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Introduction

WHO ARE ENGLISH LANGUAGE LEARNERS?

For the purposes of this book, the term *English language learner* (ELL) refers to a diverse group of students who have one common feature—they are all learning English as other than their native language. There are other labels for these students. Official documents may refer to them as *limited English proficient (LEP),* and the terms *language-minority* and *bilingual* are common. Various government entities and national organizations favor some terms over others. They argue, for example, that the term *language-minority students* does not make sense in those communities where they outnumber their native English-speaking peers. Others suggest that the term *limited English proficient* places too much emphasis on what the student cannot do, hardly a positive approach. Even the term *second-language learner* is not accurate for students who may be learning English as their third or fourth language. To avoid these labeling problems, some organizations are referring to these students as *English as a new language (ENL)* learners and *English as an additional language*, denoting that these learners are adding English to their existing linguistic repertoire. Labels are evolving, so stay tuned.

By all available estimates, the population of school-age children who are English language learners is more than 5 million (NCELA, 2006). It may come as a surprise to many readers that most English language learners (ELLs) in American schools were actually born in the United States. About 76 percent of elementary-age ELLs and 56 percent of middle and high school ELLs were born in the United States. However, about 80 percent of ELLs' parents were born outside of the United States. As shown in Figure I.1, more than 80 percent of ELLs are Spanish speakers and many

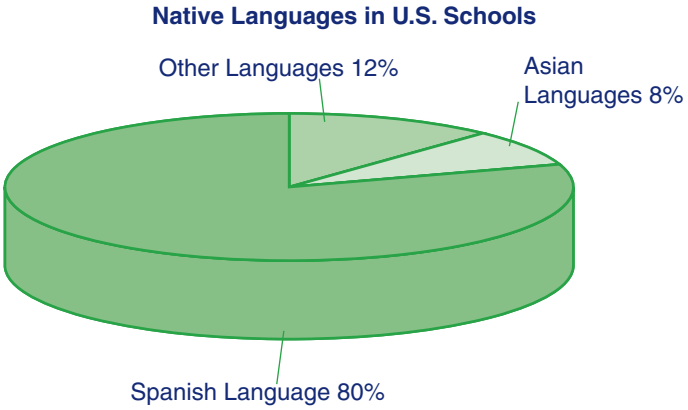

Figure I.1 This chart illustrates the percentage of students in U.S. schools who are native speakers of Spanish, Asian, and other languages (Capps et al., 2005).

of these come from lower economic and educational backgrounds than either the general population or other immigrants and language minority populations (Capps et al., 2005). Furthermore, fewer than 40 percent of immigrants from Mexico and Central America have the equivalent of a high school diploma, in contrast to between 80 and 90 percent of other immigrants (and 87.5 percent of U.S.-born residents). As a result, most ELLs are at risk in school not only because of language but also because of socioeconomic factors. The next largest group of ELLs are the speakers of Asian languages (e.g., Chinese, Hindi, Hmong, Khmer, Korean, Laotian, Tagalog, and Vietnamese) who comprise about 8 percent of the ELL population. Students of Asian origin typically come from families with higher income and education levels than do other immigrant families.

Academic Achievement of ELLs

Despite the increased awareness among educators that ELLs need support to acquire the English proficiency to succeed in school, the academic achievement of ELLs tends to be low when compared to their non-ELL peers. Furthermore, as shown in Figures I.2 and I.3, the gaps in achievement between ELLs and non-ELLs have remained stubbornly unchanged from the 2005 to the 2009 National Assessment of Educational Progress (NAEP) tests in mathematics (NCES, 2009b; Perie, Grigg, & Donahue, 2005a) and reading (NCES, 2009c; Perie, Grigg, & Donahue, 2005b). These gaps are not really a surprise because ELLs are limited in their English proficiency and the NAEP tests are in English. But the test data do not reveal the causes of the

