOP lesson you have been developing, add meaningful activities that augment learning strategies. Determine how to scaffold English learners' access to your objectives. Write several higher-order thinking questions or tasks for your lesson.

CHAPTER 6

Interaction

Learning Outcomes

After reading, discussing, and engaging in activities related to this chapter, you will be able to meet the following **content** and **language objectives**.

Content Objectives

Select a variety of activities that promote interaction and incorporate them into lesson plans.

Design grouping structures that support lesson content and language objectives.

Identify techniques to increase wait time.

List ways that CCSS collaborative conversations and discussions are aligned with the Interaction component.

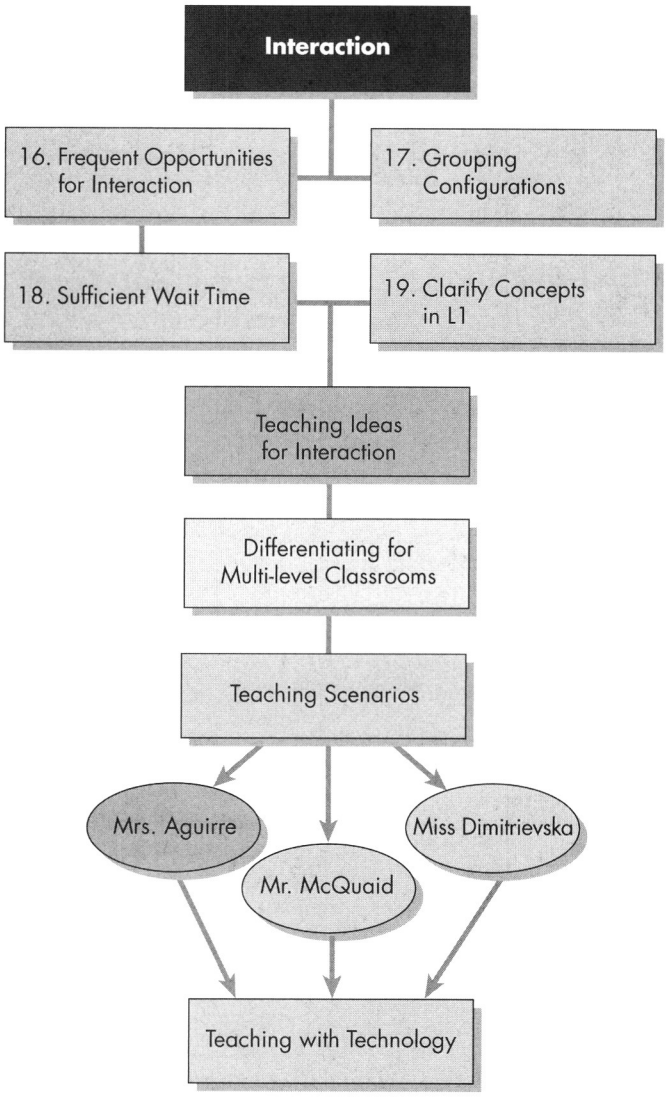
Identify resources to support student clarification in the native language.

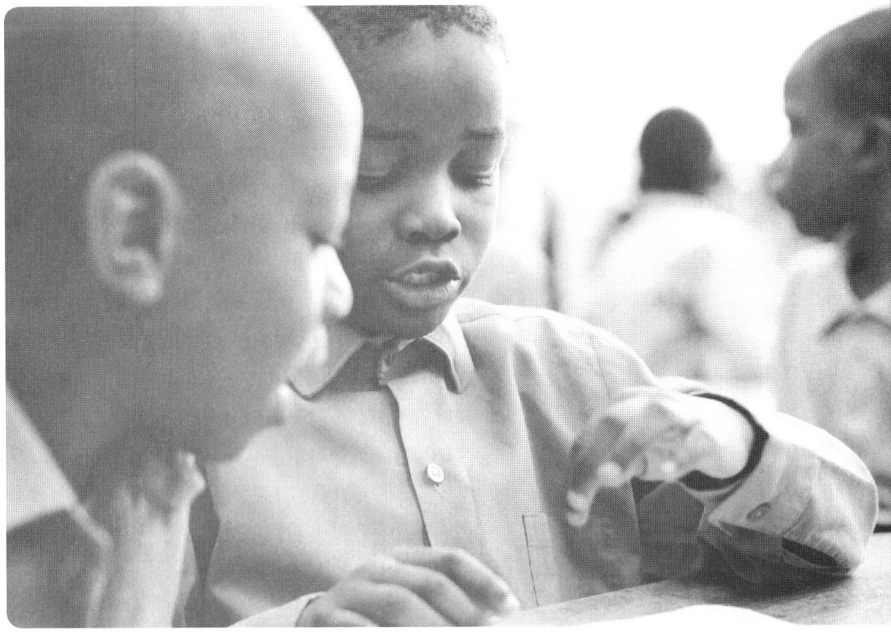
Language Objectives

Explain in writing the purpose of student–student interaction for language development.

