Preface

Teaching Language and Literacy: Preschool through the Elementary Grades, Fifth Edition is about teaching the language arts, about facilitating children’s reading, writing, speaking, and listening development in pre-kindergarten through the upper elementary grades. The language arts are essential to everyday life and central to all learning; through reading, listening, writing, and talking, children come to understand the world. To be a successful teacher of language and literacy, you need to understand how children’s language and literacy develop and how to help children become fluent, flexible, effective users of oral and written language. Children are at the center of all good language and literacy teaching. This principle underlies the four themes that run throughout this book: a perspective on teaching and learning that blends constructivism and science-based instruction, respect for diversity, instruction-based assessment, and family involvement in literacy learning.

This book describes how children acquire language and literacy knowledge in many different contexts and how teachers can effectively promote the development of oral and written language. It also describes numerous science-based instructional practices teachers can use to enhance children’s language and literacy knowledge. We believe that children construct their own knowledge about oral and written language by engaging in integrated, meaningful, and functional activities with other people. Children do not first “study” speaking, then listening, then reading, then writing. They learn by engaging in activities in which language and literacy are embedded. We also believe, however, that literacy skills can be increased via direct, systematic instruction. This instruction can often take the form of games and other engaging activities, but it also contains the elements of direct instruction: explanations, teacher modeling, guided practice, and independent practice.

New to This Edition

There are numerous new features to this edition that reflect recent developments in the field of language arts education.

- We continue to believe that it is important to frame the ideas presented in this book within the broader national context of what is happening in language and literacy in America. The most important development since the publication of the 4th edition in 2010 has been the
establishment of the Common Core State Standards for English Language Arts, Grades K–12. These are truly national standards that specify what children should know and be able to do at each grade level. Almost all of the states have adopted these standards, so they are going to have a tremendous effect on language and literacy instruction. The Common Core Standards are introduced in Chapter 1. The remaining chapters, when appropriate, feature the standards that fit with that chapter's content.

- We have added a fourth author, Kathleen Roskos, who has totally revised the chapters on elementary reading. Dr. Roskos is an active literacy researcher and scholar, who has extensive experience in both elementary and early childhood literacy instruction.
- In alignment with the Common Core Standards and reviewer comments, the revision's grade level scope will be reduced to pre-K–grade 5. This involved removing some 6th grade examples from the chapters on elementary grade reading and writing, and adding more examples from grades 1–5. We have also focused on adding more coverage of promoting oral language in grades 1–5.
- Since the publication in 2010 of the 4th edition of this book, much has been written about how to best support children's language and literacy development. Of course, we have revised the ideas presented in this book so the information shared is reflective of what is known about language and literacy development today. Many references were eliminated because they provided outdated information, and many new references were added. More than 30 percent of the references have been changed in this new edition.
- We are also grateful to the many veteran teachers who describe how they provide their students with effective language arts instruction. This has been a feature of each of our previous editions. This edition includes numerous Trade Secrets, each illustrating how the teaching strategies we describe can be applied to specific situations and how real teachers deal with practical problems that arise in the course of daily life in the classroom.
- In response to reviewer feedback, we have added more practical, “hands-on” examples and activities.

Organization

We begin with the foundation of language and literacy learning. Chapter 1 describes the constructivist/emergent literacy and scientifically based reading research perspectives on children's language and literacy learning. Because we believe that both approaches to language and literacy learning have much to offer, we advocate for instruction that blends the two perspectives. By combining the two perspectives, we have created a set of basic principles of effective literacy instruction. We believe that these principles should guide how children are taught spoken and written language in preschool through elementary classrooms. These principles run throughout the book and underlie all the teaching strategies that we recommend in subsequent chapters. Chapter 2 focuses on children's oral language development. It describes the phenomenal development of oral language that occurs in the first five years of life. We also cover the major theories of language development and discuss factors that contribute to variation in
children’s rate of language acquisition. Chapter 3 discusses family literacy and describes what children learn about reading and writing during the early years. This chapter sets the stage for the Family Focus features that are at the end of each of the remaining chapters. Chapter 4 builds on Chapter 2’s information by focusing on what teachers can do to facilitate children’s oral language learning by providing opportunities for reciprocal conversation and discussion, contexts for language uses (e.g., dramatic play), and language-centered activities (e.g., sharing, movie and book reviews). We have added a new section on vocabulary instruction for young children and more content on promoting oral language in the elementary grades. Chapters 5 and 6 focus on strategies for teaching language and literacy at the preschool and kindergarten levels. Chapter 5 describes four strategies that form the foundation of developmentally appropriate preschool and kindergarten language arts programs: functional literacy activities, sharing literature, literacy play, and shared writing. Chapter 6 describes two other key components of a comprehensive early literacy program: developmentally appropriate instruction on teaching “core” early reading skills and strategies for teaching early writing, including the writing workshop, interactive writing, and publication. Chapter 7 begins with a discussion of the goals literacy professionals have identified as those that teachers should help their young learners meet. Then we consider the two general assessment approaches that teachers might use to gather information: ongoing or classroom assessment and on-demand or standardized assessment. We end this chapter, and section of the book, with a discussion of using the gathered assessment information to plan and deliver instruction.

Chapters 8 through 12 focus on elementary-grade reading and writing instruction and assessing older children’s literacy performance. Chapter 8 provides a brief history of beginning instruction and then describes the learn-to-read process that occurs in the primary grades. An instructional framework is presented and basic techniques for teaching word level skills of decoding and word analysis, and basic comprehension skills for making sense of text are presented. How to implement the essentials of beginning reading instruction, such as creating a literate environment are discussed in some detail. Chapter 9 describes reading instruction in grades 3 through 5 where the emphasis is on developing advanced reading skills that support reading comprehension of increasingly more complex texts. How to organize reading instruction so that students learn how to use their basic reading skills for reading to learn is discussed, and power techniques that develop students’ strategic reading are presented. Important practices that increasingly link reading assessment to content-area reading skills, and individual growth in self-assessment of reading performance are highlighted. Chapter 10 describes the writing workshop and explains why it is an ideal strategy for helping elementary-grade students become proficient writers. Chapter 11 explains how instruction in mechanical skills—handwriting, spelling, capitalization and punctuation, and grammar—can be embedded within the writing workshop. Chapter 12 focuses on assessment of older children’s literacy skills. We focus both on high-stakes, on-demand assessments that are used for accountability purposes and on ongoing assessment that is used to plan effective literacy lessons.

We have continued the use of a number of pedagogical features from earlier editions that are designed to make this book easier for students to read and comprehend. Most chapters begin with an introductory vignette that illustrates a major concept being presented in that chapter. The vignette is then “debriefed” in a manner that helps the reader begin to develop an interest in the topic. In addition, as part of the introduction, each chapter asks a series of Think About questions that enable readers to connect new material in the book with past personal experiences and prior knowledge. The beginning
of each chapter also includes Definitions of key terms and a series of Focus Questions to alert the reader to the key concepts of that chapter. The Summary at the end of each chapter answers each focus question, providing a review of the key concepts in each chapter and giving readers an opportunity to self-check their comprehension. In addition, Linking Knowledge to Practice activities at the end of each chapter allow students to connect the theories and practices discussed in the book to practices they are observing or experiencing in real preschool, kindergarten, and elementary classrooms.

Supplements for Instructors and Students

The following supplements comprise an outstanding array of resources that facilitate learning about literacy instruction. For more information, ask your local Pearson Education representative or contact Pearson Faculty Services at 1-800-526-0485. For technology support, please contact technical support directly at 1-800-677-6337 or http://247.pearsoned.com.

Instructor’s Manual and Test Bank

For each chapter, the instructor’s manual features a summary of main ideas and guiding focus questions; lesson plans for in-class discussion/processing activities, with extensions for out-of-class activities/assignments; information of which PowerPoint™ slides may be used in conjunction with the lecture and with processing activities; and handouts that may be used for in-class processing activities. The test bank includes multiple choice and essay questions that may be used to facilitate further class discussions, as journal topics, or as an assessment tool. (Available for download from the Instructor Resource Center at www.pearsonhighered.com/irc.)

PowerPoint™ Presentation

Designed for teachers using the text, the PowerPoint™ Presentation consists of a series of slides (ten to twenty per chapter) that can be shown as is or used to make overhead transparencies. The presentation highlights key concepts and major topics for each chapter. (Available for download from the Instructor Resource Center at www.pearsonhighered.com/irc.)

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Many classroom teachers shared their secrets, showing how theory and research link with quality classroom practice. We are grateful to Kathy Eustace from Arizona; and Christine Evans, Deirdra Aikens, Dawn Downes, Noreen Moore, and Jackie Shockley from Delaware for their descriptions of exemplary teaching practices. From these teachers, and others like them, we have seen how exciting language and literacy learning can be when teachers and children are engaged in purposeful language arts activities. From them, and their students, we have learned much.

Several of our colleagues played roles in the construction of this book through their willingness to engage us in many conversations about children’s language and literacy learning. Always willing to hear our ideas and to share their own, colleagues Laura Justice, Ohio State University; Bonnie Albertson, Martha Buell, Dawn Downes, Christine Evans, and Myae Han, University of Delaware, have greatly helped us frame our arguments. The students and Early Reading First teachers we have nurtured and taught—young children, college students, and inservice teachers—have also influenced the development of our ideas. Their questions, their talk, their play, their responses, their enthusiasm—each one of them has taught us about the importance of the language arts in our lives. Their positive response to our ideas fueled our eagerness to share those ideas more broadly.

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Jim Christie
Billie Enz
Carol Vukelich
Kathy Roskos
PART ONE

Foundations
In recent years, the field of literacy has been thrust into the spotlight. A flurry of new studies, consensus reports, and national literacy policies has had a significant effect on literacy instruction in the United States. Being in the spotlight is a mixed blessing. The good news is that additional financial resources have been funneled into the literacy field. The resulting research has enriched our knowledge about literacy and the teaching of reading. This research, detailed throughout this book, has identified the key reading, writing, speaking, and listening skills students need to know and be able to do if they are to be successful learners and effective strategies that teachers can use to help students acquire these skills. Funded initiatives, in the form of national policies and programs described later in this chapter, have provided incentives for educators to begin to use the new research-based strategies to teach children the key skills.

The bad news is that while the new resources, research findings, and initiatives provide rich resources to improve literacy instruction, they also present educators with some daunting challenges. Teachers are experiencing mounting pressure to increase children’s literacy development, raising concerns that drill and practice, workbooks, basal readers, and other types of “developmentally inappropriate” instruction will find their way into preschool and elementary classrooms. Many educators are concerned that elementary school practices will be pushed down to the preschool and kindergarten levels. Early childhood teachers also worry that academic instruction (i.e., a teacher standing before a group of young children and delivering content) will replace the traditional staples of children learning through play and adults reading stories to children purely for the enjoyment of the literature. Elementary school teachers worry that reading instruction will become one-dimensional with an exclusive focus on standards and high test scores, as opposed to a comprehensive literacy program that focuses on all aspects of reading and writing. For example, phonics might become the primary instructional approach to teaching reading, and other aspects of reading, such as comprehension, might be neglected. Elementary teachers worry that they will no longer be free to make decisions about the when, why, how, and to whom they provide instruction in the key elements of reading and writing; all children will receive the same instruction in the same dosage.

This book draws on current research and best practices, blending the previously held theory- and research-based instructional practices that have proved successful in supporting children's reading,
writing, and speaking development with the new scientifically based reading research. Our goal is to provide teachers with the foundations—the core content and the best-practice teaching strategies—needed to provide high-quality reading, writing, and speaking programs for children from preschool through elementary school. While some in the field want to divide reading instruction into “camps”—at the preschool level, emergent literacy versus scientifically based reading research instruction, and at the elementary level, meaning-based versus skills-based reading instruction—we believe that the two views need to be merged to provide an effective reading, writing, and speaking program for all children.

We begin this book by defining the language arts and their relationship to each other. Next, we present a brief overview of the Common Core State Standards (CCSS), the culmination of recent U.S. policies and initiatives that have affected the teaching of reading at the preschool and elementary levels. Because of the significant effect that the CCSS have had on the literacy field, we will refer to them throughout this book, tying them to the different skills and strategies that are discussed in each chapter. Next, we describe the beliefs and the research base of the diverging views on the teaching of reading. We end with a set of principles that guide our view of the effective teaching of literacy in preschool and elementary classrooms.

Before Reading This Chapter, Think About . . .

- Your beliefs about how young children first learn to read and write. At what age do children begin to learn about literacy? Is knowledge about reading and writing transmitted from adults to young children, or do children construct this knowledge on their own?
- Your beliefs about effective language and literacy instruction. How can teachers best help young children become skilled speakers, listeners, readers, and writers?
- Your memories about how you learned to talk, read, and write. Do you recall, for example, reading cereal labels at an early age? Do you recall writing messages to loved ones?
- Your memories about how you were taught to read and write in elementary school. Do you recall being explicitly taught how to sound out words? Do you recall reading aloud? Do you remember engaging in silent reading? Do you remember being taught how to be aware of your understanding of the passages you were reading?

Focus Questions

- What are the Common Core State Standards and why are they important?
- How is the emergent literacy perspective different from the scientifically based reading research perspective on young children’s early literacy learning?
- Which principles should guide teachers when teaching language and literacy? How can teachers effectively communicate and involve parents in their child’s literacy learning?
Language and Literacy: Definitions and Interrelationships

The terms *language* and *literacy* can be defined in many ways. Language can be defined very broadly as any system of symbols that is used to transmit meaning. These symbols can consist of sounds, finger movements, print, and so on. Literacy also has several different meanings. It can refer to the ability to create meaning through different media (e.g., *visual literacy*), knowledge of key concepts and ideas (e.g., *cultural literacy*), and the ability to deal effectively with different subject areas and technologies (e.g., *mathematical literacy*, *computer literacy*).

Because the topic of this book is language arts—the part of the pre-K and elementary-grade curriculum that deals with helping children learn to speak, listen, read, and write—we use school-based definitions of these terms. Language refers to oral language (communicating via speaking and listening), and literacy refers to reading and writing (communicating through print). However, as we describe how children grow in both these areas, it will become obvious that language and literacy acquisition are closely tied to the total development of the child—learning to think, to make sense of the world, to get along with others, and so on.

While we have organized this book into separate chapters on oral language and literacy, we know that the two types of language are integrally connected and related to each other. Oral language provides the base and foundation for literacy. Oral language involves first-order symbolism, with spoken words representing meaning. Written language, on the other hand, involves second-order symbolism that builds on the first-order symbolism of oral language. Printed symbols represent spoken words that, in turn, represent meaning. Do you see the connections between language and literacy?

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**Box 1.1 Definition of Terms**

- **common core state standards**: a uniform set of standards, adopted by most states, that defines the knowledge and skills that students must attain in each content area (e.g., English language arts, mathematics, science).
- **emergent literacy perspective**: the view that children begin learning about reading and writing at a very early age by observing and interacting with adults and other children as they use literacy in everyday life activities.
- **language**: communicating with others via speaking and listening.
- **literacy**: communicating with others via reading and writing print.
- **scientifically based reading research (SBRR)**: a skills-based approach to early literacy instruction that focuses on the skills that are the best predictors of successfully learning to read.
One obvious connection between oral and written language is vocabulary. For a reader to recognize and get meaning from text, most of the words represented by the text must already be in the reader's oral vocabulary. If the reader can recognize most of the words in the text, context cues might be used to figure out the meaning of a few totally unfamiliar words. Similarly, a writer's choice of words is restricted by his or her oral vocabulary.

Catherine Snow and her colleagues (1991) point out a less obvious, but equally important, link between oral language and literacy. They point out that oral language is actually an array of skills related to different functions. One set of skills is relevant to the negotiation of interpersonal relationships and involves the child's ability to engage in face-to-face conversations (contextualized language). Another involves the ability to use language to convey information to audiences who are not physically present (decontextualized language). Decontextualized language plays a vital role in literacy because it is the type of language that is typically used in written texts.

Children gain experience in these different aspects of language through different activities. They become skilled at contextualized language by engaging in conversations with others, whereas they gain skill at decontextualized language by listening to stories and by engaging in explanations and personal narratives and by creating fantasy worlds (Snow et al., 1991). It is not surprising, therefore, that research has shown that children with rich oral language experiences at home tend to become early readers (Dickinson & Tabors, 2001) and have high levels of reading achievement during the elementary grades (Wells, 1986).