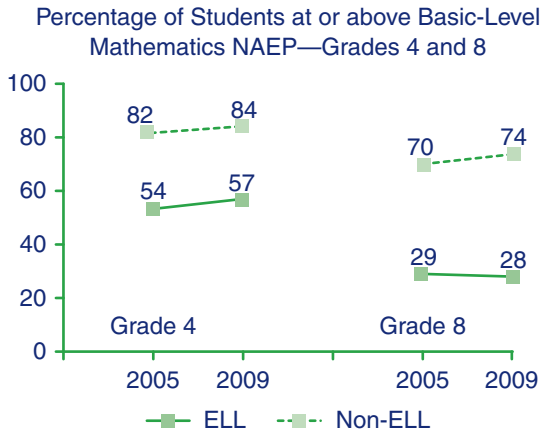

Figure I.2 The graph shows the percentage of ELL and non-ELL students at or above the basic achievement level in mathematics in Grades 4 and 8 on the 2005 and 2009 National Assessment of Educational Progress tests (NCES, 2009b; Perie et al., 2005a).

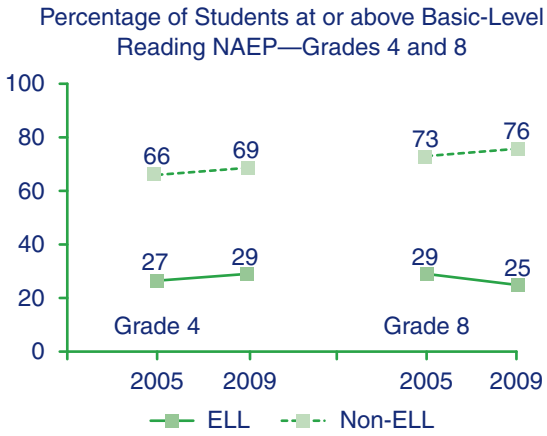

Figure I.3 The graph shows the percentage of ELL and non-ELL students at or above the basic achievement level in reading in Grades 4 and 8 on the 2005 and 2009 National Assessment of Educational Progress tests (NCES, 2009c; Perie et al., 2005b).

Questions This Book Will Answer

This book will answer questions such as these:

- What are we learning from neuroscience about how the brain acquires language?
- Why is learning the first language so easy but learning a second language later so difficult?
- Are there differences between male and female brains in learning language?
- Can learning a second language too young interfere with learning the first language?
- What roles do memory and transfer play when acquiring a second language?
- Why is learning English particularly difficult compared to some other languages?
- What role does culture play in second-language acquisition?
- How effective are immersion programs for ELLs?
- How can content-area teachers help ELLs learn academic English successfully?
- How can we tell if an ELL is just having difficulty with language acquisition or has a developmental learning disability?
- What are the basics of an effective research-based program for ELLs?
- How can we identify gifted and talented ELLs?

Many examples in the text will refer to Spanish-speaking ELL students, although they can apply to other native language groups as well. I refer to Spanish more frequently because—as mentioned earlier—Spanish-speaking ELLs represent the largest non-English-speaking minority in the U.S. school population, and their numbers are growing.

Chapter Contents

Chapter 1 — Learning the First Language(s). Humans learn language effortlessly. This chapter discusses how and why young children can acquire spoken language easily and without direct instruction. It explores the structure of language and examines whether male and female brains learn language differently. How can the brain learn two languages at once? That is also explained in this chapter.

Chapter 2 — Learning a New Language (English) Later. Children's innate ability to learn language begins to decrease as they get older. How does this affect learning a new language after the age of 5 years? What impact does the first language have on learning the second? What roles do memory and transfer play? Why is English a difficult language to learn for speakers of Romance languages? These and other related questions are addressed in this chapter.

Chapter 3 — Teaching English Language Listening and Speaking. Are immersion programs for ELLs as successful as some people claim? This question is explored along with research evidence on other program formats. But the focus here is on ways of developing ELLs' listening and speaking skills in English.

Chapter 1

Learning the First Language(s)

One of the most extraordinary features of the human brain is its ability to acquire spoken language quickly and accurately. We are born with an innate capacity to distinguish the distinct sounds (phonemes) of all the languages on this planet, with no predisposition for one language over another. Eventually, we are able to associate those sounds with arbitrary written symbols to express our thoughts and emotions to others.