Describe techniques to reduce the amount of teacher talk in a lesson.

Practice asking questions that promote student elaboration of responses.





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Talking, matters for learning. In fact, talking, listening, and thinking are a powerful combination of processes associated with learning, and each strengthens the others (City, 2014). It has never been more important to provide students with opportunities for talking, listening, and thinking in class about concepts, ideas, and information. At the same time that CCSS and other state standards have expectations that students will **engage** in substantive, collaborative discussions around text and concepts, outside of the classroom, students are increasingly communicating with electronic devices rather than face to face, and they aren't as exposed to extended discourse as they might have been a few years ago. 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). 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 **English learners'** understanding (Vygotsky, 1978). Participation in discussions with peers provides the language practice time that English learners need. When working with the whole group, students have few opportunities for practice, but conversation time increases significantly when working in partners or groups of 3–4 students.

For English learners to understand and use academic English, they need to be provided with structured opportunities for practice in all subject areas throughout the school day, not just during a designated time. With the CCSS and other state standards' emphasis on high levels of language use, *all* teachers are teachers of English language development, even if students also have access to excellent **ESL** specialists. The integration of language development across the curriculum is vital

and is recognized by some states as part of their instructional framework (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 English**. It is recommended that English learners have daily opportunities to talk about content in pairs or small groups, practicing and extending material already taught (Baker, et al., 2014). Unfortunately, this is typically not the case. In a classroom observation study, there was evidence of "academic dialog and discussion" in only .5% of the 1,500 classrooms observed (Schmoker, 2006).

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 English learners were more engaged academically when working in small groups or with partners than they were in whole-class instruction or individual work (Brooks & Thurston, 2010). For students to connect with school and engage in learning at a level that will result in high achievement, we need to provide them with opportunities to interact with one another, to discuss and "puzzle over" genuine problems (Wiggins & McTighe, 2008). 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 including the **Common Core State Standards**.

Watch this video as Dr. MaryEllen Vogt discusses the importance of interaction. What does she say about ensuring sufficient time for students to interact with one another? How might you provide more time for interaction with your students?

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" (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 study with English learners (Porath, 2014), the teacher learned that by talking less and listening more, she was able to gain deeper insight into her student's learning needs and strengths. In our own work, we observe teachers doing a significant amount of talking rather than providing the impetus for a discussion and then listening to what students have to say, to the teacher or one another.

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. (Echevarría, 1995; Saunders & Goldenberg, 1999; Wasik & Iannone-Campbell, 2012). Also, new understandings are co-constructed through interactions (Fisher & Frey, 2013; McIntyre et al., 2010).

- **Oral language development.** Being exposed to and interacting with language that is just beyond their independent speaking levels move students to higher **levels of language proficiency**. However, these interactions must be carefully planned and carried out to yield gains in oral language (Saunders & Goldenberg, 2010).
- **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, 2008; Poldrack et al., 2001).
- **Increased motivation.** Interaction with others is an important component of reading instruction that increases motivation and comprehension (Guthrie & Ozgungor, 2002).
- **Reduced risk.** The typical question-answer sessions in which teachers call on students may be threatening to students, particularly those unprepared to respond. Some students cannot focus on the content in this setting because it triggers the brain's "threat response" (Jensen, 2005, 2008). Having young students talk in pairs or in small groups minimizes the risk and allows ideas to flow more easily.
- **More processing time.** Students need time to process after learning. Direct instruction should be limited to short increments followed by time for discussion.
- **Increased attention.** Use of pairs or teams can heighten attention levels. Students may be asked to work together to compare/contrast material learned, group and regroup the material, resequence it, or retell it from another point of view (Marzano, Pickering, & Pollock, 2001).

We find that it is both interesting and helpful to analyze actual transcripts from lessons to demonstrate the kind of teacher dominance that is so common in classrooms. The following transcripts are from a pilot SIOP study (Echevarría, Greene, & Goldenberg, 1996) in sixth-grade social studies classes. The teachers were videotaped teaching the same content about consumerism to English learners, with the first using a typical approach found in general education classes and the other using SIOP. Both classes had approximately 25 students, and in this lesson students were learning how to read labels on clothing and on a bottle of antiseptic.

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.

STUDENT: Won't catch fire.

TEACHER: It will not burn, won't catch fire. Right *(continues reading)*. "To retain the flame-resistant properties"—what does "to retain" mean?

STUDENT: *(unintelligible)*

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: 'Cause it'll take off the ...

TEACHER: It'll take off the what?

STUDENTS: *(fragmented responses)*

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?

STUDENT: No.

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: What's it for.

TEACHER: What is it for, when do you use this? Okay. What do directions, what is that for, Victor?

STUDENT: How to use ...

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?

STUDENTS: *(various mumbled responses)*

TEACHER: How you don't use it. This is what you don't do.