The relationship between literacy and oral language becomes reciprocal once children become proficient readers. Extensive reading begins to build children's oral language capabilities, particularly their vocabulary knowledge. Cunningham and Stanovich (1998) present evidence that people are much more likely to encounter "rare" unfamiliar words in printed texts than in adult speech, and Swanborn and de Glopper's (1999) meta-analysis of studies on incidental word learning revealed that during normal reading, students learn about 15 percent of the unknown words they encounter. The more children read, the larger their vocabularies become.

During the early stages of literacy development, the relationship between oral language and literacy is primarily a one-way street. Anything teachers can do to build children's oral language skills, particularly their vocabulary knowledge and ability to deal with decontextualized language, will also benefit children's literacy development. So even if a school's primary mission is to boost young children's literacy skills, attention also needs to be given to building children's oral language abilities. During the elementary grades, the direction shifts, and reading becomes a major source of vocabulary growth.

The Common Core State Standards

Standards? What are they? Standards define the knowledge and skills that students—all students—must attain. They clarify and raise expectations. Because they identify what all students must know and be able to do, they define what is to be taught and what level of student performance is expected.

In 1983, the National Commission on Excellence in Education prepared a report titled A Nation at Risk. The commissioners warned that a “rising tide of mediocrity” in our schools threatened our future as a
nation. Action was needed. The solution recommended by the commissioners was the creation of standards. High and rigorous standards, the commissioners believed, would restore the nation’s place in the world. Following the publication of *A Nation at Risk*, a few states and some national professional organizations began to develop standards in the core content areas (English language arts, mathematics, science, and social studies). This move toward state education standards accelerated with the passage of the Educate America Act (Goals 2000, 1994), which provided federal funding to states to support their writing of standards. State departments of education began to draft academic content standards with grade-level benchmarks (what students must demonstrate they know and can do by a particular grade), commonly called GLEs, or grade level expectations. While initially the standards movement focused solely on K–12, attention soon turned to the writing of standards for pre-K education. Using your preferred search engine, type in Delaware Early Learning Foundations for School Success to access an example of one state’s pre-k standards.

By the mid- to late 1990s, the standards were developed, and states’ attention turned toward introducing the public and educators to the standards and the grade level expectations. Groups of educators began the work of aligning their curricula to their state’s standards. Did the chosen reading series provide the district’s students with the opportunity to learn the content by the designated time? If not, new series would need to be ordered or adjustments made to the timing of when the content would be delivered. Finally, state departments of education began to select or design standardized assessments (tests) linked to their standards. Were students achieving the standards? The massive effort of implementing standards-based education reform was underway.

One issue, however, clouded the standards movement. Each state’s standards were different, and some state standards were technically superior to others (Neuman & Roskos, 2005). Recently, there was a significant movement to “standardize” the standards. In 2009, forty-eight states, two territories, and the District of Columbia signed a memorandum of agreement with the National Governors Association and the Council of Chief State School Officers, committing to the initiation of a process to produce a set of rigorous, research-based K–12 standards in English language arts and mathematics, the Common Core State Standards (CCSS). One year later, they released a set of standards. (See www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf.) States could elect to adopt the CCSS. Following adoption, these standards would replace the state-developed standards.

The design of the CCSS standards is different from those developed in the past. For example, the standards place a strong emphasis on informational or expository texts, from the earliest grades through high school. At every grade level, they call for students to read challenging, complex texts. Although they divide the standards into reading, writing, speaking and listening, and language, the standards stress the integration of skills associated with each area; and they revisit the skills across the grades in a spiraling way, expecting that students demonstrate the skills in a cumulative model. In short, they define clear goals and expectations for students at each grade level, K–12.

As this book goes to press, forty-seven state departments of education are now working with their school districts to implement these rigorous national standards. They are providing teachers with professional development to introduce them to the new expectations for student performance at each grade level. Teachers are working to align their curricula and instructional materials to these new standards. In addition, state departments of education and various organizations are working to build storehouses of instructional resources to support the new learning goals. The standards movement continues to be viewed as an important means to improve the quality of education in America.
In addition to new standards, soon teachers and their students will experience new assessments linked to each grade level’s standards. The federal government awarded two consortia (Partnership for the Assessment of Readiness for College and Careers [PARCC] and SMARTER Balanced Assessment Consortium [SBAC]) several million dollars to design new assessment systems for grades 3 through 8 and high school, with the mandate that these assessments become operational in 2014–15.

Because the CCSS standards are having such a significant impact on language and literacy instruction, we have integrated the Common Core State Standards for English Language Arts, Grades K–5 into most of the chapters of this new edition. When a new skill or major instructional strategy is introduced, we link the skill or strategy to the specific CCSS standards that are addressed.

A Continuum of Instructional Approaches

The field of language and literacy instruction has witnessed a century-old debate between the proponents of two very different views of how to teach the language arts. On one side are the supporters of meaning-based approaches that stress comprehension, connected reading, good literature, and the integration of reading and writing. These approaches assume that if children engage in lots of meaningful reading and writing activities with support from teachers and peers, they will acquire literacy. The terms *literature-based* and *whole language* are sometimes used to describe this perspective at the elementary level, whereas the term *emergent literacy* is used at the pre-K level.

On the opposing side are proponents of a skills-based view who emphasize direct instruction on skills such as phonics, alphabet recognition, fluency, spelling and mechanics of written language that enable children to write and decode texts. The assumption is that once children are taught to recognize written words fluently, they will comprehend the texts that they read. And once they learn the mechanics of writing, written composition will flourish. At the elementary level, these approaches are often referred to as code-based or skills-based programs. In recent years, early childhood language arts programs with a strong skills focus are referred to as *scientifically-based reading research* (SBRR) programs.

The end point for both the meaning- and skills-based approaches is the same: fluent reading with good comprehension and writing that effectively communicates the author’s message. After a brief overview of each position, we will make an argument for a “blended” approach that uses the best features of both methods of teaching reading and writing.

Meaning-Based Approaches

During the 1990s, emergent literacy was the predominant view of early reading and writing, and most conceptions of best practice stemmed from this meaning-centered perspective. According to this view, children begin learning about reading and writing at a very early age by observing and interacting with adults and other children as they use literacy in everyday life activities. For example, young children observe the print on cereal boxes to select their favorite brands, watch as their parents write notes and read the newspaper, and participate in special literacy-focused routines such as storybook reading with a parent or older sibling. On the basis of these observations and activities, children construct their own
concepts about the functions and structure of print and then try these out by engaging in emergent forms of reading and writing, which often are far removed from the conventional forms adults use. Based on how others respond to their early attempts, children make modifications and construct more sophisticated systems of reading and writing. For example, early attempts at writing often shift from scribbles to random streams of letters (SKPVSSPK) and to increasingly elaborate systems of invented spelling such as JLE for jelly (Sulzby, 1990). Eventually, with lots of opportunities to engage in meaningful literacy activities, large amounts of interaction with adults and peers, and some incidental instruction, children become conventional readers and writers.

Proponents of emergent literacy believe that, if provided the right kind of environments, experiences, and social interactions, most children require very little formal instruction to learn to read and write. Early childhood language arts programs based on the emergent literacy perspective feature the following components:

■ Print-rich classroom settings that contain large numbers of good children's books; displays of conventional print (e.g., alphabet friezes, charts written by teachers); functional print (e.g., helper charts, daily schedules, labels); student writing; play-related print (e.g., empty cereal boxes in the housekeeping dramatic play center); and the like

■ Frequent storybook reading by the teacher with lots of student interaction

■ Shared reading of big books coupled with embedded instruction on concepts about print (e.g., book concepts such as author and title and the left-to-right sequence of written language)

■ Shared writing experiences in which the teacher writes down oral stories dictated by children

■ Projects and/or thematic units that link language, reading, and writing activities together

■ Opportunities for children to engage in meaningful reading and writing during “center time” activities and a family literacy component

Emergent literacy proponents contend that these types of emergent literacy experiences build on what children have already learned about written language, provide a smooth transition between home and school, and help to ensure initial success with learning to read and write. The teacher’s role is to provide the materials, experiences, and interactions that enable children to learn to read and write. Direct instruction on skills such as alphabet recognition and letter–sound relationships is used only with children who fail to learn these skills through meaningful interactions with print.

At the elementary level, meaning-based language arts instruction is often referred to as “whole language” or a workshop approach. The principles are very similar to emergent literacy. Children learn to read by reading and discussing lots of high quality children's literature, and they learn to write by engaging in extensive amounts of writing, with feedback and assistance from teachers and peers.

**Skills-Based Approaches**

By 2002, initiatives such as Good Start, Grow Smart (2002) and Early Reading First (see www2.ed.gov/programs/earlyreading/index.html) pushed a skills-based approach to early literacy instruction, often referred to as scientifically based reading research (SBRR), into prominence. Perhaps the most
valuable contribution of the SBRR movement has been identifying the “core” knowledge and skills that young children must have to become successful readers. The National Reading Panel (NRP, 2000), which was formed to assess the status of research-based knowledge about reading, reported the following conclusions relative to the five key elements it identified as crucial to children’s reading success:

1. **Phonemic awareness:** Teaching children to manipulate the sounds in language (phonemes) helps them learn to read. In fact, phonemic awareness training improves students’ phonemic awareness, spelling, and reading, with the effects on reading lasting well beyond the end of the training.

2. **Phonics:** Systematic phonics instruction leads to significant positive benefits for students in kindergarten through sixth grade and for children who are having difficulty learning to read. It enhances children’s success in learning to decode, spell, and comprehend text.

3. **Vocabulary:** Vocabulary development has long been considered important for reading comprehension. The panel concluded that vocabulary should be taught both directly and indirectly. Repetition and seeing vocabulary words several times are important.

4. **Comprehension:** Text comprehension is improved when teachers use a combination of reading comprehension techniques such as question answering, question generation, and summarization. When students are able to use these techniques successfully, they perform better in recalling, answering questions, generating questions, and summarizing texts.

5. **Fluency:** Guided repeated oral reading has a significant and positive impact on word recognition, reading fluency, and comprehension for students of all ages.

A few years after the publication of the National Reading Panel’s findings, the National Institute for Literacy, a unit within the U.S. Department of Education, created the National Early Literacy Panel (NELP) and directed the panel to conduct a synthesis of the scientific research on the development of early literacy skills in children ages zero to five. This analysis revealed that (1) the strong to moderate predictors of success in reading and writing are alphabet knowledge, phonological awareness (PA) (specifically phonemic awareness), concepts about print and print knowledge, oral language, rapid automatic naming, writing or name writing, and visual processing; (2) interventions to teach code-related skills (especially PA) are highly successful; (3) shared reading interventions that used interactive reading styles help promote children’s print knowledge and oral language skills; (4) age, socioeconomic level, and race did not seem to alter the effectiveness of the various interventions; and (5) interventions that produced the largest effects usually were conducted one-on-one or in small group instructional activities and were teacher directed and focused on helping children use these skills. The NELP report is important because it identified what preschool teachers must focus on in early literacy, and it helped to inform educators and the public about why these skills are important. (Readers can obtain a full copy of the NELP report. Using your preferred search engine, type in Developing Early Literacy: Report of the National Early Literacy Panel.)

SBRR investigators have also focused on identifying effective strategies for teaching this core literacy content to young children. One of the most consistent research findings is that core early literacy skills can be increased via explicit, systematic instruction. This instruction can often take the form of games and other engaging activities, but it also contains the elements of direct instruction: explanations, teacher modeling, guided practice, and independent practice.
At the early childhood level, SBRR instruction occurs in both large and small group settings. Large group instruction occurs during “circle time” when the entire class sits on the floor near the teacher. At the pre-K level, large group instruction may include the following:

- Songs that emphasize rhyming pairs of words [SBRR skill: phonological awareness];
- Storybook reading, coupled with direct instruction on concepts of print (e.g., function of an author and an illustrator) and vocabulary [SBRR skill: print knowledge, vocabulary];
- Direct instruction on recognizing and naming the letters of the alphabet [SBRR skill: alphabet knowledge];
- Every pupil response activity in which all children have a chance to respond at the same time. For example, the teacher might say a series of words, some of which begin with the /p/ sound and some that do not. Children hold their thumbs up if a word starts with the sound of p [SBRR skill: phonological awareness].

Instruction is also conducted in small groups. The advantage is that if an activity requires that one child respond at a time, small groups enable all children to have multiple opportunities to participate. For example, using a pocket chart, a teacher could give a small group of children each a high-frequency word flash card (my, the, is, big, fast) or a rebus picture card (truck, cat, girl, house). After reviewing the words on the cards, the teacher would help the children build sentences by saying words and by having the children bring up their cards and place them in the chart (“My cat is big”; “The truck is fast”; “My house is big”) [SBRR skill: print awareness].

Children also need opportunities to practice and consolidate what has been taught in large and small group settings. As a result, SBRR instruction also includes an “activity” time during which children work individually or in small groups in learning centers. The center activities are directly linked to the skills being taught in the curriculum. For example, if children are being taught the names of different tools (e.g., hammer, saw, tape measure), the teacher would place toy replicas of these tools in the dramatic play area so that children would be encouraged to use the names of these tools and learn about their functions [SBRR skill: vocabulary].

At the elementary level, skills-based reading instruction also occurs in large and small group settings. At the primary-grade level, this instruction focuses primarily on the five skills identified by the National Reading Panel (NRP, 2000): phonemic awareness, phonics, vocabulary, comprehension, and fluency. The goal is to learn these skills so that children can engage in fluent reading with comprehension. In the middle grades, the focus changes from learning to read to reading to learn. Instruction focuses on comprehension strategies that enable students to understand specialized vocabulary and increasingly difficult content-area textbooks (e.g., science, social studies).

**Blended Instruction: A Balanced Approach**

Both the meaning-based and skills-based approaches to language arts instruction have their advantages. Meaning-based programs provide opportunities for children to learn about literacy on their own and with help from the teacher and peers. Learning can occur at the appropriate pace for each child and build on what he or she already knows. This approach provides children with rich opportunities to acquire oral language and to move through the developmental progressions in emergent reading and
Chapter 1

writing. At the elementary levels, children get extensive practice in doing actual reading and writing (rather than practicing the subskills that make up these processes). The downside to this approach is that not all children are ready or able to take full advantage of these learning opportunities. They may lack skills that enable them to read the assigned texts or engage in the writing activities. These children have a tendency to “fall through the cracks” in meaning-based programs and make very little progress. Such children need to be directly taught vocabulary, phonological awareness, alphabet, and concepts of print before they can fully profit from the learning experiences in meaning-based programs.

We advocate instruction that blends together the key components of both approaches (see Figure 1.1). This approach features the print-rich classroom, storybook reading, shared writing, projects/units, and opportunities to engage in meaningful reading and writing during “center time” activities. Developmentally appropriate activities that promote literacy learning. We view blended instruction as a balanced approach to language arts instruction, combining the best aspects of both perspectives.

**Comprehensive Literacy Instructional Program**

We believe that to provide preschool through elementary school children with a high-quality, effective reading, writing, and speaking program, meaning-based and skills-based perspectives need to be interwoven, and that both views make significant contributions to such a program. Children need meaningful interactions with print in print-rich environments and in books. They need social interactions with...
their peers and their teachers in literacy events. They need many opportunities to engage in meaningful reading, writing, and speaking events. In addition, they need explicit instruction in reading, writing, and speaking skills.

By combining the two perspectives, we have created a set of basic principles of effective literacy instruction. These principles should guide how children are taught spoken and written language in preschool through elementary classrooms.

**Effective Teachers Explicitly Teach Children Skills That Research Supports as Key Elements of Reading, Writing, and Speaking**

Scientifically based reading research has identified key skills of early and later reading. This literature tells us that early language and literacy instruction should focus on the core content: the knowledge, skills, and dispositions that are predictive of later reading success (i.e., alphabet knowledge, phonological awareness, concepts about print and print knowledge, oral language). Writing research and theory has identified the elements of quality expressive, informative, and persuasive texts (e.g., organization, development). There is a rich body of language development research to help teachers understand the key features of oral language (e.g., phonology, syntax, semantics, pragmatics). In each area, research has identified effective instructional strategies for teaching children these skills, elements, and features. Many of these instructional strategies call for teachers to explicitly teach children: large groups of children, small groups of children, and individuals. In all instances, the strategies used should be appropriate for the age of the children.

**Effective Teachers Provide Children with a Print-Rich Classroom Environment**

High-quality literacy programs require a literacy-rich environment with many materials to support children’s learning. Such environments include materials for children’s exploration and manipulation, meaningful print to guide children’s learning, physical space organized to support children’s movement about the classroom and engagement with the materials, and reading and writing materials embedded appropriately in nearly all activity. A print-rich environment is central to children’s learning about language and literacy.