Other animals have developed sophisticated ways to communicate with members of their species. Birds and apes bow and wave appendages, honeybees dance to map out the location of food, and even one-celled animals can signal neighbors by emitting an array of various chemicals. The communicative systems of vervet monkeys, for instance, have been studied extensively. They are known to make up to ten different vocalizations. Amazingly, many of these are used to warn other members of the group about *specific* approaching predators. A "snake call" will trigger a different defensive strategy than a "leopard call" or an "eagle call." Apes in captivity show similar communicative abilities, having been taught rudimentary sign language and the use of lexigrams—symbols that do not graphically resemble their corresponding words—and computer keyboards. Some apes, such as the famous Kanzi, have been able to learn and use hundreds of lexigrams (Savage-Rumbaugh & Lewin, 1994). However, although these apes can learn a basic syntactic and referential system, their communications certainly lack the complexity of a full language.

By contrast, human beings have developed an elaborate and complex means of spoken communication that many say is largely responsible for our place as the dominant species on this planet. To accomplish this required both the development of the anatomical apparatus for precise speech (i.e., the larynx and vocal cords) along with the necessary neurological changes in the brain to support language itself. The enlargement of the larynx probably occurred as our ancestors began to walk upright. Meanwhile, as brain development became more complex, regions emerged that

specialized in sound processing as well as musical and arithmetic notations (Vandervert, 2009). Somewhere along the way, too, a gene variation known as *FOXP2* appeared. Geneticists believe it contributed significantly to our ability to create precise speech. Evolutionary anthropologists are still debating whether language evolved slowly as these physical and cerebral capabilities were acquired, resulting in a period of semilanguage, or whether it emerged suddenly once all these capabilities were available.

SPOKEN LANGUAGE COMES NATURALLY

Spoken language is truly a marvelous accomplishment for many reasons. At the very least, it gives form to our memories and words to express our thoughts. A single human voice can pronounce all the hundreds of vowel and consonant sounds that allow it to speak any of the estimated 6,500 languages that exist today. (Scholars believe there were once about 10,000 languages, but many have since died out.) With practice, the voice becomes so fine-tuned that it makes only about one sound error per million sounds and one word error per million words (Pinker, 1994). Figure 1.1 presents a general timeline for spoken language development during the first three years of growth. The chart is a rough approximation. Some children will progress faster or slower than the chart indicates. Nonetheless, it is a useful guide to show the progression of skills acquired during the process of learning any language.

Before the advent of scanning technologies, we explained how the brain produced spoken language on the basis of evidence from injured brains. In 1861, French physician Paul Broca noticed that patients with brain damage to an area near the left temple understood language but had difficulty speaking, a condition known as aphasia. About the size of a quarter, this region of the brain is commonly referred to as Broca's area (Figure 1.2).

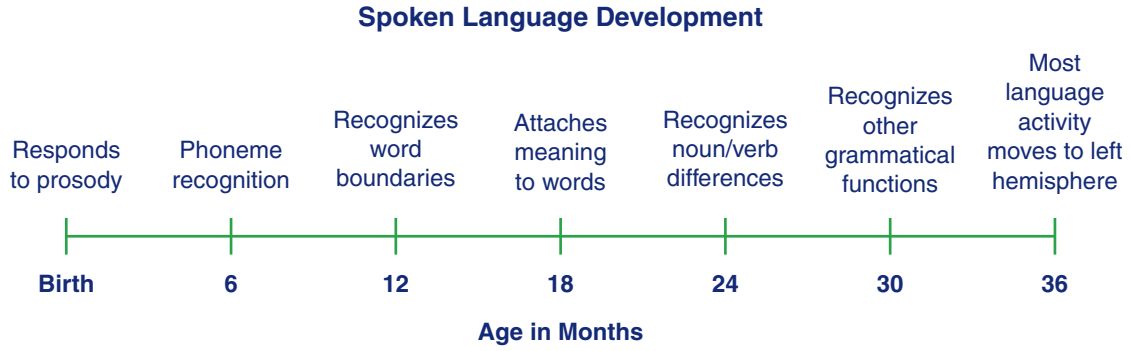

Figure 1.1 An average timeline of spoken language development during the child's first three years. There is considerable variation among individual children as visual and auditory processing develop at different rates.