The teacher in this case tended to finish sentences for the students and accept any form of student comment without encouraging extended expression. In examining the exchanges, what did the teacher do when students gave partial or incorrect answers? He answered the question himself. Students learn that they can disengage because the teacher will continue with the "discussion."

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?

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

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 ..."

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.)*

TEACHER: What can you learn from this label?

STUDENT: It kills, oh I know.

TEACHER: Steve?

STUDENT: It kills germs.

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.

STUDENT: Ten 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 …

The SIOP teacher allowed for a balance of teacher-to-student talk and encouraged student participation. She asked questions, waited for students' responses, and restated or elaborated on the 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.

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**. When implemented consistently, these practices will facilitate students' ability to meet the Common Core State Standards and other state standards, especially in the areas of listening and speaking.

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 16:

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

Watch this video about academic language. You will see two teachers talking about the importance of opportunities for discussion and interaction. How does the teacher describe "intentional noise"?

Oral Language Development

This SIOP feature 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. As noted in the CCSS, "students must have ample opportunities to take part in a variety of rich, structured conversations" (National Governors Association Center for Best Practices and Council of Chief State School Officers, 2010a).

The findings of the National Literacy Panel on Language Minority Students and Youth (August & Shanahan, 2006) revealed 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); these two areas are particularly challenging for English learners and are reflected in the Common Core State Standards. 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. Some other important findings include:

1. There has long been recognition that language, cognition, and reading are intimately related (Tharp & Gallimore, 1988). 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., *cloud*, *flash drive*, and *terabyte*) 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 ("Don't forget to save it on the flash drive to take to work."). 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. Language proficiency is a precursor to effective reading comprehension. Because an understanding of language makes acquiring knowledge possible, deriving meaning from texts in English will be challenging for English learners who may have difficulty reading unfamiliar words or comprehending their meaning.
3. Researchers who have investigated the relationship between language and learning suggest that interactive approaches—where there is more balance in student talk and teacher talk—are effective in promoting meaningful language learning opportunities for English learners (Cazden, 2001; Echevarría & Short, 2010; Fisher & Frey, 2013; McIntyre, et al, 2010; Saunders & Goldenberg, 2010; Tharp & Gallimore, 1988; Toth, 2013; Walqui, 2006). Called *collaborative conversations* (grades K–2) or *collaborative discussions* (grades 3–6) in the Common Core State Standards, teaching approaches that emphasize oral language development and promote meaningful discussions around academic topics and texts have also been called ***instructional conversations*** **(ICs)** (Goldenberg, 1992–93) and *academic conversations* (Zwiers & Crawford, 2009). This mode of instruction has some of the following characteristics:

- Emphasizes active student involvement and meaningful language-based teaching.
  - Uses extended expression around text and topics so that students develop content knowledge and language proficiency simultaneously.
- Differs 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, in the typical format of an IC:
  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.
  b. Next, the teacher shows the text to be read and asks prediction questions.
  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.
  d. Students are asked to support their comments with evidence from the text. Figure 6.1 illustrates the contrast in approaches.

FIGURE 6.1 Contrast Typical Instructions with IC

Typical 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 natural 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

A conversational approach is particularly well suited to English learners who frequently find themselves significantly behind their peers in most academic areas, usually due to low reading levels and underdeveloped language skills. ICs provide a context for learning in which language is expressed naturally through meaningful discussion. Further, the skills developed through ICs meet the Common Core State Standards in the area of *Comprehension and Collaboration* in English Language Arts, *Speaking and Listening*. The following examples are taken from grades 11–12, but are similar across grade levels leading up to this level.

SL.11-12.1. Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 11–12 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

- Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
- Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.
- Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.
- Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.

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A rich discussion, or conversational approach, has advantages for teachers as well and contributes to a culturally responsive classroom. Through discussion teachers can more naturally activate the class's background knowledge as they encourage students to share their knowledge of the world and ideas about how language works. When teachers and students interact, it fosters a supportive environment and builds teacher–student rapport. Also, when working in small groups with each student participating in the discussion, teachers are better able to determine individual levels of understanding; weak areas are made transparent.

As mentioned previously, however, teachers typically do most of the talking in class. Of course, teachers have 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 ideas, opinions, and answers.

Effective SIOP teachers:

- Explicitly teach students rules for engaging in high-quality discussions to ensure that they take turns, stay on topic, actively listen, build on one another's comments, and are respectful (Short & Echevarría, 2016).
- Structure their lessons in ways that promote student discussion. They also 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.
- Encourage extended expression from students when discussing the lesson's concepts. The teacher elicits more elaboration from students by using a variety of techniques that will take students beyond simple yes or no answers and short phrases (Fisher & Frey, 2013; Saunders & Goldenberg, 2007; Toth, 2013). 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 … ?" 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?"
- 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, teachers call on other students to extend the response: "Vesna said . . . can you add to that?"

Watch this video and think about a technique that you might use to encourage interaction with your students.