Rich physical environments do not just happen; the creation of a classroom environment that supports children’s learning, teachers’ teaching, and the curriculum requires forethought. Some characteristics of this type of classroom environment include a well-stocked library corner and writing center, lots of functional print, theme-related literacy props in play areas, and displays of children’s writing. This type of environment offers children opportunities to talk, listen, read, and write to one another for real-life purposes.

**Effective Teachers Read to Children Daily and Encourage Them to Read Familiar Books on Their Own**

Living in a print-rich world provides children with many opportunities to read *contextualized* print. That is, children form hypotheses about what words say because of the context in which the words are embedded. As described in other sections of the chapter, children learn to read cereal boxes, stop signs,
and the McDonald’s sign early in life. While making such connections with print is important, young children also need multiple experiences with decontextualized print. Susan Neuman and Kathy Roskos (1993, p. 36) explain the meaning of decontextualized print:

Written language [that] has meaning apart from the particular situation or context of its use. The meaning of decontextualized print is derived from the language itself and from the conventions of the literary genre . . . . Over time, [children] develop a frame, or sense of story . . . a mental model of basic elements of a story.

Reading stories to children is one of the best ways to familiarize them with decontextualized print. Effective early childhood teachers plan numerous opportunities for storybook reading experiences. These teachers read aloud daily to individual children, small groups of children, and the whole class. Hearing stories read aloud, however, is not enough for children. Studies have shown the importance of talking about the books read (Heath, 1983; Whitehurst & Lonigan, 1998). Many teachers begin their read-alouds by engaging children in a discussion related to the story they are about to read. While reading, the teacher might invite the children to make comments, to share reactions, or to ask questions. After reading, the teacher will likely engage the children in a discussion aimed at extending their understanding of the story. This framework for read-alouds has been called a “grand conversation” (Clay, 1991) and more recently has been referred to as holding “extratextual conversations” (Cabell, Justice, Vukelich, Buell, & Han, 2008). Such conversations help children understand how to process the decontextualized text found in books.

Is there ever a time when children are too old to be read to? Absolutely not! Teachers whose students are reading independently should select texts (novels, magazine articles, newspaper articles) that are above the students’ independent reading level but at their listening and interest level. Reading aloud to elementary-aged students allows teachers to engage in such behaviors as modeling fluent and expressive reading, stopping to model thinking about the text, and making connections between and among other texts.

It is also important to provide opportunities for children to read books to themselves and to one another. Through such occasions, children have the opportunity to practice what they have learned during the interactive storybook readings and to refine the strategies needed to construct meaning from texts. To learn to enjoy making meaning from written texts, each person must do the work, the thinking, independently. Children learn to read by reading.

Effective Teachers Think Aloud, Demonstrate, Model, and Scaffold Instruction

Children will try to do what others do. Therefore, demonstrating and modeling literacy events will lead to children imitating these events. When a teacher reads books to young children, children independently pick up the books and say words in ways that would lead a listener to think they are reading. The children sound as though they are reading words, yet their eyes are focused on the illustrations. When children see parents and teachers using print for various purposes—writing shopping lists, looking up information in a book, and writing notes—they begin to learn about the practical uses of language and to understand why reading and writing are activities worth doing. When teachers “think aloud” and
demonstrate how they go about understanding a text, children will begin to use the same comprehension strategies as they learn to read. For example, a teacher could model making connections to prior experience (activating prior knowledge) by making comments such as “This reminds me of . . .” while reading a story. The strategy of mental imagery can be demonstrated with comments such as “I’m picturing . . .” Identifying the main idea can be modeled by saying, “I think the main point was that . . .” Finally, prediction can be illustrated by statements such as, “I think that _____ is going to happen next because . . .”

Effective Teachers Provide Opportunities for Children to Collaborate and Help Each Other Learn About Language and Literacy

Of course, teachers are not the only people in the classroom environment who offer demonstrations of literacy and models of language. Peers are another valuable source for learning the language arts. Creating a “community of literacy learners” is often suggested in the professional literature. Children learn language by talking with each other. Children select books to “read” because their peers have selected the book. Children turn to each other for information and help in decoding or spelling words. “How do you spell morning?” “What’s this word say?”

When teachers know that learning is a social act and that readers, writers, and speakers develop new understandings as a result of the rich exchange of ideas in collaborative learning contexts, they intentionally create new kinds of classroom participation opportunities for their students. For example, these teachers provide their students with opportunities to engage in discussion groups about books, to form literacy clubs, or to work in small groups to investigate specific topics within a content area.

Should opportunities to learn from each other stop at the end of the primary grades? Of course not! In their recent meta-analysis of writing instruction research, Steve Graham and Dolores Perin (2007) showed that, in grades 4–12, students help each other with planning, drafting, and revising their writing and that this peer collaboration had a strong and positive impact on writing quality. As a result of their findings, they encourage teachers to provide situations that encourage students to work together while writing.

When teachers value children’s contributions and celebrate what they know, children see the strengths in each other. Within such a supportive climate, children practice what they know and take the risks necessary for learning to occur. This kind of environment encourages children to learn from themselves, from each other, and from the teacher.

Effective Teachers Support Children’s Experimentations with Print

As we blend the two perspectives, it is important for teachers to allow children a “risk-free” environment where they practice and integrate new skills they are learning with what they already know. Years ago, young children were not considered to be writing until they were writing conventionally; that is, correctly forming the letters and spelling the words. They were not considered to be reading until they could correctly recognize numerous printed words. In the 1970s, Marie Clay (1975) and Charles Read (1971) helped us understand emergent forms of writing and reading. We learned that children
construct, test, and perfect hypotheses about written language. Their research led to Elizabeth Sulzby and her colleagues’ (Sulzby, 1985a, 1985b; Sulzby, Barnhart, & Hieshima, 1989) creation of developmental sequences that children pass through on their way to becoming conventional readers and writers.

Today, outstanding early childhood teachers do not expect young children’s notions of writing and reading to conform to adult models of correctness. They expect children to experiment with print: to scribble, to make marks that look something like letters, to write strings of letters, and so forth. They expect children to look at pictures and “read” a story with an oral telling voice, to look at pictures and “read” a story with a written story voice, to attend to print and “read” in a written story voice, and so forth. Through such explorations, children create meaning and communicate. Their teachers support their explorations with materials and with comments. Their teachers confirm when their hypotheses about print are correct.

Effective Teachers Provide Opportunities for Children to Use Language and Literacy for Real Purposes and Audiences

Research on learning supports the proposition that knowing the reason for a learning situation and seeing a purpose in a task help children learn. Through their lives outside the classroom, children have experienced a wide variety of purposes for writing to various audiences. If children are allowed to experiment with paper and pencils and to write on topics of their choice, these purposes will begin to show up in their early attempts at writing. They will jot down lists of things they need to do, make signs for their doors warning intruders to stay out, and write letters to the editor to complain about injustices.

Similarly, children have experienced many opportunities to read for real purposes. They have shopped in grocery and toy stores, and sometimes they have screamed when their parent refused to purchase the cereal or toy whose label they read and wanted. They have told the car driver who slowed but didn’t come to a full stop at the stop sign to STOP! They have read the address on an envelope collected at the mailbox and said, “You won’t like this one. It’s a bill!”

Notice how many of these reading and writing opportunities are literacy events woven into daily life. The event defines the purpose of the literacy activity. When children read and write for real people, for real purposes, and in ways that are linked with their lives outside of school, they are more likely to be motivated, and motivation is believed to result in learning that is deep and internalized (Gambrell & Mazzoni, 1999). Furthermore, through such meaningful literacy events, school and community are bridged. Just outside the walls of every school are a number of real problems awaiting study. Reading and writing for real purposes abound.

Effective Teachers Link Literacy and Play

In addition to using language and literacy for real purposes, young children also profit from incorporating the language arts into their make-believe play (Roskos, Christie, Widman, & Holding, 2010). Here is an example. The play setting was a park. The teachers and the children generated ideas for the dramatic play setting. There needed to be a place to fish, so the water table became the fishing pond labeled “Lum’s Pond” after the nearby pond. Fish and fishing poles were made in the art center. Paper clips were
attached to the fish and magnets to the end of the string attached to the fishing pole. Soon children were reeling in fish. But in order to fish, one needs a fishing license. A form was created and placed in the writing center. Park rangers ensured that no one fished who did not have a license. Soon the children needed clipboards with paper; tickets had to be issued to children caught fishing without a license.

And so the setting developed. Because the tools of literacy were available to the children, they began to incorporate print into the dramatic play theme in very natural and real-world ways. They wrote for many purposes (e.g., to control others’ behavior, to share stories of vacation experiences, to reserve a tent site). They read books and each other’s writing. They talked “park” talk, negotiating their various “camping/park” schema to create a new shared schema. Within this play setting, they had the opportunity to practice the literacy events they had witnessed in the world outside the classroom and to add to their knowledge about literacy. Enriching play settings with appropriate literacy materials provides young children with important opportunities for literacy learning and for practicing language and literacy. Play is central to children’s learning.

**Effective Teachers Know the Nation’s and Their State’s Language Arts Standards and Provide Instruction Linked to These Standards**

As explained earlier in this chapter, standards define the knowledge and skills that children, all children, must attain. They clarify and raise expectations. Because they identify what all children must know and be able to do, they define what is to be taught and what kind of child performance is expected. Until recently, each state had its own language and early reading standards. Today, many of these state standards are being replaced by the Common Core State Standards. It is crucial that teachers are familiar with these standards and use them to guide their language and literacy instruction.

**Effective Teachers Use Multiple Forms of Assessment to Find out What Children Know and Can Do**

Is the child’s development following the expected trajectory? Is the child acquiring the core-content literacy skills? Today teachers use standardized measures and ongoing progress-monitoring tools to assess children’s progress in acquiring the crucial elements or core-content skills.

Not so very long ago, the literacy field recommended against the use of standardized tests with young children, particularly paper-and-pencil group-administered tests. For example, the 1998 International Reading Association and National Association for the Education of Young Children joint statement cautioned teachers against the use of standardized tests only and encouraged teachers to gather evidence of what their children know and can do through classroom-based, real-life reading and writing tasks. This joint statement also advised teachers of young children to use multiple indicators to assess and monitor children’s development and learning. We concur.

However, the field now also acknowledges that standardized assessments, assessments like the Peabody Picture Vocabulary Test (Dunn & Dunn, 1997) and the Phonological Awareness Literacy Screening (PALS) (Invernizzi, Meier, Swank, & Juel, 1999) can provide teachers with valuable information. Repeated use of the same instruments allows teachers to chronicle children’s development over
time. However, neither standardized nor informal, ongoing assessment should be used alone. When multiple sources of data are used, the likelihood of an accurate understanding of children’s literacy knowledge and learning is increased (IRA/NCTE, 1994).

Teachers use both kinds of assessment to improve their instruction. Teachers must gather information, analyze the information, and use what they learn to inform their instruction. In fact, that is a key purpose of assessment. The Assess-Plan-Teach-Assess model must be central to teachers’ classroom assessment procedures.

**Effective Teachers Respect and Make Accommodations for Children’s Developmental, Cultural, and Linguistic Diversity**

Children arrive in the classroom with different individual language and literacy needs. Our challenge is to offer good fits between each child’s strengths and needs and what we try to give the child. The instruction we provide needs to dovetail with where children are developmentally and with their language and culture.

Some children will come to school having learned how to talk in ways that are consistent with their teachers’ expectations; other children will not. In other words, the ways in which we make meaning and use words are dependent on the practices shared by the members of our community—the words chosen; the sentence structures used; the decision to talk after, or over, another’s comment; and so on. Given our increasingly diverse communities, composed of many different cultures, teachers are more challenged than ever before to understand what this diversity means for their teaching and for their children’s learning. Teachers must teach in ways that allow their children to work to their strengths—and these strengths will be related to children’s cultural backgrounds.

It is only since the 1980s that researchers have investigated early literacy learning in nonmainstream homes and communities. In a pioneering study, Shirley Brice Heath (1983) described how children growing up in one working-class community learned that reading was sitting still and sounding out words—following the rules—whereas children in another working-class community learned that being able to tell a story well orally was more important than being able to read written texts. These conceptions of literacy were quite different from those found in children from middle-class families. The important question is, should these types of cultural differences be viewed as deficits that must be “fixed” for children to succeed in school, or should these differences be viewed as positive characteristics that teachers can use when helping children learn language and literacy? Throughout this book, we give pointers on providing culturally sensitive language and literacy instruction.

A significant and growing group of diverse learners are second-language learners. The population of U.S. children who speak English as a second language has grown from 3.5 million in 1998 to 5.3 million in 2008 (National Clearinghouse for English Language Acquisition, 2010). Nearly 30 percent of the children participating in Head Start programs in 2005 spoke a language other than English (Office of Head Start, 2005). Of this group, those children who speak little or no English are referred to as limited English proficient or English language learners (ELL). Other children are bilingual and can speak both English and their native language with varying degrees of proficiency. These children’s native language might be Spanish, Portuguese, Japanese, or some other world language. We have included several sections in subsequent chapters of this book that focus on English language learners. From these features,
readers will learn which strategies presented in this book are appropriate for use with children whose primary language is a language other than mainstream English and which strategies need to be adapted to meet the needs of these children.

**Effective Teachers Recognize the Importance of Reflecting on Their Instructional Decisions**

The importance of “learning by doing,” standing back from each teaching/learning event to learn from one’s teaching, is not new. John Dewey (1938) is usually credited with proposing the importance of this activity and Donald Schon (1983) with reintroducing the idea into the educational literature. When teachers reflect, they take an active role in studying the impact of their instructional decisions on their children’s development and learning. They identify questions to be answered or problems to be solved. They gather information from the professional literature. They secure examples of their children’s work and their teaching. They carefully analyze these documents to understand the changes that need to be made to support every child’s learning. To reflect is to make teaching problematic: to consider and reconsider the procedures for technical accuracy (e.g., the procedural steps to follow while conducting a guided reading lesson), the reasons for instructional actions and outcomes, and the underlying assumptions of actions that ensure that all children learn (e.g., curriculum mandates that affect teacher decision making or inequities that inhibit student learning).

**Effective Teachers Build Partnerships with Families**

Almost all parents want to support their children’s learning of literacy, but many are unsure of the best way to begin. Similarly, most parents and other primary caregivers vastly underestimate the importance of their role in helping children become competent language users. Research over the past few decades has consistently demonstrated that the thousands of hours of parent–child interactions from the moment of birth through the preschool years provide the foundation for language. Researchers (e.g., Hart & Risley, 1995) have documented that such factors as the family’s socioeconomic status have a significant effect on the number of parent-child interactions children experience, with children from very low-income homes hearing many fewer words during their preschool years than children from professional homes. If words were dollars, children from different socioeconomic homes would have significantly disparate bank accounts. Likewise, parents play a critical role in helping children learn about print (Weigel, Martin, & Bennett, 2005). For example, being read to at home has a significant effect on children’s later reading achievement (Bus, van IJzendoorn, & Pellegrini, 1995). Unfortunately, many parents do not have the resources or literacy legacy to offer their children. As with oral language, research suggests that this is especially true for low-income homes (Christian, Morrison, & Bryant, 1998).

Helping parents understand their role as their child’s first and most impactful literacy model is one of teachers’ most important tasks. In addition, teachers need to take steps to strengthen relationships between parents and school programs (Halgunseth, 2009). In many of the following chapters, we will provide practical suggestions for providing resources for families and developing two-way communications with families.
Summary

In this chapter, we briefly explained the significance of the Common Core State Standards for language arts instruction and compared meaning-based and skills-based approaches for teaching language and literacy. We believe that the best literacy practices use strategies from both approaches. We firmly believe that teachers must use evidence (from research and from their students’ performance) to guide their teaching.

In subsequent chapters, we provide many explanations of how to implement teaching strategies aimed at promoting different aspects of language and literacy development. In addition, the themes of respect for student diversity and instruction linked to assessment appear throughout the book. When appropriate, Special Features about adapting instruction for English Language Learners and for children with special needs are included. Further, given the importance of parents in young children’s language and literacy development, we provide suggestions in most chapters on strategies teachers might use to work effectively with their children’s parents.

To summarize the key points from this chapter, we return to the focus questions at the beginning:

■ What are the Common Core State Standards and why are they important?

The Common Core State Standards (CCSS) are a set of rigorous, research-based K–12 standards in English language arts and mathematics that are being adopted at the national level. (See www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf.) States can adopt the CCSS, and following adoption, these standards replace the state-developed standards. The CCSS define clear goals and expectations for students at each grade level, K–12. As this book goes to press, 47 state departments of education are now working with their school districts to implement these rigorous standards. They are providing teachers with professional development to introduce them to the new expectations for student performance at each grade level. Teachers are working to align their curricula and instructional materials to these new standards. In addition, state departments of education and various organizations are working to build storehouses of instructional resources to support the new learning goals.