In 1881, German neurologist Carl Wernicke described a different type of aphasia—one in which patients could not make sense out of words they spoke or heard. These patients had damage in the left temporal lobe. Now called Wernicke's area, it is located above the left ear and is about the size of a silver dollar. Those with damage to Wernicke's area could speak fluently, but what they said was quite meaningless. Ever since Broca discovered that the left hemisphere of the brain was specialized for language, researchers have attempted to understand the way in which normal human beings acquire and process their native language.

Processing Spoken Language

Recent research studies using imaging scanners reveal that spoken language production is a far more complex process than previously thought. When preparing to produce a spoken sentence, the brain uses not only Broca's and Wernicke's areas but also calls on several other neural networks scattered throughout the left hemisphere. Nouns are processed through one set of patterns; verbs are processed by separate neural networks. The more complex the sentence structure, the more areas that are activated, including some in the right hemisphere.

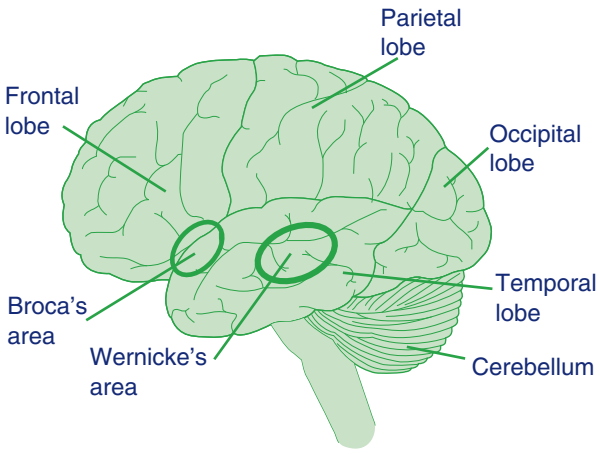

Figure 1.2 The language system in the left hemisphere is comprised mainly of Broca's area and Wernicke's area. The four lobes of the brain and the cerebellum are also identified.

In most people, the left hemisphere is home to the major components of the language processing system. Broca's area is a region of the left frontal lobe that is believed to be responsible for processing vocabulary, syntax (how word order affects meaning), and rules of grammar. Wernicke's area is part of the left temporal lobe and is thought to process the sense and meaning of language. However, the emotional content of language is governed by areas in the right hemisphere. More recent imaging studies have unexpectedly found that the cerebellum—long thought to be involved mainly in the planning and control of movement—also seems to be involved in language processing (Booth, Wood, Lu, Houk, & Bitan, 2007; Ghosh, Tourville, & Guenther, 2008). Four decades ago, researchers discovered that infants responded to speech patterns (Eimas, Siqueland, Jusczyk, & Vigorito, 1971). More recently, brain imaging studies of infants as young as 4 months of age confirm that the brain possesses neural networks that specialize in responding to the auditory components of language. Dehaene-Lambertz (2000) used electroencephalograph (EEG) recordings to measure the brain activity of 16 four-month-old infants as they listened to language syllables and acoustic tones. After numerous trials, the data showed that syllables and tones were processed primarily in different areas of the left hemisphere, although there was also some right-hemisphere activity. For language input, various features, such as the voice and the phonetic category of a syllable, were encoded by separate neural networks into sensory memory.

Chapter 3

Teaching English Language Listening and Speaking

SEARCHING FOR THE BEST MODEL

Sorry, but there is no *one* best way to teach the English language to nonnative speakers. Now there are a number of existing instructional models, such as total and partial immersion, bilingual instruction in English and the learner's native language, the whole-language model, and separate skills instruction (based on listening, speaking, reading, and writing). The many programs can be divided into two basic categories: (1) those that focus on developing the students' literacy in two languages, and (2) those that focus on developing the students' literacy solely in English. Table 3.1 shows the types of programs that exist in each of these categories.