It takes time and practice for these techniques 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 a child's short phrase. The preceding transcript shows how the first teacher spoke for students instead of encouraging students to complete their thoughts. The following segment from the transcript provides another example.

TEACHER: What do "directions" … what is that for, Victor?

STUDENT: How to use …

TEACHER: How to use. Okay, so "indications" is when you use it, "directions" is how you use it, and "warnings" is what?

STUDENTS: *(various mumbled responses)*

TEACHER: How you don't use it. This is what you don't do.

In this segment, the non-SIOP teacher could have encouraged a more balanced exchange between himself and the students. First, he did not encourage students to completely express their thoughts; he accepted partial and mumbled answers. Second, he answered for the students, dominating the discussion. It is easy to imagine how students could become uninterested, passive learners in a class in which the teacher accepts minimal participation and does the majority of the talking.

The SIOP teacher approached students–teacher interaction differently:

TEACHER: What can you learn from this label?

STUDENT: It kills, oh I know.

TEACHER: Steve?

STUDENT: It kills germs.

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.

STUDENT: Ten 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 …

The SIOP teacher let the students have time to express their thoughts (e.g., 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 nominated students who volunteered to talk and repeated what they said so that the class could hear a full response (e.g., Veronica).

Culturally responsive SIOP teachers plan instruction so that students have opportunities to work with one another on academic tasks, using English to

communicate. Through meaningful interaction, students can practice speaking and making themselves understood. That implies asking and answering questions that probe for evidence, negotiating meaning, clarifying ideas, giving and justifying opinions, making well-reasoned statements, and more. Students may interact in pairs, triads, and small groups. Literature circles, think-pair-share, Jigsaw readings, debates, and science experiments are only a sample of the types of activities teachers can include in lessons to foster student–student interaction and discussion. An interactive approach has been shown to improve the achievement of English learners with learning disabilities (Echevarría, 1995) as well as typically developing English learners (Dockrell, Stewart, & King, 2010; Saunders & Goldenberg, 2007; Van de Pol, Volman, & Beishuizen, 2010).

SHELTERED INSTRUCTION SIOP® OBSERVATION PROTOCOL

SIOP® FEATURE 17:

Grouping Configurations Support Language and Content Objectives of the Lesson

In order to meet the Common Core standards especially for Speaking and Listening, teachers provide a variety of grouping configurations including whole class, partners, and small group. The intent of CCSS and other state standards is to engage students more directly in learning by having a balance of teacher presentation and productive group work by students. 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, and process it. Organizing students into smaller groups for instructional purposes provides a context that whole-class, teacher-dominated instruction doesn't offer.
- Allowing students to work together to critique or analyze material, create graphic representations of vocabulary terms or concepts, or summarize material makes information more meaningful and increases learning.
- Changing grouping structures and activities enhances learning. It is recommended that when working with young learners, content, lectures, and cognitive activities should be limited to 5–10-minute periods each. With adolescents, content sessions should be limited to 10–15 minutes. These focused learning periods should be followed by interactive activities such as pair-shares or model building (Jensen, 2008).

In Chapter 5 of this book we present a process for teaching that slowly and purposefully shifts the workload from teacher to students and requires a variety of grouping configurations. As seen in Figure 5.1, "Scaffolding: Gradual Increase of Student Independence," the teacher uses a variety of groupings such as presenting information to the whole class and explicitly teaching part of the lesson, followed by a different grouping configuration in which students are given an opportunity to collaborate (students discuss ideas and information they learned during explicit teaching and guided instruction—not new information—and practice using

academic English). Then, when students have acquired sufficient background knowledge and language, they apply the information individually. Varying grouping structures provides more interaction, and students have more opportunities to participate actively in the lesson. In contrast, when students aren't learning, it is often because there has not been the critical scaffolding that Figure 5.1 represents. That is, teachers go directly from "I do it ... you watch" to "You do it alone."

In small, guided instruction groups, the teacher naturally differentiates instruction as she works on focused skill instruction, language development, and/or **assessment** of student progress. Small-group instruction provides more opportunity to discuss text (Saunders & Goldenberg, 2007, 2010) and increases reading achievement (Vaughn et al., 2003). 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. These activities are purposeful and meaningful, and they lead to increased learning. In our work, we have seen this type of grouping work successfully from kindergarten through high school. In their book, Gibson and Hasbrouck (2008) provide a wealth of ideas for grouping effectively, including how to organize the classroom and schedule activities, and how to use a rotation chart for flexible grouping.

But not just any kind of grouping works well. It is important to acknowledge the following information about grouping and think about it as you work with instructional groups.

- Grouping by ability, which divides students for instruction based on their perceived capabilities for learning (low group, average group, high group) has serious academic and social effects for students who are not in the top group (Callahan, 2005; Hiebert, 1983; Lucas, 1999). Futrell and Gomez (2008) make this point: "We cannot ignore 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" (p. 76).
- English 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 English learners with low-achieving students regardless of their academic ability and performance. This practice deprives English 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 vocabulary, and allow less wait time during questioning. In addition, they spent twice as much time on behavior and management issues (Oakes, 1985; Vogt, 1989).