■ How is the emergent literacy perspective different from the scientifically based reading research perspective on young children's early literacy learning?

The emergent literacy perspective suggests that children learn about language and literacy by observing, exploring, and interacting with others. Children assume the role of apprentice—mimicking, absorbing, and adapting the words and literacy activities used by more knowledgeable others. Children learn to talk, read, and write by engaging in these activities in meaningful, social situations.

The scientifically based reading research perspective argues that children need to be explicitly taught those skills that the research literature has identified as predictive of later reading success. To date, a number of variables have been identified as predictive of later reading success. These variables include phonemic awareness, alphabet knowledge, print knowledge, oral language/vocabulary, and listening comprehension. As children master these skills, they learn to read and write.

A key difference between the two perspectives is the early literacy practices recommended as appropriate—explicit instruction versus allowing the children to acquire the skills of literacy.
through multiple interactions with print and more knowledgeable others. We believe that effective language arts programs need to include both types of instruction.

**Which principles should guide teachers when teaching language and literacy?**

**Effective teachers:**

- Explicitly teach children skills that research supports as key elements of reading, writing, and speaking;
- Provide children with a print-rich classroom environment;
- Read to children daily and encourage them to read books on their own;
- Demonstrate and model literacy events;
- Provide opportunities for children to collaborate and help each other learn about language and literacy;
- Support children’s experimentation with print;
- Provide opportunities for children to use language and literacy for real purposes and audiences;
- Link literacy and play;
- Know the nation’s and their state’s language arts standards and provide instruction linked to these standards;
- Use multiple forms of assessment to find out what children know and can do;
- Respect and make accommodations for children’s developmental, cultural, and linguistic diversity;
- Recognize the importance of reflecting on their instructional decisions and build partnerships with parents.

**LINKING KNOWLEDGE TO PRACTICE**

1. Access the Common Core State Standards for English Language Arts website: (www.corestandards.org/assets/CCSSI_ELA%20Standards.pdf) and examine the standards for a grade level in which you are teaching (or plan to teach).

2. Observe a teacher in a nearby classroom. How does this teacher’s language and literacy instruction match up with the teaching principles described in this chapter? Does the instruction match up with the Common Core State Standards for English Language Arts for that grade level?
Oral Language Development

Perched in the shopping cart, 9-month-old Dawn babbles away to her mother. As they approach the checkout register, the clerk greets her mother. Dawn smiles, loudly says “Hi!” and waves her hand. The startled clerk smiles at Dawn and begins to talk to her. Dawn, obviously pleased with this attention, now babbles back to the clerk.

As this scenario reveals, the power of language is evident to even its youngest users. Dawn demonstrates that she knows how to use language to express—and realize—her desire to become a significant, communicating member in her world. By age eighteen months, Dawn will have a vocabulary of dozens of words, and she will begin speaking in rule-governed, two-word sentences. By age thirty-six months, her vocabulary will number in the hundreds of words, and she will be using fully formed five- and six-word sentences.

Almost all human beings acquire a language (and sometimes more than one) to the level of native competency before age five. How do children accomplish this remarkable feat in such a short amount of time? Which aspects of language acquisition are biologically programmed into the human brain and which are based on experience? These questions have fascinated scholars and parents for hundreds of years and are the subject of this chapter.

Before Reading This Chapter, Think About . . .

■ What were your first words? Although you probably do not recall uttering those words, maybe your parents or grandparents recollect your having spoken to them. Were your first words recorded someplace, or does your family rely on an oral tradition, telling the family stories orally?

■ How do you think children acquire language? Is language development primarily a matter of genetics (an inborn ability to learn languages), the types of experiences and support children receive from their parents and other people, or a combination of these factors?

■ When do children begin to express their thoughts orally? Why do some children develop language early while others experience language delays?

■ Have you ever been in a situation where everyone around you used a language you don’t know? How did you feel? How did you communicate with these speakers?
Focus Questions

■ What are the major views on how children's language develops? Which aspects of language development does each view adequately explain?
■ What are the major components of language?
■ When does language development begin?
■ How does the structural development of a child's brain affect language acquisition?
■ What factors affect children's rate of language acquisition?
■ How does children's acquisition of a second language compare with their first language acquisition? What should adults do to make it easier for children to learn English as a second language?

Box 2.1
Definition of Terms

behaviorist perspective: the view that language acquisition is a result of imitation and reinforcement.
cerebral cortex: the largest part of the brain, composed of two hemispheres that are responsible for higher brain functions, including thought and language.
critical period: a limited time in which an event can occur; a time in the early stages of a child's life during which the child displays a heightened sensitivity to certain environmental stimuli and develops in particular ways due to experiences at this time. If the child does not receive the appropriate stimulus during this “critical period,” it may be difficult, or even impossible, to develop some functions later in life.
myelination: a process in which the neurons of the brain become coated with a white substance known as myelin, which facilitates the transmission of sensory information and promotes learning.
morpheme: the small unit of meaning in oral language. The word cats contains two morphemes: cat (name of a type of animal) and s (plural).
nativist perspective: the view that language development is a result of an inborn capacity to learn language.
neurobiological perspective: the view that language acquisition can be explained by studying the structural development of the brain.
neuron: one of the impulse-conducting cells that make up the brain.
otitis media: an inflammation of the inner part of the ear that can retard language acquisition.
phoneme: the smallest unit of sound in a language. There are approximately forty-four phonemes in English.
pragmatic: rule that affects how language is used in different social contexts.
semantics: the part of language that assigns meaning to words and sentences.
synapse: connection between the neurons of the brain.
syntax: rules for arranging words into sentences.
social-interactionist perspective: the view that language development is a result of both genetics and adult support.
theory: a set of ideas that forms an explanation for complex phenomena.
Perspectives on Children’s Language Acquisition

Over the last fifty years, four main theories have been put forward to explain the process by which children learn to understand and speak a language: behaviorism, linguistic nativism, social interactionism, and the neurobiological perspective. Theories are propositions that help explain complex phenomena. The question that has long mystified scholars is whether a single theory can describe, in all situations, how humans learn to talk. Theories are also dynamic and fluid—they must continue to evolve as our understanding of human development, science, and the impact of social and cultural influences expand (Cromer, 1997; Schunk, 2003).

We shall consider each of these in turn. Before we do, it is important to recognize that they should not be seen simply as conflicting theories; rather, more researchers now believe that each theory may best describe the complex task of language learning more accurately at some ages and stages than others—replacing each other in a sequence (Golinkoff & Hirsh-Pasek, 2006). We present a brief description of each of these four perspectives in this chapter.

Behaviorist Perspective

The behaviorist view suggests that nurture—the way a child is taught or molded by parents and the environment—plays the dominant role in children’s language development. Through the first half of the 20th century, this was the prevalent view. Researchers and teachers believed that all learning (language included) is the result of two basic processes—classical and operant conditioning (Skinner, 1957). Behaviorists attribute receptive language to associations that result from classical conditioning. For example, every time the baby is offered a bottle, the mother names the object, “Here’s the bottle.” After numerous repetitions with the adult presenting the action/object and phrase, the baby learns that the clear cylinder filled with food is called a bottle.

Behaviorists suggest that through operant conditioning, infants gradually learn expressive language by being rewarded for imitating the sounds and speech they hear. For instance, a baby spontaneously babbles and accidentally says or repeats the sound “mama.” The mother responds joyfully, hugging and kissing the baby, saying, “Yes, Mama!” The baby, given this reward, is reinforced and attempts to repeat the behavior. Once the behavior is repeated and rewarded often enough, the child connects the word sound to the object or event.

In the first few years of a child’s life, when the child is learning to use her vocal apparatus (tongue, lips, palate, and teeth) and to control the amount of airflow that produces the phonemes of our language, the behaviorist theory does explain these early language events. For instance, observe fifteen-month-old Bree learn to say her name:

Mom: Say Bree. (hyper articulating the word)
Bree: Eeee.
Mom: Brrrrrr eeeee.
Bree: (Pouting her lips exactly like her mom) Brrrr.
Mom: Brrrr EEEEE.
Bree: Brrrr EEEEE. (smiles and claps her hands)
Mom: Good girl!
Likewise, when children, or adults for that matter, are first learning a second language, they will often work hard to articulate the sounds of the new language they are trying to master. Affirmation and reinforcement occurs when they are pleased when the word they articulate is actually matched to the object they are trying to name!

However, the behaviorist theory does have limitations. Language is based on a set of structures or rules, which could not be worked out simply by imitating individual utterances. For example, the mistakes made by young children reveal that they are not simply imitating but actively constructing rules. For example, a child who says “goed” instead of “went” is not copying an adult but rather overapplying a grammatical rule. The child has discovered that past-tense verbs are formed by adding an /ed/ sound to the base form. The “mistakes” occur because there are irregular verbs that do not behave in this way. Such forms are often referred to as intelligent mistakes or virtuous errors.

**Nativist Perspective**

The nativist view of learning and development, with its emphasis on nature, is at the opposite end of the continuum from the behaviorist perspective. According to the nativist view, a person’s behavior and capabilities are largely predetermined. Nativists believe every child has an inborn capacity to learn language. If these theorists were using computer terminology, they would say that humans are hard-wired for language. Noam Chomsky (1965) called this innate capacity a language acquisition device (LAD). Nativists posit that the LAD allows children to interpret phoneme patterns, word meanings, and the rules that govern language. For example, when children first begin to use past tenses, they often overgeneralize certain words, such as *drinked* for *drank* or *thinked* for *thought*. Because *drinked* and *thinked* are not words that children would hear adults say, these examples illustrate that children are using some type of internal rule system, not simple imitation, to govern their acquisition of language.

Nativists also believe that this innate language structure facilitates the child’s own attempts to communicate, much the same way as the computer’s wiring facilitates the use of a number of software programs. Nativists believe that language learning differs from all other human learning in that a child learns to communicate even without support from parents or caregivers. They view the environment’s role in language acquisition as largely a function of activating the innate, physiologically based system. Environment, these theorists believe, is not the major force shaping a child’s language development.

While recent advances in brain imaging techniques have left no doubt of the brain’s hardwiring for language, there are issues with the nativist theory as well. Chomsky suggests that language development is innate and will develop naturally as the child grows. However, there is significant evidence for a critical period for language acquisition. This suggests that children who have not acquired language by the age of about five will never entirely catch up (Schick, Marschark, & Spencer, 2006; Mayberry, Lock, & Kazmi, 2001; Newport, Bavelier, & Neville, 2001). The most famous example is that of Genie, discovered in 1970 at the age of thirteen. She had been severely neglected, brought up in isolation, and deprived of normal human contact. Of course, she was disturbed and underdeveloped in many ways. During subsequent attempts at rehabilitation, her caregivers tried to teach her to speak. Despite some success, mainly in learning vocabulary, she never became a fluent speaker, failing to acquire the grammatical competence of the average five-year-old (Curtiss, 1977). Similarly, Jacqueline Sachs, Barbara
Bard, and Marie L. Johnson (1981) published a study of a child known as Jim, the hearing son of deaf parents. Jim's parents wanted their son to learn speech rather than the sign language they used between themselves. He watched a lot of television and listened to the radio, therefore receiving frequent language input. However, his progress was limited until a speech therapist was enlisted to work with him. Simply being exposed to language was not enough. Without the associated interaction, it meant little to him.

**Social-Interactionist Perspective**

Social interactionists do not come down on either side of the nature versus nurture debate; rather, they acknowledge the influence of genetics and parental teaching. They share with behaviorists the belief that environment plays a central role in children's language development and that children are shaped by the particular language environment in which they are raised. Likewise, along with nativists, they believe that that the human brain is automatically wired for language; therefore, children possess an innate predisposition to learn language (Tomasello, 2003).

Interactionists such as Jerome Bruner (1983) suggest that adults support children's language through child-directed speech (or CDS) and also stress the child's own intentional participation in language learning in the construction of meaning. The social interactionist's point of view emphasizes
the importance of the infant’s verbal negotiations or “verbal bouts” (Tomasello, 2008) with caregivers. These negotiations occur partly because mothers or other caretakers treat children’s attempts at speech as meaningful and intentional (Enz & Foley, 2009). An example is eleven-month-old Dawn, standing by the garage door. Dawn is patting the door.

Dawn: “Bice!”
Mom: “Do you want ice?”
Dawn: (shaking her head) “Biiisse.”
Mom: (opening the garage door) “Bise?”
Dawn: (pointing at the bike) “Bise.”
Mom: “You want to go for a bike ride?”
Dawn: (raising her arms, nodding her head vigorously) “Bice!”

As Dawn’s mother (and most mothers) begins to make sense of her child’s speech, she also begins to understand her child’s meaning and/or intent. Stephen Malloch and Colwyn Trevarthen (2010) studied these interactions between parents and babies who were too young to speak. They concluded that the turn-taking structure of conversation is developed through games and nonverbal communication, especially pointing (see Special Feature 2.1, “The Power of Pointing”) long before actual words are uttered. Lev Vygotsky (1962) described this type of adult support, or scaffolding, as facilitating the child’s language growth within the zone of proximal development, the distance between a child’s current level of development and the level at which the child can function with adult assistance. In the preceding example, the mother’s questions enabled Dawn to communicate successfully using a one-word sentence, something she could not have done on her own. Parents also support children’s efforts to learn language by focusing the child’s attention on objects in the immediate environment and labeling each object and its action.

**Neurobiological Perspective**

The psychologists, linguists, and anthropologists who developed the three preceding theories of language acquisition had to infer the origins of language and brain activity from careful, long-term observations of external behavior. Over the past two decades, technological innovations have enabled neuroscientists to study the brain at a cellular level. Brain imaging techniques are noninvasive procedures that allow researchers to graphically record and simultaneously display three-dimensional, color-enhanced images of a living brain as it processes information. These data provide researchers with a better way to understand the organization and functional operations of the brain. The research in this area has virtually exploded in the past decade. Hundreds of studies of how the brain develops, processes, organizes, connects, stores, and retrieves language have been conducted and have added greatly to our understanding of human language (Racine, Bar-Ilan, & Illes, 2006).

According to this perspective, the capacity to learn language begins with brain cells called neurons. Neurons emerge during the early phases of fetal development, growing at the fantastic rate of 250,000 per minute (Hall, 2005). As neurons multiply, they follow a complex genetic blueprint that causes the brain to develop distinct but interdependent systems—brain stem and limbic system, cerebellum, and cerebral cortex (Sporns, 2010). New brain-imaging technology has allowed scientists to
In the months around the first birthday, and before they begin to acquire language in earnest, most babies begin pointing (Butterworth, 2003). Pointing things out for other people seems like a very simple act, but it turns out that this is a uniquely human form of communication. When young children point, they are seeking, and usually receive, the attention of a caregiver. Shared or joint attention is the combined focus of two individuals and is achieved when one individual alerts another to an object by means of eye-gazing, pointing, or other verbal or nonverbal indications. Two important skills in joint attention are following eye gaze and identifying intention, as the two communicators must interpret the goal or purpose of the point. The ability to identify intention is important for many aspects of language development, including comprehension, production, and word learning (Tomasello, Carpenter, & Lidzskowski, 2007). Shared attention with another person allows a young child to either request information or offer information depending on the communication context. For example:

- **Briar: eleven months**—with her mother at a Sea Park, points to jumping dolphin—mom interprets Briar pointing as wanting to know the name of the creature leaping in the air. “That’s a dolphin, Briar.”
- Mom interpreted Briar’s pointing as a request for information—the dolphin’s name.
- **Briar: twelve months**—Grandma has folded Briar’s clothes and is walking into Briar’s bedroom. Briar, who is playing on the floor, points to the chest of drawers to indicate where the clothes should go.
- Briar offered information to her Grandma as she apparently realized the intention of her grandmother to put away the clothes. Briar also appeared to know that her Grandmother would not know where to put the clothes, so Briar cooperated with her Grandma by sharing information with her via the point.

Babies use pointing to enter a shared attention state with their caregivers. Pointing is an effective social tool that helps babies transition from non-linguistic to linguistic forms of human communication (Behne, Carpenter, & Tomasello, 2005).
Oral Language Development

**Figure 2.1**

**Theoretical Perspectives on Language Acquisition**

**Behaviorist**

Learning consists of two basic processes:
1. Classical conditioning
2. Operant condition and imitation

**Nativism**

Humans have innate capacity dedicated to acquiring and using language: language acquisition device (LAD). Language in child's environment triggers innate LAD system.