But we know that students come with their own unique set of cerebral language networks, mental lexicons, literacy abilities, and culture that will defy any narrow pedagogical approach. Chapter 2 discussed a few of the phonological, morphological, syntactic, and semantic hurdles that an English language learner (ELL) will face during the acquisition process. And we know that the more unlike the student's native language is in phonology and orthography (writing) from those of English, the more difficult the learning process may be. Learning a new language later is a complex process, so teaching that language is complex, too. Thankfully, extensive research in recent years on second-language acquisition has revealed some valuable insights that could make the teaching and learning processes easier and more successful.

A major study of instructional programs for ELLs was carried out by the Center for Research on Education, Diversity, and Excellence (CREDE) and completed in 2006. Its review of the research favored instruction that combines interactive and direct approaches.

Table 3.1 Some Common Types of Language Instruction Programs

Name	Goal	Main Characteristics
1. Programs that focus on developing literacy in two languages:		
Two-way immersion or *Two-way bilingual*	Develop high proficiency in both L1 and English	• Includes ELL and English-speaking students. • Instruction in both languages, starting with a smaller portion in English, and gradually moving to half of the instruction in each language.
Developmental bilingual or *Late-exit transitional*	Develop some proficiency in L1 and high proficiency in English	• Content taught in both languages. • Teachers fluent in both languages. • Instruction at lower grades in L1, gradually transitioning to English as students move into classes with English-speaking peers.
Transitional bilingual program or *Early-exit transitional*	Develop English proficiency as soon as possible without delaying learning of academic content	• Instruction begins in L1, but rapidly moves to English. • Students are transitioned into mainstream classrooms with English-speaking peers as soon as possible.
2. Programs that focus on developing literacy solely in English:		
Sheltered English instruction or *Content-based English as a second language (ESL)*	Proficiency in English while learning content in an all-English environment	• Students from various linguistic and cultural backgrounds in same class. • Instruction adapted to students' proficiency in English with visual aids and L1 support as available.
Structured English immersion (SEI)	Develop fluency in English	• Typically, only ELLs in classroom. • All instruction in English, adjusted for students' proficiency level so subject matter is comprehensible. • Teachers have some understanding in students' L1 and use sheltered instructional methods.
Pull-out ESL	Develop fluency in English	• ELLs leave mainstream classroom for part of day for ESL instruction, focusing on grammar, vocabulary skills, and communication, not on academic content.

SOURCE: NCELA, 2005

Teaching Tip 3.2: Using Photographs to Check for Understanding in English

The teacher shows the ELLs a photograph and then says aloud four descriptions. The students must select the one that best describes what is pictured. For example:

A. The girl is holding her shoe.

B. The girl is leaning on her bag.

C. It is raining.

D. The girl is wearing short pants.

A. The teacher is writing.

B. The teacher is wearing a hat.

C. There are six people in the picture.

D. The teaching is wearing glasses.

A. There are three people in the picture.

B. The girl on the left is wearing a hat.

C. The girl on the right is smiling.

D. The computer is behind the boy.

Teaching Tip 3.3: Metacognitive Strategies to Develop Listening Skills

Metacognitive strategies have been shown to develop listening skills even in ELLs in the primary grades. Goh (2008) suggests two types of activities. The integrated tasks on this list focus on extraction of information and construction of meaning.

Integrated Experiential Listening Tasks	
Learning Activity	**Description**
Metacognitive listening sequence	Guide ELLs through a sequence of listening activities that they discuss with peers, followed by a personal evaluation of what they learned.
Self-directed listening	Help ELLs make prelistening preparations, evaluate their performance in order to plan future listening tasks.
Listening buddies	ELLs work in pairs or small groups, selecting resources and identifying strategies for their listening practice.
Peer-designed listening programs	A small group of ELLs design a listening task for the rest of the class, and during that process they: • Identify listening problems, causes, and possible solutions • Discuss factors that influence listening performance • Identify ways they can improve their listening skills outside of school • Differentiate various types of listening skills • Identify strategies that may not be appropriate for their culture
Postlistening perception activities	Provide activities after a listening task that raise the ELLs' awareness of the phonological features of the passage they listened to.