- All students, including English learners, benefit from instruction that frequently includes a variety of grouping configurations. Whole-class groups are beneficial for introducing new information and concepts, modeling processes, and review. Flexible small groups promote the development of multiple perspectives and encourage collaboration. Partnering encourages success because it provides practice opportunities, scaffolding, and assistance from classmates (Flood, Lapp, Flood, & Nagel, 1992; Tompkins, 2006).

Effective SIOP classes are characterized by a variety of grouping structures, including individual work, partners, triads, small groups of four or five, cooperative learning groups, and whole class. Groups also vary because they may be homogeneous or heterogeneous by gender, language proficiency, language background, and/or ability. The decisions teachers make about how to group students should be purposeful, not arbitrary.

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, English learners with strong decoding skills would not read the same text as an English learner who is still working on mastering phonics. Advantages of grouping English 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 should be discouraged 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 English learners to the same group regularly is *not* good practice, especially when total responsibility for teaching is turned over to a paraprofessional. In SIOP classes, English learners are given the same access to the curriculum and the teacher's expertise as native-English speaking students.

Using a variety of grouping configurations facilitates learning in a number of ways.

- It helps to maintain student interest because it is difficult for some students to stay focused when the teacher relies almost exclusively on whole-class instruction or having students work individually.
- Moving from whole class to small groups or partners adds variety to the learning situation and increases student involvement in the learning process.
- It provides much-needed movement for learners. When students are active, their brains are provided with the oxygen-rich blood needed for highest performance. Movement may be especially important for learners with special needs (Jensen, 2005).

It is recommended that at least two different grouping structures be used during a lesson, depending on the activity and objectives of the lesson.

In every case, peer discussions need to be structured so that students know their roles and responsibilities, and they need to be supervised appropriately. As more teachers move to implementing small group structures to address CCSS standards, 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® 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. 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. But, teachers may need to practice using wait time so that they 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. Imagine the impact of wait time on English 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 (Honea, 1982; Rowe, 2003; Swift & Gooding, 1983; Tobin, 1987).

Effective 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 English 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, English learners benefit from a patient approach to classroom participation, in which teachers wait for students to complete their verbal contributions.

While effective SIOP teachers provide sufficient wait time for English learners, they also work to find a balance between wait time and moving a lesson along. Some youngsters 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 they can check their answers against the final answer.

SIOP® FEATURE 19:

Ample Opportunity for Students to Clarify Key Concepts in L1 as Needed with Aide, Peer, or L1 Text

Best practice indicates that English learners benefit from opportunities to clarify concepts in their first language (**L1**). In fact, the National Literacy Panel on Language Minority Students and Youth found that academic skills such as reading taught in the first language transfer to the second language (August & Shanahan, 2006). Although SIOP instruction involves teaching subject-matter material in English, students are given the opportunity to have a concept or assignment explained in their L1 as needed. Significant controversy surrounds the use of L1 for instructional purposes, but we believe that clarification of key concepts in students' L1 by a bilingual instructional aide, peer, or through the use of materials written in the students' L1 provides an important support for the academic learning of those students who are not yet fully proficient in English.

This feature on the SIOP may have "N/A" circled as a score because not all SIOP classes need to use students' L1 to clarify concepts for them (especially for advanced English learners).

However, with Web sites and apps offering word translation capabilities and bilingual dictionaries available in book and computer program formats, all SIOP classrooms have access to resources in most of the students' **native languages**.

Teaching Ideas for Interaction

In the section that follows, you will find some teaching ideas to help you with preparing SIOP lessons.

- In math lessons, plan for targeted discussions in which students are taught a variety of discussion structures such as explaining their thinking, justifying the problem-solving strategy they used, and troubleshooting and revising their work (Kazemi & Hintz, 2014); these skills are reflected in the Common Core standards for Mathematical Practice.
- With appropriate supervision, students can interact with each other through a class electronic list, shared research files on a school network, or a planned pen pal e-mail or video camera exchange on the computer with another class elsewhere in the world.