**Biological**

Environment plays central role

**Language learning is inherent**

**Social-interactionist**

- Child actively and intentionally participates in language learning and the construction of meaning.
- Child's interactions with caretakers, siblings, and others support, shape, and confirm the child's construction of language.
- Language is meaningful and intentional even from the earliest interactions.

Dynamic interaction of nature & nurture

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a persistent caregiver who models the language with the child. Likewise, neuroscientists agree that a child's language capacity is dependent on the quality of language input. Parents and caregivers who consistently engage in conversation with their infants actually help their children develop neural networks that lead to language fluency and proficiency (Werker & Y eung, 2005; Kuhl, Tsao, Liu, Zhang, & de Boer, 2001; Kövecses, 2006). In Figure 2.1, we summarize the major concepts of these four perspectives of language acquisition.

**Linguistic Vocabulary Lesson**

Humans are equipped with sophisticated apparatus for producing and hearing speech. Speech is a physical activity involving both gestures (in the case of signed languages) and anatomical components such as the diaphragm, ears, vocal cords, and such (in the case of oral languages). It is also a mental
activity, involving the brain in all its complexity, such as the ability to decode, interpret, and perceive. Linguistics is the study of language. To better understand the complexities of language acquisition, we provide a brief discussion of the components of the linguistic structures of phonology, morphology, syntax, semantics, and pragmatics.

**Phonology**

The sound system of a particular language is its phonology, and the distinctive units of sound in a language are its phonemes. Individual phonemes are described according to how speakers modify the airstream they exhale to produce the particular sounds.

Phonological development begins when sounds of speech activate neural networks in the infant's brain. This process begins during the last three months of prenatal development, as babies are able to hear intonation patterns from their mother's voice (Hetherington, Parke, & Otis-Locke, 2003).

Scientists have recently determined that because the mechanical aspects of the auditory system are in place prior to birth, the neural network that supports language acquisition has already started to develop. In fact, at birth, babies demonstrate a preference for the phonemes, rhythms, and tonal patterns of their native language (Vouloumanos & Werker, 2007; Werker & Tees, 2005). (See Special Feature 2.2, “How Scientists Assess Infant Knowledge.”)

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**Special Feature 2.2**

**How Scientists Assess Infant Knowledge**

During the last twenty years, developmental psychologists have developed creative ways to assess infants' knowledge. Developmental scientists have known for decades that infants are able to control their sucking movements long before they can control other motor movements, like reaching. Thus, developmental scientists exploit experimental methods that rely on infants’ ability to control their sucking motions to assess what infants notice, perceive, and, in some cases, what they know. This experimental method is one way to assess human infant cognition.

For example, to assess newborn infants' recognition of their native versus an unfamiliar language, a researcher gives the infant a pacifier that is attached to a computer and can analyze the frequency and intensity of the infant's sucking. Over the years, researchers have determined that infants suck harder and more frequently when they hear familiar voices, sounds, songs—this is called infant preference. An infant who hears an unfamiliar voice, sound, or song slows down his or her sucking response and reduces the intensity of sucking. This type of research has suggested several findings (Gopnik et al., 2001; Vouloumanos & Werker, 2007). Newborn infants recognize and prefer

- the sound of the human voice to all other sounds.
- the sound of their mother's voice to all other female voices.
- the cadence/tonal qualities of their native tongue(s).
- familiar music they have heard frequently in the womb.
However, language use begins in earnest when infants engage in verbal interactions with caregivers. These early interactions allow babies to clearly hear sounds of their native language(s) and observe how the mouth and tongue work to create these unique sounds. Simultaneously, as babies coo and babble, they gain motor control of their vocal and breathing apparatus. Interactions with caregivers allow babies an opportunity to listen, observe, and attempt to mimic sounds they hear and the mouth and tongue movements they see (Tomasello, 2008). Through this process, babies begin to specialize in the sounds of their native language(s). The developmental window of opportunity (sometimes called the critical period) for mastering sound discrimination occurs within the first six months of an infant’s life. By this time, babies’ brains are already pruning out sensitivity to sounds that are not heard in their environment. This pruning is so efficient that children actually lose the ability to hear phonemes that are not used in their mother tongue. Children who consistently hear more than one language during this time may become native bi- or trilinguals, as they retain the ability to hear the subtle and discrete sounds (Werker & Byers-Heinlein, 2008).

Another important aspect of the English phonology is its prosody, or the stress and intonation patterns of the language. Stress refers to the force with which phonemes are articulated. Where the stress is placed may distinguish otherwise identical words (REcord [noun] versus reCORD [verb]). Intonation, on the other hand, refers to the pattern of stress and of rising and falling pitch that occurs within a sentence. These changes in intonation may shift the meaning of otherwise identical sentences:

- IS she coming? (Is she or is she not coming?)
- Is SHE coming? (her, not anyone else)
- Is she COMING? (hurry up; it’s about time)

Babies as young as four and five months begin to experiment with the pitch, tone, and volume of the sounds they make and often produce sounds that mimic the tonal and stress qualities of their parents’ speech.

**Morphology**

As babies’ phonological development progresses, they begin to make morphemes. Morphemes are the smallest unit of meaning in oral language. While it used to be thought that children didn’t make word meaning to sound connections until around their first birthday, the science of infant language acquisition has learned a great deal more about how infants and toddlers develop language. For instance, scientists now report that the sounds that give parents such a thrill—Mama, Dada—actually mark the very beginning of human word comprehension (Hayes & Slater, 2008). It is now believed that the origins of language—linking sound patterns with specific meanings—stem from discrete associations infants make, beginning with socially significant people, such as their parents, at six months of age. Researchers Roberta Golinkoff and Kathy Hirsh-Pasek (2006) refer to these first words as “anchor” words, which allow babies to recognize new words that come later. Real words are mixed with word-like sounds (echolalia). As real words emerge, they can be categorized into the following:

- **Lexical**: individual meaning carrying words, such as cat, baby.
- **Bound**: units of sound that hold meaning (like re, un) but must be attached to other morphemes (reorder, unbend).
**Derivational and inflectional:** usually suffixes that change the class of the word; for example: noun to adjective—*dust* to *dusty,* verb to noun—*teaches* to *teacher.*

**Compound:** two lexical morphemes that together may form a unique meaning, such as *football* or *cowboy.*

**Idiom:** an expression whose meaning cannot be derived from its individual parts; for example, the saying “put your foot in your mouth” carries a very different meaning from the visual image it conjures up.

**Syntax**

Syntax refers to how morphemes, or words, are combined to form sentences or units of thought. In English, there are basically two different types of order—linear and hierarchical structure. Linear structure refers to the object-verb arrangement. For example, *Building falls on man* means something very different than *Man falls on building.* Hierarchical structure refers to how words are grouped together within a sentence to reveal the speaker’s intent. However, different languages have unique and inherent rules that govern syntax. A speaker of English might say: *The long, sleek, black cat chased the tiny, frightened, gray mouse.* A language with syntactical rules that differ from English could state it this way: *Chasing the gray mouse, tiny and frightened, was the cat, long, sleek, and black.*

Shortly after their first birthdays, most children are able to convey their intentions with single words. Have you ever heard a young child use the powerful words *no* and *mine?* More complex, rule-driven communication usually emerges between the ages of two and three, when children are able to construct sentences of two or more words.

Though children have prewired capacity for language rules (such as past tense), adult scaffolding or support plays a significant role in extending and expanding a child’s language development. For instance, when Joe says *deenk,* his day-care teacher can extend and clarify Joe’s intentions: *Joe, do you want to drink milk or juice?* If Joe says *I drunked all the milk,* his teacher might tactfully expand his statement: *Yes, Joe, you drank all of your milk.* This type of subtle modeling is usually the most appropriate way to support children as they learn the conventional forms and complexities of their language. However, even when adults expand a child’s speech, the child’s own internal rule-governing system may resist modification until the child is developmentally ready to make the change (Ramscar & Gitcho, 2007). The following interaction between a four-year-old and an interested adult illustrates this phenomenon:

**Child:** My mom holded the baby, and I kissed her.
**Adult:** Did you say your mom held the baby?
**Child:** Yes.
**Adult:** What did you say that she did?
**Child:** She holded the baby, and I kissed her.
**Adult:** Did you say she held the baby?
**Child:** No. She holded the baby.
Semantics

Semantics deals with the subtle shades of meaning that language can convey. Variations in language meanings generally reflect the values and concerns of the culture. For instance, dozens of Arabic words may be dedicated to describing the camel's range of moods and behaviors. The Polynesian language has many words that define variations in the wind; likewise, Inuit languages include many words for snow.

Knowledge of word meaning is stored throughout the brain in a vast biological forest of interconnected neurons, dendrites, and synapses. Beyond culture, children's ongoing personal experience allows them to connect words and meaning. Because words are symbolic labels for objects, events, actions, and feelings, a child may initially call all four-legged animals *kitty*. However, after several first-hand encounters with kitties (with the support of adults who can help label and describe the event), a child will likely develop the concepts and vocabulary to discriminate kitties from doggies, kittens from cats, and eventually Persians from Siamese.

Pragmatics

Sitting in his bouncer, two-month-old Marcus studies his mother's face as she talks to him. In a high-pitched voice, she exaggerates her words in a singsong manner: *Lookeee at Mommeee. I see baabee Marceee looking at Mommeee*. Baby Marcus appears to mimic her mouth movements and responds to her with smiles, wiggles, and very loud coos. After Marcus quiets, his mother knowingly responds to her baby's comments, *Yes, you're right. Mommeee does love her Marceee-Boy.*

When parent and child engage in singsong conversation of parent and baby vocalizations, the basic conventions of turn taking are learned, but rarely does the teacher or student realize that a lesson was being taught. Pragmatics deals with the conventions of becoming a competent language user. These include rules on how to engage successfully in conversation with others, such as how to initiate and sustain conversation, how to take turns, when and how to interrupt, how to use cues for indicating subject interest, and how to tactfully change subjects (Otto, 2006).

Pragmatics also refers to the uses of language (spoken and body) to communicate one's intent in real life. The message of a speaker's actual words may be heightened or may even convey the opposite meaning depending on the manner in which the words are delivered. This delivery may include inflection, facial expressions, or body gestures. Take, for example, this statement: *I'm having such a great time.* Imagine that the person who is saying this phrase is smiling easily and widely, and making direct eye contact with the person with whom she is sharing her time. Now, picture the person saying *I'm having such a great time* while sneering and rolling her eyes (see Figure 2.2). Though the words are identical, the intent of the two speakers is obviously completely different. Further, pragmatics deals with an increasing conscious awareness of being able to accomplish goals through the use of language.

Children who are learning two languages simultaneously may also begin to exhibit the body languages that often accompany particular cultures. For example, four-year-old Hasina Elizabeth speaks both Arabic (dad's language) and British-English (her mother's tongue). At her young age, Hasina is fluent and responds back in the language she is prompted with, including gestures and dialect. When her mother asks, “Do you want biscuits [the British word for cookies],” Hasina responds by straightening her back, lifting her chin, and saying a perfect, “Why, yes. Thank you!” All mannerisms would suggest
a very proper British lady. The following morning when her dad asks the same question in Arabic, she responds by leaning in close to him and holding her hands out with a bold hand gesture; “Thank you very much,” she replies in Arabic. Though the words were nearly the same, her language delivery, physical posture, and facial expressions reflected the cultural mannerisms that her parents model when they speak to her. Hence, we see that language is more than the words alone—it also includes nonverbal interactions and mannerisms (Mayberry & Nicoladis, 2000).

As children mature, they are also able to use social registers—or the ability to adapt their speech and mannerisms to accommodate different social situations. This level of communicative competence can be observed in children as young as five as they engage in pretend play. During dramatic play, children may easily switch roles—baby to parent, student to teacher, customer to waiter—by using the vocabulary, mannerisms, and attitudes that convey the role they wish to play.

In reviewing these linguistic structures—phonology, morphology, syntax, semantic, and pragmatics—it seems amazing that children acquire these components naturally. Parents rarely teach these intricate conventions directly. Instead, children acquire these intricate communication skills by listening, imitating, practicing, observing, and interacting with supportive caregivers and peers.
Observing the Development of Children’s Language

By the time they enter school, most children have mastered the basic structures of language and are fairly accomplished communicators. Though individual variations do occur, this rapid acquisition of language tends to follow a predictable sequence.

This progression will be illustrated by following Dawn from infancy through kindergarten. Dawn is the child of educational researchers. Her development is like that of almost every other normal child throughout the world, except that it was documented by her researcher-parents. Dawn’s parents used a simple calendar-notation procedure to collect information about their children’s language development. When Dawn’s parents reviewed the datebook/calendar each morning, new words and phrases were recorded. Thus, it became quite easy to document Dawn’s growth over time. When these busy parents had a reflective moment, they recorded their recollections (vignettes) of an event and dated it. Often, at family celebrations, a video camera was used to record the events of Dawn’s use of language in great detail. Occasionally, videotapes also documented story times. By using the calendar vignettes and the videotapes, Dawn’s parents were able to marvel at her growth and development.

In Dawn’s five-year case study, we observe her language acquisition from a social-interactionist perspective with neurobiological information that details what is occurring in Dawn’s brain. By intertwining the two views, we can easily see how Dawn’s language development is a dynamic interaction of her intentions, the physical coordination of her mouth and tongue, her neural development, and the support of her family members. This complex dance of nurture and nature reveals that Dawn’s skills do not automatically develop at a certain point in brain maturation, but, by the same token, without a particular level of neural growth, Dawn would not be able to accomplish her goals.

Birth to One Month

During the first month of Dawn’s life, most of her oral communication consisted of crying, crying, crying. The greatest challenge her parents faced was interpreting the subtle variations in her cries. It took about three weeks for them to understand that Dawn’s intense, high-pitched cry meant she was hungry. Dawn’s short, throaty, almost shouting cries indicated a change of diaper was necessary, while the whining, fussy cry, which occurred daily at about dinner time, meant she was tired.

At birth, the human brain is remarkably unfinished. Most of the 100 billion neurons, or brain cells, are not yet connected. In fact, there are only four regions of the brain that are fully functional at birth, including the brain stem, which controls respiration, reflexes, and heartbeat, and the cerebellum, which controls the newborn’s balance and muscle tone. Likewise, infants’ sensory skills are rudimentary; for instance, newborns can only see objects within 12 to 18 inches of their faces. Still, newborns are able to distinguish between faces and other objects and they recognize the sound of their parents’ voices.

Two to Three Months

During the second to third months after Dawn’s birth, she began to respond to her parents’ voices. When spoken to, Dawn turned her head, focused her eyes on her mother or father, and appeared to listen and watch intently. Her parents and grandparents also instinctively began using an
Chapter 2

exaggerated speech pattern called parentese (often called baby talk). Until recently, parents were cautioned against using baby talk or parentese with their infants because it was believed to foster immature forms of speech. However, recent studies have demonstrated that this slowed-down, high-pitched, exaggerated, repetitious speech actually seems to facilitate a child's language development because:

- The rate and pitch of parentese perfectly matches the infants’ auditory processing speed. As babies mature, their brains eventually reach normal speech rates.
- Parentese also allows babies many opportunities to see and hear how sounds are made and, thus, to learn how to control their own vocal apparatus. As babies carefully observe parents, siblings, and other caregivers, they often mimic the tongue and mouth movements they see (Thiessen, Hill, & Saffran, 2005).

_During the first three months of life, the number of neural synapses, or connections, increases twenty times to more than 1,000 trillion. These neural connections are developed through daily verbal and physical interactions that the infant shares with parents, siblings, and other caregivers. Daily routines, such as feeding and bathing, reinforce and strengthen particular synapses, while neural networks that are not stimulated will eventually wither away in a process called neural pruning._

**Four to Six Months**

During conversations with her parents, Dawn would often move her mouth, lips, and eyes, mimicking the facial movements of her parents. At the beginning of the fourth month, Dawn discovered her own voice. She delighted in the range of sounds she could make and sometimes chuckled at herself. At this point, Dawn (and most typically developing infants) could make almost all of the vowel and consonant sounds. She cooed and gurgled endlessly, joyfully experimenting with phonemic variations, pitch, and volume. When spoken to, she often began her own stream of conversation, called “sound play,” which would parallel the adult speaker. At six months, Dawn was becoming an expert at imitating tone and inflection. For example, when her mother yelled at the cat for scratching the furniture, Dawn used her own vocal skills to yell at the poor animal, too.

_The cerebral cortex, the part of the brain that is responsible for thinking and problem solving, represents 70 percent of the brain and is divided into two hemispheres. Each hemisphere has four lobes—the parietal, occipital, temporal, and frontal. Each of these lobes has numerous folds, which mature at different rates as the chemicals that foster brain development are released in waves. This sequential development explains, in part, why there are optimum times for physical and cognitive development. For instance, when a baby is three or four months old, neural connections within the parietal lobe (object recognition and eye-hand coordination), the temporal lobe (hearing and language), and the visual cortex have begun to strengthen and fine-tune. This development allows babies’ eyes to focus on objects that are more than two feet away from their faces. This new ability allows babies to recognize themselves in a mirror and begin to visually discern who’s who. At this same time, babies begin to mimic the tongue and mouth movements they see. Babies also experiment with the range of new sounds they can make. These trills and coos are also bids for attention, as most babies have begun to make simple cause-and-effect associations, such as crying equals Momma’s attention._
Six to Nine Months

During this time, Dawn's muscle strength, balance, and coordination allowed her to have greater independent control over her environment as she mastered the fine art of crawling and stumble-walking around furniture. These physical accomplishments stimulated further cognitive development, as she now had the ability to explore the world under her own power.

At seven months, Dawn's babbling increased dramatically. However, the sounds she produced now began to sound like words, which she would repeat over and over. This type of vocalizing is called "echolalia." Though "MmmmaaMmmaaa" and "DddaaaDddaaa" sounded like "Mama" and "DaDa," they were still not words with a cognitive connection or meaning.

In her eighth month, Dawn's babbling began to exhibit conversation-like tones and behaviors. This pattern of speech is called "vocables." While there were still no real words in her babble, Dawn's vocalizations were beginning to take on some of the conventions of adult conversation, such as turn taking, eye contact, and recognizable gestures. These forms of prelanguage are playlike in nature, being done for their own sake rather than a deliberate use of language to communicate a need or accomplish a goal.

At approximately nine months, Dawn first used real, goal-oriented language. As her father came home from work, she crawled to him, shouting in an excited voice, "Dada, Dada," and held her arms up to him. Dawn's accurate labeling of her father and her use of body language that expressed desire to be picked up were deliberate actions that revealed that Dawn was using language to accomplish her objectives.

As a child matures, the actual number of neurons remains relatively stable. However, the human brain triples its birth weight within the first three years of a child's life. This change is caused as neurons are stimulated and synapse connections increase, as the message-receiving dendrite branches grow larger and heavier. In addition, the long axons over which sensory messages travel gradually develop a protective coating of a white, fatty substance called myelin. Myelin insulates the axons and makes the transmission of sensory information more efficient. Myelination occurs at different times in different parts of the brain and this process seems to coincide with the emergence of various physical skills and cognitive abilities. For instance, the neuromuscular development during the first months of life is dramatic. Within the first six months, helpless infants develop the muscle tone and coordination that allow them to turn over at will. Babies develop a sense of balance and better eye–hand coordination as neural connections in the cerebellum and parietal lobe strengthen. This allows most six-month-old babies to sit upright, with adult support, and successfully grasp objects within their reach. The ability to hold and inspect interesting items gives babies a lot to "talk" about.

Between six and seven months, the brain has already created permanent neural networks that recognize the sounds of a child's native language(s) or dialect. Next, babies begin to distinguish syllables, which soon enables them to detect word boundaries. Prior to this, "doyouwantyourbottle?" was a pleasant tune, but was not explicit communication. After auditory boundaries become apparent, babies will hear distinct words, "Do / you / want / your / BOTTLE?" As sounds become words that are frequently used in context to label a specific object, the acquisition of word meaning begins (Golinkoff & Hirsh-Pasek, 2006). At this stage of development, babies usually recognize and have cognitive meaning for words such as bottle, momma, and daddy. Their receptive or listening vocabulary grows rapidly, though it will take a few more months before their expressive or oral language catches up (Thiessen & Saffran, 2003).
From about the eighth to the ninth month, the hippocampus becomes fully functional. Located in the center of the brain, the hippocampus is part of the limbic system. The hippocampus helps to index and file memories, and as it matures, babies are able to form memories. For instance, babies can now remember that when they push the button on the busy box it will squeak. At this point, babies’ ability to determine cause and effect and remember words greatly increases.

**Nine to Twelve Months**

Between age nine months and her first birthday, Dawn's expressive (speaking) and receptive (listening and comprehending) vocabulary grew rapidly. She could understand and comply with dozens of simple requests, such as “Bring Mommy your shoes” or the favorite label-the-body game, “Where is Daddy’s nose?” In addition, Dawn's command of nonverbal gestures and facial expressions were expanding from waving “bye-bye” to scowling and saying “no-no” when taking her medicine. In addition, holophrastic words began to emerge, in which one word carried the semantic burden for a whole sentence or phrase. For example, “keeths,” while holding her plastic keys, purse, and sunglasses meant “I want to go for a ride,” or “iith” meant “I want some ice.” Dawn also used overgeneralized speech in which each word embraced many meanings. For instance, *doll* referred not only to her favorite baby doll but to everything in her toy box, and *jooth* stood for any type of liquid she drank.

At the end of the first year, the prefrontal cortex, the seat of forethought and logic, forms synapses at a rapid rate. In fact, by age one, the full cortex consumes twice as much energy as an adult brain. This incredible pace continues during the child's first decade of life. The increased cognitive capacity and physical dexterity stimulates curiosity and exploration and a deep desire to understand how things work. Neural readiness, in combination with countless hours of sound play and verbal exchanges with loving caregivers, allows most children to begin speaking their first words.

In Special Feature 2.3, “Experience and the Developing Brain,” Sandra Twardosz describes more about how the brain's expectation of certain stimulation helps with rapid brain development.

**Special Feature 2.3**

**Experience and the Developing Brain**

SANDRA TWARDOSZ  
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Brain development continues, not only during infancy and childhood, but throughout the life span, as life experiences affect the structure and function of the brain.

You will recall that the brain is not finished at birth and that the child’s experiences—his or her interactions with family and the environment—play a major role in its further development. This is part of what we mean when we say that the brain is plastic; it can be changed by experience. However, not all of brain development is guided by experience. Much of what occurs before birth, for example, is genetically regulated and protected from minor variations in the environment; it is organized ahead of
experience (Black, 2003; Marcus, 2003). Nerve cells (neurons) are born; migrate to precise locations, such as the frontal cortex or cerebellum; and take on their appropriate functions. These complex processes are guided primarily by gene expression and the interaction of parts of the developing brain with one another. The result is that the infant enters the world with an unfinished brain but one that is human, individually unique, and set up to use experience to develop throughout life (Marcus, 2003; Stiles, 2008).

Although billions of neurons have been produced and have migrated to specific locations during prenatal development, most of the connections or synapses among the neurons develop after birth. Neuroscientists who study the way the brains of animals and humans change across the life span believe that experience plays a role in the development of those connections in at least two major ways, experience-expectant and experience-dependent development. Experience-expectant development is associated with sensitive periods, times when the brain is more responsive to a certain type of experience than it will be later; experience-dependent development refers to the way experience is incorporated into brain structure and function throughout life (Bruer & Greenough, 2001; Greenough, Black, & Wallace, 1987).

Experience-expectant development occurs when the brain produces an overabundance of synapses at specific times in preparation for the stimulation that children will almost certainly have simply because they are human beings growing up in typical human environments. For example, almost all children are exposed to touch, sights, sounds, language, and parental care; the brain anticipates those experiences by producing an overabundance of connections and allowing experience to shape and prune them. Seeing patterned light or hearing the sounds of language help to select and organize the connections that will survive in the brain; those that are not selected by experience die, an essential part of the process that allows the brain to function normally and efficiently (Greenough & Black, 1999).

The overproduction and pruning of synapses does not occur simultaneously in all areas of the brain. For example, these processes occur in the visual and auditory areas of the cerebral cortex before they occur in areas devoted to language. The pruning of synapses in areas of the prefrontal cortex that control higher cognitive functions and self-regulation is not finished until late adolescence or early adulthood (Huttenlocher, 2002; Thompson & Nelson, 2001). Thus, different parts of the brain will be most responsive to experience at different times, and the earlier development of some areas may provide the basis for the development of others (Knudsen, Heckman, Cameron, & Shonkoff, 2006).

Periods of overproduction and pruning of connections mark the times when the brain is particularly sensitive to certain types of experience; if that experience is not available, or if sensory organs are not functioning properly, normal development may not occur even if the experience is available later. The child’s developing visual system, for example, requires that both eyes send clear images to the brain and be pointed in the same direction for visual acuity and binocular vision to develop. This is because the visual cortex “expects” this type of information about the world to organize and prune the connections that have been produced in anticipation of this experience. Infants born with cataracts that cloud their vision or whose eyes are misaligned must have these conditions corrected very early in infancy if normal development of
the visual cortex, and thus normal vision, is to occur (Lewis & Maurer, 2005; Tychsen, 2001).

Some aspects of language development also appear to operate in an experience-expectant manner. For example, before the age of twelve months, infants can discriminate among the phonetic units of all human languages; by the time they are a year old, however, they have become more accurate at discriminating the phonetic contrasts of their native language and less accurate with the sounds of languages they have not been hearing. As a result of being exposed to those specific sounds, the brain may have altered its structure, and this new structure interferes with learning the phonetic distinctions of a second language (Kuhl, 2004). Similarly, children who have been deprived of the opportunity to develop attachments with caregivers during infancy sometimes face difficulties with subsequent social development. The brain may be particularly responsive during infancy to the “expected” experiences provided to infants as they are protected and nurtured (Thompson & Nelson, 2001).

Experience-expectant development predominates during infancy and early childhood and even extends into early adulthood. However, it is not the only way in which experience shapes the brain. There is another mechanism that begins at birth and continues throughout life in which experience exerts its effect on brain connections in a different way.

Experience-dependent development occurs when new synapses are formed or existing synapses are modified in response to the experiences of the individual. Connections are produced when they are needed rather than being produced in advance, and these new or modified synapses are then available to help with future learning. The ability to change in response to experience is a type of plasticity that the brain retains throughout life and that allows individuals to store information that is unique to them as a member of a specific culture, community, and family. These unique experiences are acquired through exploration of the environment, play, social interaction, or specific teaching (Black, 2003; Bruer & Greenough, 2001; Greenough et al., 1987).

As the individual matures beyond infancy, more brain development is likely to be experience-dependent (e.g., Black, 2003), and this concept is probably more relevant for describing how children acquire vocabulary and literacy skills and how teachers learn new strategies for teaching them. Evidence for experience-dependent development includes controlled studies in which changes in brain structure appeared to result from learning to read in adulthood (e.g., Carreiras et al., 2009) and from participating in specific music training in elementary school (Hyde et al., 2009).

The concepts of experience-expectant and experience-dependent development can help us think about how experience may be affecting the brain as we observe, interact with, and teach children and as we struggle with and enjoy learning as adults. However, we must be cautious with this information, too. Despite the enormous advances that have been made in recent years, the study of the brain, particularly the human brain, is in its infancy. Thus, information from developmental neuroscience must be viewed as a supplement to the understanding we have about teaching and learning from other disciplines such as developmental psychology and education.

Source: Sandra Twardoz. Used with permission.
Twelve to Eighteen Months

At this time, Dawn's vocabulary expanded quickly. Most of her words identified or labeled the people, pets, and objects that were familiar and meaningful to her. Research suggests that young children between ages one and six are capable of learning approximately nine new words a day if they are exposed to new vocabulary (Hepburn, Egan, & Flynn, 2010). This ability to relate new words to preexisting internalized concepts, then remember and use them after only one exposure, is called fast mapping (Gershkoff-Stow & Hahn, 2007).

Because chronological age is not a reliable indicator of language progression, linguists typically describe language development by noting the number of words used in a sentence, which is called “mean length of utterance” (MLU). At this point, Dawn was beginning to use two-word sentences such as “Kitty juuth.” Linguists call these two- and three-word sentences “telegraphic speech” as they contain only the most necessary of words to convey meaning. However, these first sentences may have many interpretations; for instance, Dawn's sentence “Kitty, juuth” might mean “The kitty wants some milk” or “The kitty drank the milk,” or even “The kitty stuck her head in my cup and drank my milk.” Obviously the context in which the sentence was spoken helped her parents to better understand the intent or meaning of her communication.

By eighteen months, neural synapses have increased, strengthened, and are beginning to transmit information quite efficiently; hence, most toddlers begin to experience a language “explosion.” Brain imaging technology clearly reveals that the full cortex is involved in processing language.

Eighteen to Twenty-Four Months

Around age eighteen months to two years, as Dawn began using sentences more frequently, the use of syntax became apparent. “No shoes” with a shoulder shrug meant she couldn’t find her shoes, but “Shoes, no!” said with a shaking head, meant Dawn did not want to put on her shoes.

At two years of age, most children have fully wired brains and nimble fingers and are sturdy on their feet. Though they are generally aware of cause and effect, they are still unable to foresee potential problems. In other words, children’s physical abilities may exceed their common sense. By this time, most children are able to use language to communicate their needs and accomplish their goals. Increased neural activity plus verbal expression and physical skill also give rise to greater independence. At this time, parents may hear the word “No!” quite often.

Biologically, the brain is fully functional by this time. The remainder of a child’s language development relies on the experiences and opportunities the child has to hear and use language with more experienced language users.

Twenty-Four to Thirty-Six Months

Though Dawn's vocabulary grew, her phonemic competence did not always reflect adult standards. Many of her words were clearly pronounced (kitty, baby), while others were interesting phonemic attempts or approximations (bise for bike, Papa for Grandpa, bawble for bottle); others were her own
construction (NaNe for Grandma). At this age, most children are unable to articulate perfectly the sounds of adult speech. Rather, they simplify the adult sounds to ones they can produce. Sometimes this means they pronounce the initial sound or syllable of a word (whee for wheel), and at other times they pronounce only the final sound or syllable (ees for cheese). Another common feature is temporary regression, meaning that they may pronounce a word or phrase quite clearly, then later produce a shortened, less mature version. This, too, is a normal language developmental phase for all children. Thus, it is important that parents accept their child’s language and not become overly concerned with correcting their pronunciation.

Likewise, children’s early attempts to use sentences need thoughtful support, not critical correction. Parents can best support their child’s attempts to communicate through extensions and expansions. Extensions include responses that incorporate the essence of a child’s sentence but transform it into a well-formed sentence. For example, when Dawn said, “Ree stor-ee,” her father responded, “Do you want me to read the storybook to you?” When parents and caregivers use extensions, they model appropriate grammar and fluent speech and actually help to extend a child’s vocabulary.

When parents use expansions, they gently reshape the child’s efforts to reflect grammatically appropriate content. For example, when Dawn said, “We goed to Diseelan,” instead of correcting her (“We don’t say goed, we say went”), her mother expanded Dawn’s language by initially confirming the intent of Dawn’s statement while modeling the correct form, “Yes, we went to Disneyland.”

The adaptations parents make when talking to young children, such as slowing the rate of speech, using age-appropriate vocabulary, questioning and clarifying the child’s statements, and extensions and expansions occur in all cultures. These early interactions with children and the gradual and building support are called parentese or, more gender-specifically, motherese and fatherese. When parents use this form of support, they are actually helping their children gain communicative competence and confidence (Tomasello, 2003). Between the ages of two and three years, Dawn’s language had developed to the point where she could express her needs and describe her world to others quite well. In addition to using pronouns, she also began to produce grammatical inflections: -ing, plurals, the past tense, and the possessive.

<table>
<thead>
<tr>
<th>Statements</th>
<th>Age</th>
</tr>
</thead>
<tbody>
<tr>
<td>“I lub you, Mama.”</td>
<td>2.0*</td>
</tr>
<tr>
<td>“Boot’s crywing.”</td>
<td>2.1</td>
</tr>
<tr>
<td>“Dawn’s baby dawl.”</td>
<td>2.2</td>
</tr>
<tr>
<td>“My books.”</td>
<td>2.4</td>
</tr>
<tr>
<td>“Grover droppted the radio.”</td>
<td>2.6</td>
</tr>
<tr>
<td>“Cookie Monster shutted the door.”</td>
<td>2.8</td>
</tr>
<tr>
<td>“She’s not nice to me.”</td>
<td>2.9</td>
</tr>
<tr>
<td>“Daddy’s face got stickers; they scratch.”</td>
<td>3.0</td>
</tr>
</tbody>
</table>

*Indicates age by years and months.