- Expose high school students to real-world business experiences, the basics of entrepreneurship, and charitable donation by selling items on eBay as a class or club project. Students interact with one another as they collect items to sell, write descriptions of the items, download pictures, determine price, and work together to pack and ship the items. They also interact with customers through e-mail. The classroom setting provides supervision of the project, and the process is structured and documented through use of forms students complete along the way. Proceeds made are donated to charities selected by students. For English learners, this type of activity allows for full participation due to the context and hands-on nature of the project. Support may be provided by others in the group, as needed.
- In a discussion of the importance of movement for learning at all ages, Jensen (2005) suggests a number of games such as rewriting lyrics to familiar songs in pairs or teams as a content review, and then performing the song; playing Simon Says using content such as "Point to Rome. Point to the first country the Romans conquered," etc.; or role-plays, charades, or pantomime to review main ideas or key points.
- Students may interact by sharing their expertise. In an Expert Stay & Stray activity, students work in small groups on an assignment, such as completing a chart summarizing the steps to solving math problems or key points from a unit of study. Students in the group number off. The teacher calls a number, e.g., #4, and student #4 takes his or her group's chart and goes to another table and shares the information with the new group. Then the student remains with the new group as the teacher calls another number, e.g., #1. Student #1 takes the chart of the student who shared (#4)—which encourages students to listen carefully—and goes to a new group and shares the information from the chart. This activity provides students with an opportunity to discuss the information while completing the chart, then to share the information orally while others listen attentively, and to paraphrase someone else's explanation of the chart. It can be adapted to any content area or grade level.
- Start the class each day with students in pairs and have them tell each other the day's content objective in a Partner Share. Then they move to find another partner and tell them the language objective.
- An activity appropriate for all levels and most content areas is called Dinner Party (or Birthday Party for K–2). For instance, during reading instruction, students would respond to the prompt: "Suppose you could have a dinner party for authors or poets that we have studied. Whom 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 (Vogt & Echevarría, 2008).

- 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 classes, journaling is typically between teacher and child 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 partnered with one another, if needed. The teacher participates in the dialogue every so often to monitor students' writing and to model correct writing.
- To support English learners, allow the techniques made popular by a television show: "50–50" and "phone a friend." Students who are unsure of an answer or are unable to articulate it well might ask to choose between two possible responses provided by the teacher (50–50) or ask a classmate for help (phone a friend). However, to ensure practice with the language, the original child must give "the final answer" to the teacher.

Watch this video to see how students can work together to collect data, graph it, and present their findings. Notice how each student has a specific role to ensure participation and engagement.

Differentiating Ideas for Multi-level Classes

We know that most classes with English learners are made up of students with multiple proficiency levels. Even those students designated as Emerging, for example, may have stronger listening skills than writing skills or stronger reading skills than speaking skills. Teachers have at their disposal a variety of ways to differentiate spoken English to make it comprehensible for our diverse English learners. The Interaction component lends itself well to meeting the variety of instructional needs and proficiency levels of students in your classrooms. Several considerations include the following:

- Use sentence frames for both oral and written answers. "It has often been said that teachers, rather than students, use academic language in the classroom. However, our students won't learn academic vocabulary solely by listening to us; they need to practice using it themselves" (Donnelly & Roe, 2010, p. 135). Sentence frames have been mentioned several times in this book as effective ways to scaffold English learners while they are acquiring their new language. Donnelly and Roe (2010, p. 132) suggest that teachers write sentence frames according to their students' English proficiency by:

  1. Writing sentences that express a language function (e.g., compare/contrast), and replacing target language with blanks.
  2. Replacing target words with blanks.
  3. Creating a word bank or a list of words that were eliminated from the original sentences.

What is left are sentence frames with fill-in spaces that are **differentiated** for different language levels. Lower level frames are not as complex as those for more English-proficient students. For example: The expected outcome for students at levels 2, 3, and 4 working with comparison/contrast might be:

Level 2. Sentence frame with vocabulary underlined: *Carrots are orange. Peas are green.* (simple sentence)

Sentence frame with vocabulary removed: _____ are _____.

Level 3. Sentence frame with vocabulary underlined: *Carrots* and *peas* are both *vegetables*, but *carrots* are *root vegetables* and *peas grow on vines*. (comparative sentence)

Sentence frame with vocabulary removed: _____ and _____ are both _____, but _____ are _____ and _____.

Level 4. Sentence frame with vocabulary underlined: *The main difference between carrots and peas is that carrots are root vegetables while peas grow on vines.* (complex comparative sentence)

Sentence frame with vocabulary removed: The main difference between _____ and _____, is that _____ are _____, while _____.

Sentence frames can use familiar content such as illustrated above, or they can use specific topics that are being studied. Other language functions, such as cause/effect, problem/solution, and so forth can serve as the basis of the differentiated sentence frames.

As you can see, less proficient students will use sentence frames to participate in discussions, Dialogue Journals, and written work. More proficient speakers have a model of correct syntax to assist their contributions.

- Allow older students to choose between two or more assignments to complete. When students have options, they are more engaged, feel more confident, and perform better (Sparks, 2010). Some students may opt for an oral presentation to demonstrate their knowledge rather than a written assignment. Lower proficiency students may be more comfortable with a different mode of assignment than more proficient students, and having some control over their learning may increase their achievement.
- Pair students with more proficient speakers to scaffold their participation. More proficient speakers have an opportunity to practice using academic English and negotiating meaning with peers while less proficient students have the support needed to complete academic tasks.
- Differentiate wait time by becoming accustomed to allowing more wait time for beginning English speakers and those students who require more time for processing information. More advanced speakers will require less wait time. However, don't forget that all students benefit from time to think about questions or new information.
- Partner students together who speak the same **primary language** for native language support as needed.