Dawn also loved finger plays, such as “The Itsy, Bitsy Spider” and “Grandma’s Glasses”; poems, such as “This Little Pig”; and songs, such as “Jingle Bells,” “Yankee Doodle,” and the “Alphabet Song.” She was also beginning to count and echo-read with her parents when they read her favorite stories, like the “Three Little Pigs.” Dawn would “huff and puff and blow your house down” as many times as her parents would read the story.
Three to Five Years

Dawn had become a proficient language user. She could make requests, “Please, may I have some more cake?” and demands, “I need this now!” depending on her mood and motivation. She could seek assistance, “Can you tell me where the toys are?” and demonstrate concern, “What’s the matter, Mama?” She sought information about her world, “Why is the moon round one time and just a grin sometimes?” She could carry on detailed conversations, just as she did in the grocery store at 4.0 (4 years and 0 months):

Mom: Dawn, what juice did you want?
Dawn: Orange juice. But not the kind that has the little chewy stuff in it.
Mom: That is called pulp.
Dawn: Pulp—ick! I don’t like it because it tasted badly.
Mom: Well, do you remember what kind has the pulp?
Dawn: You know, it comes in the orange can and has the picture of the bunny on it.
Mom: Well, there are several kinds in orange cans.
Dawn: Mom, I know that, cause orange juice is orange. But this one I don’t like at all has a bunny on it.
Mom: Can you remember the name?
Dawn: Yeah, the writing words have A-B-C-O.
Mom: Oh, I know, the store’s brand, ABCO.
Dawn: Yes, here it is. Now DON’T BUY IT!!

At the age of four to five years, Dawn began to engage in dramatic play, using her knowledge of common events in familiar settings, such as the grocery store and the doctor’s office, to act out life scripts with other children. These dramas allowed Dawn and her peers the opportunity to use their language in many functional and imaginative ways. Her favorite script was the restaurant, as she always enjoyed being the waitress, describing the daily special to her customers, and then pretending to write their orders.

Jim Johnson, Jim Christie, and Thomas Yawkey (1999) suggest that during dramatic play, two types of communication can occur. First, pretend communication takes place when the child assumes a role and talks, in character, to other characters in the drama. The second type, metacommunication, occurs when the child stops the ongoing dramatic-play script and discusses the plot or character actions. The following is an example of metacommunication between Dawn and her friend Jennifer at age 5.6 years:

Dawn: Pretend you ordered pizza and I have to make it, okay?
Jennifer: Okay, but it should be cheese pizza, ‘cause I like it best.
Dawn: Okay, I can use yellow strings (yarn) for the cheese.
Jennifer: Waitress, I want yellow cheese pizza in a hurry. I’m hungry.

Dawn’s language development, though completely normal, is also a human miracle. Language plays a central role in learning, and a child’s success in school depends to very large degree on his or her ability to speak and listen. Dawn’s case study also confirms the critical role of neurological growth and social interaction in language development.
What Is Normal Language Development?

While the process of learning to talk follows a predictable sequence, the age—or rate—at which children say their first word may vary widely from one child to another. Developmental guidelines provide descriptions of specific behaviors and delineate the age at which most children demonstrate this physical or cognitive skill. This type of information helps parents and physicians anticipate normal physical and cognitive growth. While physical maturation is easy to observe, cognitive development is less obvious. Fortunately, children's language development provides one indication that their cognitive abilities are developing normally. In Table 2.1, we present the average ages for language acquisition. While most children demonstrate language skills well within the normal age range, some do not. If a child's language is delayed more than two months past the upper age limits, caregivers should seek medical guidance, as delays may indicate problems (Shevell, 2005). Early identification of potential problems leads to appropriate intervention.

While helpful, developmental guidelines are not perfect. To determine norms, data must be collected on specific populations. In most cases, these data were collected on middle-income Caucasian

| Table 2.1 Typical Language Development |

With the language support of caregivers, about 90 percent of children will develop the following language skills by the ages indicated. If a child does not demonstrate these behaviors by these ages, it is important for parents to seek medical guidance.

**Age in Months**

| 0–3  | Majority of communication consists of crying, as larynx has not yet descended |
|      | Turns head to the direction of the family's voices |
|      | Is startled by loud or surprising sounds |
| 3–6  | Begins to make cooing sounds to elicit attention from caregivers |
|      | Makes “raspberry” sounds |
|      | Begins to play with voice |
|      | Observes caregiver’s face when being spoken to; often shapes mouth in a similar manner |
| 6    | Vocalization with intonation |
|      | Responds to his or her name |
|      | Responds to human voices without visual cues by turning head and eyes |
|      | Responds appropriately to friendly and angry tones |
| 12   | Uses one or more words with meaning (this may be a fragment of a word) |
|      | Understands simple instructions, especially if vocal or physical cues are given |
|      | Practices inflection |
|      | Is aware of the social value of speech |
Oral Language Development

18
Has vocabulary of approximately five to twenty words
Vocabulary is made up chiefly of nouns
Some echolalia (repeating a word or phrase over and over)
Much jargon with emotional content
Is able to follow simple commands

24
Can name a number of objects common to his or her surroundings
Is able to use at least two prepositions, such as in, on, under
Combines words into a short sentence—largely noun–verb combinations
Approximately two thirds of what child says should be understandable
Vocabulary of approximately 150 to 300 words
Rhythm and fluency often poor; volume and pitch of voice not yet well controlled
Can use pronouns, such as I, me, you
My and mine are beginning to emerge
Responds to such commands as “Show me your eyes (nose, mouth, hair)”

36
Is using some plurals and past tenses—“We played a lot”
Handles three-word sentences easily—“I want candy”
Has approximately 900 to 1,000 words in vocabulary
About 90 percent of what child says can be understood
Verbs begin to predominate, such as “let’s go, let’s run, let’s climb, let’s play”
Understands most simple questions dealing with his or her environment and activities
Relates his or her experiences so that they can be followed with reason
Able to reason out such questions as “What do you do when you are hungry?”
Should be able to give his or her sex, name, age

48
Knows names of familiar animals
Names common objects in picture books or magazines
Knows one or more colors and common shapes
Can repeat four digits when they are given slowly
Can usually repeat words of four syllables
Demonstrates understanding of over and under
Often engages in make-believe
Extensive verbalization as he or she carries out activities
Understands such concepts as longer and larger when a contrast is presented
Much repetition of words, phrases, syllables, and even sounds

60
Can use many descriptive words spontaneously—both adjectives and adverbs
Knows common opposites: big–little, hard–soft, heavy–light, and the like
(continued)
Chapter 2

Children born in modern industrial-technological societies. Because this sample does not represent the world’s population, the upper and lower age limits of these “universal” norms must be interpreted carefully (Cannella, 2002).

Factors Contributing to Variations in Rate of Language Acquisition

Because the critical period for language development occurs within the first thirty-six months of a child’s life, significant language delay may indicate specific medical or cognitive problems. Beyond medical problems, there are several factors that could modify the rate of normal language production. We review these factors in the following discussion.

Gender Differences

Are there differences in the rate and ways that boys and girls develop language fluency and proficiency? This question reflects another facet of the ongoing nature versus nurture debate. Observational research consistently reveals that a majority of girls talk earlier and talk more than the majority of boys. It is also true that the majority of late talkers are young boys (Burman, Bitan, & Booth, 2008). However, it is difficult to determine whether differences in the rate of language acquisition are biological or whether biological differences are exaggerated by social influences. There is evidence for both views. For example, neural-biological research offers graphic images that illustrate how men’s and women’s brains process language somewhat differently (Hartshorne & Ullman, 2006). Though this research appears to support nature as the dominant...
factor in language differences, it is also important to consider the powerful role nurture plays. Experimental research consistently documents differential treatment of infants based on gender. In other words, men and women tend to cuddle, coo at, and engage in lengthy face-to-face conversations with baby girls. Yet, with baby boys, adults are likely to exhibit "jiggling and bouncing" behaviors but are not as likely to engage in sustained face-to-face verbal interactions. Perhaps girls talk earlier and talk more because they receive more language stimulation (Huttenlocher, 1991; Huttenlocher, Vasilyeva, Cymerman, & Levine 2002).

**Socioeconomic Level**

Numerous studies have long documented the differences in the rate of language acquisition and the level of language proficiency between low and middle socioeconomic families (Hart & Risley, 1995; Evans, 2004; Turkheimer, Haley, Waldron, D’Onofrio, & Gottesman, 2003). These studies found that children, especially males, from low-income homes were usually somewhat slower to use expressive language than children from middle-income homes. These findings likely reflect social-class differences both in language use in general and in parent–child interaction patterns. For example, Betty Hart and Todd Risley (1995) estimate that by age four, children from professional families have had a cumulative total of 50 million words addressed to them, whereas children from welfare families have been exposed to only 13 million words. The children from professional families have had more than three times the linguistic input than welfare families’ children; this gives them a tremendous advantage in language acquisition.

Results of long-term observations of middle-income and lower-income families concluded that all mothers spent a great deal of time nurturing their infants (e.g., touching, hugging, kissing, and holding), but that there were differences in the way mothers verbally interacted with their children. Middle-income mothers spent a great deal more time initiating verbal interactions and usually responded to and praised their infants’ vocal efforts. Middle-income mothers were also more likely to imitate their infants’ vocalizations. These verbal interactions stimulate neural-synapse networks that foster expressive and receptive language. It is still unclear why lower-income mothers do not engage their children in verbal interactions at the same level as middle-income mothers. The authors of these studies speculate that this may be a reflection of social-class differences in language use in general.

**Cultural Influences**

The rate of language acquisition may be somewhat different for children of different cultures. Because spoken language is a reflection of the culture from which it emerges, it is necessary to consider the needs verbal language serves in the culture. Communication may be accomplished in other meaningful ways (González, Oviedo, & O’Brien de Ramirez, 2001; Bhavnagri & Gonzalez-Mena, 1997). Janet Gonzalez-Mena (1997, p. 70) offers this example:

The emphasizing or de-emphasizing the verbal starts from the beginning with the way babies are treated. Babies carried around much of the time get good at sending messages nonverbally—through changing body positions or tensing up or relaxing muscles. They are encouraged to communicate this way when their caregivers pick up the messages they send. They don’t need to depend on words at an early age. Babies who are physically apart from their caregivers learn the
benefits of verbal communication. If the babies are on the floor in the infant playpen or in the other room at home, they need to learn to use their voices to get attention. Changing position or tensing muscles goes unperceived by the distant adult.

Likewise, some cultures do not view babies’ vocal attempts as meaningful communication. Shirley Brice Heath (1983) describes a community in which infants’ early vocalizations are virtually ignored and adults do not generally address much of their talk directly to infants. Many cultures emphasize receptive language, and children listen as adults speak (Horton-Ikard, 2006).

**Medical Concerns**

Beyond gender, socioeconomic, and culture differences, other reasons that children’s language may be delayed include temporary medical problems and congenital complications. Estimates of hearing impairments vary considerably, with one widely accepted figure of 5 percent representing the portion of young children with hearing levels outside the normal range. Detection and diagnosis of hearing impairment have become very sophisticated. It is possible to detect the presence of hearing loss and evaluate its severity in a newborn child. There are four types of hearing loss:

- Conductive hearing losses are caused by diseases or obstructions in the outer or middle ear and can usually be helped with a hearing aid.
- Sensorineural losses result from damage to the sensory hair cells of the inner ear or the nerves that supply it and may not respond to the use of a hearing aid.
- Mixed hearing losses are those in which the problem occurs both in the outer or middle ear and in the inner ear.
- A central hearing loss results from damage to the nerves or brain.

In Special Feature 2.4, “She Just Stopped Talking,” we provide an example of one of the most common childhood problems—otitis media—that, left unattended, could cause significant language delays and speech distortion and ultimately difficulty in learning to read and write.

When Tiffany’s parents realized that she had stopped speaking, their pediatrician referred them to a medical specialist called an otolaryngologist (ear, nose, and throat specialist). The doctor was pleased that Tiffany’s parents had written down new words she used on the family calendar. As the doctor reviewed the calendar, it became apparent that Tiffany’s normal language development had virtually stopped. He did not seem surprised when her parents mentioned that she had also stopped babbling and singing and that she no longer danced when music was played. Because Tiffany’s pediatrician had already tried three months of antibiotics to control the infection with no success, the specialist suggested surgically placing bilateral vent tubes in the eardrum to drain the fluid from the middle ear. When the fluid is drained, the eardrum can then vibrate freely once again, and normal hearing may be restored.

After a brief operation (approximately thirty minutes), eighteen-month-old Tiffany began to speak once again. Though her hearing was restored, the doctor suggested that Tiffany and her parents visit a speech therapist to help her fully regain her language.

Within a year, Tiffany’s development was progressing normally, and by age three, the surgically implanted tubes naturally fell out of her eardrums.
On her first birthday, Tiffany mimic-sang “Happi Birflaay mee” over and over. She said “Sank oo” when she received her birthday gifts and “Bye, seeoo” when her guests left. Later that summer, after a bad bout with an ear infection, Tiffany’s mother noticed she was turning up the volume on the television when she watched Sesame Street. A few days later, after several restless nights, Tiffany became very fussy and irritable and began tugging on her ear. Her parents again took her to the doctor, who diagnosed another ear infection. After a ten-day treatment of antibiotics, Tiffany appeared to be fine, except that she seemed to talk less and less.

About a month later, the situation worsened. Tiffany would not respond to her mother’s speech unless she was looking directly at her mother. At that point, Tiffany had, for the most part, stopped talking.

Tiffany’s story is all too common. She was suffering from otitis media with effusion. Otitis media (OM) is often called a middle-ear infection. Three out of four children experience otitis media by the time they are three years old. In fact, ear infections are the most common illnesses in babies and young children, accounting for approximately 2 million physician visits annually. OM infections are usually a result of a malfunction of the Eustachian tube, a canal that links the middle ear with the throat area. The Eustachian tube helps to equalize the pressure between the outer ear and the middle ear. When this tube is not working properly, it prevents normal drainage of fluid from the middle ear, causing a buildup of fluid behind the eardrum. When this fluid cannot drain, it allows for the growth of bacteria and viruses in the ear that can lead to acute otitis media. There are two different types of otitis media:

- **acute otitis media**: the middle ear infection occurs abruptly, causing swelling and redness. Fluid and mucus become trapped inside the ear, causing the child to have a fever, often extreme ear pain, and hearing loss.

- **otitis media with effusion**: fluid (effusion) and mucus continue to accumulate in the middle ear after an initial infection subsides. The child may experience a feeling of fullness in the ear and hearing loss. There may be little or no pain associated with this condition, but it can contribute to hearing loss.

The symptoms of otitis media with effusion usually appear during or after a cold or respiratory infection. Because fluid can collect in the middle ear (behind the eardrum) without causing pain, children with otitis media may not complain. The following is a list of possible symptoms; any one of these symptoms could indicate that a child has otitis media with effusion:

- rubbing or pulling at the ears
- cessation of babbling and singing
- turning up the television or radio volume much louder than usual
- frequent need to have directions and information repeated
- unclear speech
- use of gestures rather than speech
- talking very loudly
- delayed speech and language development

(continued)
Because language development is at its peak in the first three years of life, even a temporary hearing loss during this time interferes with speech articulation and language learning. Otitis media causes temporary loss of hearing when the fluid pushes against the eardrum. The pressure prevents the eardrum from vibrating, so sound waves cannot move to the inner ear, and the child's hearing is greatly distorted or muffled. Consequently, final consonant sounds and word endings are often unheard, and words blend into one another. Because one of the main reasons people talk is to communicate, a child who cannot understand what is said becomes frustrated and easily distracted. This type of hearing loss may continue for up to six weeks after the ear infection has healed.

Children who have acute OM are often treated by antibiotics (though this has become somewhat controversial in the medical profession) and with medication for pain. However, if fluid remains in the ear(s) for longer than three months (indicating otitis media with effusion), the child's physician often suggests that small tubes be placed in the ear(s). This surgical procedure, called myringotomy, involves making a small opening in the eardrum to drain the fluid and relieve the pressure from the middle ear. A small tube is placed in the opening of the eardrum to ventilate the middle ear and to prevent fluid from accumulating. The child's hearing is restored after the fluid is drained. The tubes usually fall out on their own after six to twelve months.

For most children, learning to communicate is a natural, predictable developmental progression. Unfortunately, some children have congenital language disorders that impair their ability to learn language or use it effectively. The origin of these disorders may be physical or neurological. Examples of physical problems include malformation of the structures in the inner ear or a poorly formed palate. Neurological problems could include dysfunction in the brain's ability to perceive or interpret the sounds of language (De Montfort Supple & Söderpalm, 2010).

Though the symptoms of various language disorders may appear similar, effective treatment may differ significantly, depending on the cause of the problem. For example, articulation problems caused by a physical malformation of the palate might require reconstructive surgery, while articulation problems caused by hearing impairment might require a combination of auditory amplification and speech therapy. Two of the most common symptoms of congenital language disorders are disfluency and pronunciation.