The Lesson

Addition and Subtraction (First Grade)

The first-grade teachers in this chapter, Mrs. Aguirre, Mr. McQuaid, and Miss Dimitrievska, work in a suburban school that has a 33% English learner population. Their classes have an even distribution of English learners, each with approximately 10% in their class. Although most of these students are at the intermediate to advanced levels of English proficiency, they still benefit from having teachers use SIOP techniques to increase their understanding of concepts and participate fully in lessons.

The teachers in this school plan math units around the Common Core State Standards. In the math lessons described, all classes are working on Operations and Algebraic Thinking Standard 6: *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., 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).* (© Copyright 2010. National Governors Association Center for Best Practices and Council of Chief State School Officers. All rights reserved.)

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 to the children the content and language objectives for the lesson 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 children raised their hands and she called on two to give their answer. 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 him or her on the spot so she drew another name. Most students were able to articulate 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 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 6.2, rate Mrs. Aguirre's lesson on each of the Interaction features.

Mr. McQuaid

The lesson began with Mr. McQuaid having the class chorally read the content and language objectives. Mr. McQuaid asked students to turn to their partner and tell each other 3 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 and asking the class to solve the problems efficiently in pairs and explain how they arrived at their solutions. With each problem he called on different pairs to report out how they arrived at their solution, which provided accountability for the pairs. If a group had difficulty articulating the

FIGURE 6.2 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 key concepts in L1** as needed with aide, peer, or L1 text		Some opportunities for students to **clarify key concepts in L1**		No opportunities for students to **clarify key concepts in L1**	

Reflect and Apply

Click here to explain your ratings for Mrs. Aguirre's lesson on each of the Interaction features.

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 paired English learners with native English speakers. 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. Some of the English learners spoke with their partner in their home language to express their ideas.

After all students 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 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 6.3, rate Mr. McQuaid's lesson on each of the Interaction features.

Miss Dimitrievska

Known to her students as Miss D, she 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 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. 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 2 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.

FIGURE 6.3 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 key concepts in L1** as needed with aide, peer, or L1 text		Some opportunities for students to **clarify key concepts in L1**		No opportunities for students to **clarify key concepts in L1**	

Reflect and Apply

Click here to explain your ratings for Mr. McQuaid's lesson on each of the Interaction features.

Although students enjoyed using the clickers, at times Miss D asked for the response before some of the English 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 English learners spoke in their native 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

FIGURE 6.4 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 key concepts in L1** as needed with aide, peer, or L1 text		Some opportunities for students to **clarify key concepts in L1**		No opportunities for students to **clarify key concepts in L1**	

Reflect and Apply
Click here to explain your ratings for Miss Dimitrievska's lesson on each of the Interaction features.

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 6.4, rate Miss Dimitrievska's lesson on each of the Interaction features.

Discussion of Lessons

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 for students to be actively engaged in learning and to have opportunities to interact productively with peers and teachers. However, many teachers struggle to relinquish "sage on the stage" type of teaching where most often the teacher talks and students listen. In the lessons, the teachers varied in the opportunities they provided to their students for interaction.

- **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 response to teacher prompt 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 English or help with concepts volunteer to participate in lessons. It is very difficult to determine the needs of students and gauge their understanding when teaching the way Mrs. Aguirre did.

  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 a chalkboard, 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 and Miss D's** lessons received a "4" because they both 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 teachers could readily ascertain who understood the strategies and was able to apply them and who needed more support.
- **Miss D** 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 has a role to play, 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. English learners 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 work that allowed students to create and solve problems and to articulate their reasoning. Varying grouping structures allowed for deeper understanding of the concept and also provided practice using academic English.
- **Miss D's** lesson also provided optimal opportunity for interaction. She used whole-class instruction, individual response using clickers, and partner work. Both Mr. McQuaid's and Miss D's lessons 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.
- **Mr. McQuaid** interacted with students in a way that allowed time for students 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 English learners need to have a little extra time when participating in class.
- Although English was **Miss D**'s second language and she understands English learners' needs, she felt pressure to move the lesson along and didn't always provide sufficient wait time.

19. *Ample Opportunity for Students to Clarify Key Concepts in L1 as Needed with Aide, Peer, or L1 Text*

    Mrs. Aguirre: 0

    Mr. McQuaid: 4

    Miss Dimitrievska: 2

- 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. Therefore, her lesson received a "0" 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 when arriving at solutions. Participation in either language was accepted.

- **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 "2" because opportunities to use L1 were limited, even when it was clear that students needed that support.

(For more examples of lesson and unit plans in mathematics for grades K–12, see Echevarría, Vogt, & Short, 2010c.)

Watch this video to see Dr. Jana Echevarría discuss the importance of Interaction and the features in the Interaction component. What did the first-grade teacher say about the benefit of the SIOP Model for her students, and what struck you most about how the students interacted? What did teachers do to facilitate interaction?