Disfluency. Children with fluency disorders have difficulty speaking rapidly and continuously. They may speak with an abnormal rate—too quickly or too slowly; in either case, their speech is often incomprehensible and unclearly articulated. The rhythm of their speech may also be severely affected. Stuttering is the most common form of this disorder. Many children may have temporary fluency disruptions or stuttering problems as they are learning to express themselves in sentences. Children who are making a transition to a second language may also experience brief stuttering episodes. It is important for parents or teachers to be patient and supportive, as it may take time to distinguish normal developmental or temporary lapses in fluency from a true pathology. Stuttering may have multiple
oral Language Development

Pronunciation. Articulation disorders comprise a wide range of problems and may have an equally broad array of causes. Minor misarticulations in the preschool years are usually developmental and will generally improve as the child matures (see Special Feature 2.5, “Typical Pronunciation Development”). Occasionally, as children lose their baby teeth, they may experience temporary challenges in articulation.

Three-year-old Annie points to a picture of an elephant and says, “Yes, that’s a ella-pant.” Two-year-old Briar sees her favorite TV show and shouts, “It’s da Giggles [Wiggles]!” Two-and-a-half-year-old Robbie asks his grandma, “Gigi, can I have some tandy [candy]?” Parents both delight in and worry about these darling mispronunciations, which are a normal part of the language development process. Most mispronunciations are usually caused by a combination of children mishearing sounds and misarticulating new words. Most of these mispronunciations self-correct with maturation. The following list provides speech-language pathologists’ terms for specific mispronunciations, examples of the articulation error, and the typical age these mispronunciations disappear.

<table>
<thead>
<tr>
<th>Speech pathologists’ term</th>
<th>Example</th>
<th>Age of maturation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context-sensitive voicing</td>
<td>Cup–gup</td>
<td>3.0</td>
</tr>
<tr>
<td>Final devoicing</td>
<td>Bed–bet</td>
<td>3.0</td>
</tr>
<tr>
<td>Final consonant deletion</td>
<td>Boat–bow</td>
<td>3.3</td>
</tr>
<tr>
<td>Velar fronting</td>
<td>Car–tar</td>
<td>3.6</td>
</tr>
<tr>
<td>Consonant harmony</td>
<td>Kittycat–tittytat</td>
<td>3.9</td>
</tr>
<tr>
<td>Weak syllable deletion</td>
<td>Elephant–effant</td>
<td>4.0</td>
</tr>
<tr>
<td>Cluster reduction</td>
<td>Spoon–boon</td>
<td>4.0</td>
</tr>
<tr>
<td>Gliding of liquids</td>
<td>Leg–weg</td>
<td>5.0</td>
</tr>
</tbody>
</table>

It is important to remember that some children may simply show delayed language development; this may mean that a child is gaining control over speaking mechanisms at a slower rate than same-age peers or has had limited opportunity to hear speech or interact with others. Children who are learning a second language may also appear to have articulation difficulties when they attempt to use their second language. As Luisa Araújo explains in the following section, anyone learning a new phonemic system will experience some difficulty in expressing new sound combinations. “Bilingual children should be assessed in their native language and referred for therapy only if an articulation disorder is present in that language” (Piper, 1993, p. 193). Caregivers and teachers need to be careful not to confuse the normal course of second-language acquisition with speech disorders.
Family Focus: Developing Language over Time

How do parents engage young children in language? Table 2.2 includes simple suggestions that will help enrich parent-child verbal interactions.

<table>
<thead>
<tr>
<th>Table 2.2 Strategies for Supporting Children’s Language Development</th>
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</thead>
<tbody>
<tr>
<td><strong>Birth to Six Months</strong></td>
</tr>
<tr>
<td>Use “parentese” intentionally to stimulate and extend infant’s attention span.</td>
</tr>
<tr>
<td>Talk frequently at close proximity to the infant’s face. At about three to four months, the child will begin to babble back. Engage in these two-way conversations!</td>
</tr>
<tr>
<td>Describe actions and objects that are encountered in the daily routine (while dressing, changing, feeding, shopping, cleaning, preparing meals, etc.).</td>
</tr>
<tr>
<td>Modulate voice and vary intonation to match levels of enthusiasm, emotion, meaning.</td>
</tr>
<tr>
<td>Talk face-to-face at a distance where infant can clearly see your mouth and facial expressions as you speak.</td>
</tr>
<tr>
<td>Use a second language naturally if you are bilingual.</td>
</tr>
</tbody>
</table>
Do you know any families who are raising children who speak a home language other than English or who speak both English and the caregivers’ native language? In this chapter, you have learned that the input, or the kind of linguistic information, children are exposed to from an early age influences their language development. You have learned that children have a natural instinct to learn language, that there are predictable stages of language development, and that parents support children’s efforts to learn language in specific ways. In situations where children are learning English as a second language (ESL), caregivers’ responses to children’s vocalizations and conversational bouts are as important as in first language (L1) situations. Valuing communicative interactions and expanding on children’s language initiatives optimize language learning (Fennell, Byers-Heinlein, & Werker, 2007; Kuhl, 2004).

Young children who learn two languages from birth to the age of five experience what experts call simultaneous bilingualism (Bialystok, 1991). When they learn a second language (L2) after the age of five, they experience sequential bilingualism. Decades of research have shown that bilingual children do not experience any cognitive or language impairments as a result of learning two languages (August & Hakuta, continued)
1997). They are quite capable of maintaining the two language systems separately and of communicating effectively in both. Interestingly, neurolinguistic findings indicate that when five-year-old bilingual children retell a story in their two languages, they activate the same brain area, regardless of the language in which they did the retelling (Kim, Relkin, Lee, & Hirsch, 1997). Bilingual adults who have learned a second language after the age of seven, on the other hand, activate different brain areas, depending on whether they did the retelling in their first or second language. This tells us that children who acquire a second language before the age of five behave like native speakers because indeed they are (Sakai, 2005). They process the two languages in the same brain area at the same time yet they are able to keep them separate.

At times, however, children may engage in code switching, the alternate use of two languages from sentence to sentence or even within the same sentence. Code switching is a rule-governed language behavior also used by adult bilinguals (Grosjean, 1982; Lessow-Hurley, 2000). It can be used to emphasize a point, to express ethnic solidarity, and to fill a lexical need. For example, a Spanish/English speaker may reiterate the same message in the two languages to emphasize an order: “Get up now. Levántate!”

A bilingual child who has been exposed to two languages from birth may show this linguistic sophistication in school in addition to the ability to converse with ease in two languages. Parents and teachers may even witness with awe how easily children are able to translate adequately from one language to another depending on the need to address speakers who speak only one language or the other.

Recent estimates tell us that in 2010 over 30 percent of all school-age children will come from homes in which the primary language is not English (Census Bureau, 2001). These children will acquire the second language—English—in the school setting (sequential bilingualism), and the majority of these English language learners (ELL) are Spanish speakers (Goldenberg, 2008). English language learners are individuals who are learning English. The term is usually used in education to refer to students who are acquiring English as a Second Language (ESL). The term ELL is now preferred over limited-English-proficient (LEP) as it highlights accomplishments rather than deficits. Most ELL children attend English-only language classrooms. Some attend first-language classrooms where only their L1 is used or bilingual programs where both English and the home language are used (Tabors, 1998).

English language learners progress through a series of levels of English proficiency. In English-only early childhood settings, a specific sequence explains second-language development: home language use, preproduction, early production, and speech emergence (Goldenberg, 2008; Tabors, 1998). First, young children may speak their home language because they have not yet discovered that a different language is used in the new setting. During the preproduction phase, children are taking in the new language and go through what is called the “silent period,” which may take anywhere from one to three months (Krashen, 1981; Saville-Troike, 1988). Children may understand most of the discourse addressed to them in the second language but are unable to speak it. In the third phase, students are capable of saying one- or two-word utterances. In the fourth phase, speech emerges, and children are able to produce longer phrases and sentences. In considering these levels, we must bear in mind that they reflect general trends and that there is variation from child to child. Also, these levels explain only the English oral development of ELLs. In looking at literacy proficiency, including progression in reading and writing, additional developmental levels need to be considered.

Lindfors (1987) and Tabors and Snow (1994) have documented how social interactions assist young children in negotiating meaning while their oral English proficiency increases. Following the “silent period,” children begin to use formulaic expressions...
they memorize and that assist them in communicating with others. They may say “Don't do that” or “Wanna play?” to maintain and initiate interactions with other children. When they begin using one- or two-word utterances and longer sentences, their telegraphic discourse may be marked by the ungrammaticality that characterizes the speech of younger monolingual children. For example, in creatively constructing new sentences, they may overgeneralize plural formation (foot–feet) and past tense rules for regular verbs (eat–eated). This indicates that children are actively constructing language, using words according to morphological and syntactic rules to form sentences. First and foremost, young children try to figure out how to use the language they know to meet their social needs (Wong-Fillmore, 1991a). Their desire to interact with other children, to play, and to make friends is what drives language learning.

Preschool ELL children have been observed to employ a variety of strategies to learn the second language (Tabors, 1998). Some will repeat to themselves, in a very low voice, the new language they hear. Others will attempt to communicate on early exposure by using gestures, mimes, and cries. In fact, it seems that personality traits and the characteristics of the social setting interact to create learning opportunities. A willingness to communicate and take risks in a nonthreatening social context invites communicative interactions that foster language development. For example, a second-language learner may communicate by saying "Dog run" to mean that the dog is running. A teacher who promotes the kind of interactions that facilitate language development will provide a scaffold by saying, “Yes, the dog is running.” As Goldenberg (2008) states, “Students who are beginning English speakers will need a great deal of support, sometimes known as ‘scaffolding’ for learning tasks that require knowledge of English. For example, at the very beginning levels, teachers will have to speak slowly, with clear vocabulary and diction, and use pictures, objects, and movements to illustrate the content being taught. They should expect students to respond either nonverbally (e.g., pointing or signaling) or in one- or two-word utterances” (p. 23).

Early childhood educators can help young ELL children by having a set of daily routines and by providing access to activities that are not highly demanding in terms of communication (Tabors, 1998). Daily routines help children predict events and thus learn expected language behaviors. Activities built around a housekeeping area, a sandbox with toys, or a block area engage children in play without the added pressure of having to communicate in specific ways. In addition, teachers should use lots of nonverbal communication or combine gestures with talk, keep the message simple, talk about the here and now, emphasize the important words in sentences, and repeat key words in a sentence. This will help children learn new vocabulary, as will the regular reading of picture books because the pictures carry the message.

Indeed, storybook reading provides an authentic linguistic input that is easy to understand because it is contextually embedded (pictures). Moreover, it seems that language learning can be optimized when teachers explain the vocabulary using gestures, synonyms, and examples. A recent preschool study shows how explaining new vocabulary helped Portuguese-speaking children learn vocabulary from storybook reading (Collins, 2005). Vocabulary learning is a crucial component of literacy instruction because vocabulary building in the early years is associated with good reading performance in third grade (Sénéchal, Ouellette, & Rodney, 2006).

Young ELL children need to feel increasingly able to communicate and to feel socially accepted. Teachers may use a buddy system, whereby an outgoing English-speaking child is paired with an ELL child, to help second-language children feel more affectively connected and socially accepted. Similarly, teachers should show children that their home language is socially accepted and valued. As their English proficiency increases, it is easy for children to lose their native language (Wong-Fillmore, 1991b). Asking parents to come to the classroom and share their language and culture will affirm that bilingualism is an asset and not a limitation.

Source: Luisa Araujo. Reprinted by permission.
However, articulation problems that seriously impede a child's ability to communicate needs and intentions must be diagnosed. Causes of such problems may include malformation of the mouth, tongue, or palate; partial loss of hearing due to a disorder in the inner ear; serious brain trauma; or a temporary hearing loss due to an ear infection (Forrest, 2002).

Summary

Children's acquisition of oral language is truly remarkable. By the time they enter kindergarten, most children have mastered the basic structures and components of their native language, all without much stress or effort. How did the information contained in this chapter compare with what you were able to discover about your own first words and early language learning? Which of the four perspectives described in this chapter comes closest to your view about children's language development?

To summarize the key points about oral language development, we return to the guiding questions at the beginning of this chapter:

- **What are the major views on how children's language develops? Which aspects of language development does each view adequately explain?**
  Four theories have been used to explain how children acquire language. The behaviorist perspective emphasizes the important role of reinforcement in helping children learn the sounds, words, and rules of language. This view handily explains the imitative aspects of initial language learning. Nativists stress the importance of children's inborn capacity to learn language and suggest that a portion of the brain is dedicated to language learning. Nativist theory explains how children "invent" their own two- and three-word grammars and overgeneralize rules for past tense ("He goed to the store") and plural ("I saw two mouses today!"). The social-interactionist perspective emphasizes the importance of both environmental factors and children's innate predisposition to make sense out of language and use it for practical purposes. According to this view, children learn about language by using it in social situations. The social-interactionist view highlights the role of parental support in language acquisition. Finally, new technology has allowed scientists to observe how the brain perceives, interprets, and expresses language. These developments have led to a new perspective of children's language learning, the neurobiological view, which complements the three earlier views on language development. This perspective explains how the structural development of the brain is related to language acquisition. It helps explain why children's experiences during infancy have such a crucial effect on later language learning.

- **What are the major components of language?**
  The major components of language are (1) phonology—the sounds that make up a language; (2) morphology—the meaning bearing units of language, including words and affixes; (3) syntax—the rules for ordering words into sentences; (4) semantics—the shades of meaning that words convey; and (5) pragmatics—the social rules that enable language to accomplish real-life purposes.

- **When does language development begin?**
  At birth, the human brain is remarkably unfinished. Most of the 100 billion neurons or brain cells are not yet connected. During the first month of life, the number of neural synapses
or connections increases twenty times to more than 1,000 trillion. As a child matures, the actual number of neurons remains stable; however, the number of synapse connections increases, and the message-receiving dendrite branches grow larger and heavier. At age one, the full cortex consumes twice as much energy as an adult brain. This neural readiness, in combination with countless hours of sound play and verbal exchanges with loving caregivers, allows most children to begin speaking their first words at this age.

By eighteen months, neural synapses have increased and strengthened and are beginning to transmit information efficiently. Hence, most toddlers begin to experience a language explosion, particularly in the areas of vocabulary and syntax. During this time, children are able to learn as many as twelve words a day. Thus, the neurobiological perspective reveals how the rapid development of the brain during the first few years of life makes it possible for children to acquire language so quickly and efficiently. This perspective also explains why the first thirty-six months are a critical period for language development.

■ What factors affect children's rate of language acquisition?

Although language development follows a predictable sequence, the rate at which children acquire language varies tremendously. Gender, socioeconomic level, and cultural influences all can affect the rate of language acquisition. A child's language learning can also be impeded by illnesses, such as otitis media, and by a variety of congenital problems of a physical and/or neurological nature. Parents and caregivers are cautioned to seek a medical diagnosis if language development is significantly delayed, as early identification and treatment can often avoid irreparable disruption of the language acquisition process.

■ How does children's acquisition of a second language compare with their first language acquisition?

What should adults do to make it easier for children to learn English as a second language?

In many ways, second-language acquisition in young children is similar to the acquisition of their first language. In learning a new language, children engage in the creative construction of the rules of the new language, and this creative construction occurs within the context of multiple social interactions as children use the new language with others.

Adults working with second-language learners need to focus both on making themselves understood by children and encouraging these children to use their new language. Adults need to focus on the learners' communicative intentions, not on the conventionality of their utterances. Children should be encouraged but not forced to use the new language, and children should not be belittled for hesitancy in trying it. Adults need to recognize that children are learning English even if they are not responding verbally. Adults need to encourage other children who are native speakers of English to have patience with ESL learners and to assist them in their learning. Finally, adults should value the native languages that children bring to school with them and encourage them to continue to use their native languages.
1. Interview a parent and an early childhood teacher regarding how they believe children learn language. Consider which theory of language acquisition best matches each interviewee's beliefs.

2. Interview a school nurse or health-care aide about the numbers of children she or he sees who are affected by illnesses and congenital problems. From the health-care worker’s perspective, what effect do these medical problems have on children? How often should children be screened for auditory acuity? If a family has limited financial resources, what agencies can provide medical services?

3. Observe a second-language learner in a preschool or day-care setting. Does the second-language learner comprehend some of the talk that is going on in the classroom? How does the child communicate with other children? How does the teacher support the child’s second-language acquisition? Are other children helping? Does the second-language learner have any opportunities to use his or her native language?