Teaching with Technology

After talking with the teachers and discussing the lessons you read about in the Scenarios earlier in the chapter, our tech integrator, Ms. Palacios, offered some technology suggestions to enhance the teachers' lessons.

Book Creator: Before beginning the unit on addition and subtraction, Mrs. Aguirre sent an e-mail to Ms. Palacios on behalf of her first-grade team of Mr. McQuaid and Miss Dimitrievska. The elementary wing of the school recently received an iPad cart for shared use and they were curious about ideas for using the new tablets. In order to explore options, the three first-grade teachers and the tech integrator planned a workshop during an afternoon inservice. To start, the teachers explained the objectives of their current unit on addition and subtraction. Ms. Palacios listened carefully, gave each of the teachers an iPad, and then walked them through some options. They all agreed that they wanted a tool that would enhance their unit, yet also one that would be feasible for first graders to use. The team discussed screencasting as a possible option, but decided on *Book Creator*, an app for making e-books.

Ms. Palacios walked the teachers through the app, showing them how to create their own books by adding photos, making text boxes, editing the text, and adding voice recordings. Mrs. Aguirre brought some of the manipulatives from the unit to the table and the teachers explored ways to include the regular classroom materials in photos. Mr. McQuaid thought the students could take photos of their manipulatives and write captions for the photos to demonstrate their understanding of number sentences.

Before launch day, Ms. Palacios arranged the apps on the home screen of the iPad, placing unneeded apps into folders on another screen. Students only needed to use the *Book Creator* app and the camera. Because it was the first time that many of the students would be using an iPad, Ms. Palacios recommended letting them have some unstructured time with the device before the lesson. This gave the students a chance to explore the tablet.

During math time, each teacher set up a center where a small group of students would learn how to use the app. Then, working in pairs, the students used the app to take photos of different combinations of

(continued on the next page)

manipulatives. They used the *Book Creator* app to import photos and create captions for each photo, including an equation. The app facilitated discussion among the students. To avoid arguments, Ms. Palacios recommended that the teachers to set up a timer at five-minute intervals. Each student took turns managing the iPad for five minutes and then would allow the partner to take over.

To extend the activity and challenge her students, Mrs. Aguirre also had some students create word problems for other students to solve. For additional oral language practice, Miss Dimitrievska showed students how to use the voice recording option to narrate the process of solving equations. After the lessons, Ms. Palacios came to check in on the teachers and assisted them with transferring the student-created e-books into the *iBooks* app, which allowed them to share the student work with parents during conferences.

Other terms for this type of tool: e-book creator, book creator app

Related Products: *iBooks Author*, *My Story*, *Scribble Press*

Blogging for Students: A number of tools are available that allow educators to offer opportunities for student interaction beyond the classroom walls and after the school day. Blogging is one such tool. While blogs may prove challenging for the first graders described in this chapter's teaching scenarios, they are tools worth exploring for a number of reasons. Class blogs offer a safe playground for preparing our students to be responsible digital citizens while offering them chances to interact, read, write, and give meaningful feedback.

Platforms like *Kidblog* allow students to share their voices with a larger audience than just the teacher. Blogging platforms meant for children 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. With regard to academic interaction, a blogging platform can be used teach 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.

Other terms for this type of tool: student blogs, blogs for children, blogs for classroom

Related Products: *Write About, Edublogs, Blogger* by Google.

Check Your Understanding
Click here to check your understanding of Chapter 6, Interaction.

Summary

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

- You should create ample opportunities for English learners to practice using academic English among themselves and with you, the teacher. Students should elaborate and extend their comments and responses, not provide one- or two-word answers.
  - The Common Core and other state standards require that students have ample 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 English in ways that support the lessons' objectives and develop students' English proficiency.
- Using a Gradual Increase of Student Responsibility approach ensures that a variety of groups are used in a lesson.
- For most teachers, it is challenging to balance the amount of teacher talk and student participation. Effective SIOP teachers plan for and incorporate structured opportunities for students to use English in a variety of ways.
- It may be beneficial for students to use their native language to clarify directions and express their ideas. However, the teacher may need to help them articulate their ideas in English, particularly as they advance in their proficiency levels.

Discussion Questions

1. In reflecting on the content and language objectives at the beginning of the chapter, are you able to:
   a. Select a variety of activities that promote interaction and incorporate them into lesson plans?
   b. Design grouping structures that support a lesson's content and language objectives?
   c. Identify techniques to increase wait time?
   d. Identify resources to support student clarification in the native language?
   e. Explain in writing the purpose of student–student interaction for language development?
   f. Describe techniques to reduce the amount of teacher talk in a lesson?
   g. Practice asking questions that promote student elaboration of responses?
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 English learners?
3. Either film 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 English learners in the class?
4. What are some ways that collaborative conversations and discussions are aligned with the Interaction component?
5. 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?
6. Using the SIOP lesson you have been developing, add activities and grouping configurations to enhance interaction.