understanding child DEVELOPMENT 10e

ROSALIND CHARLESWORTH

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To Edith M. Dowley, Ruth Updegraff, Shirley G. Moore,
Willard W. Hartup and Ada D. Stephens
who nurtured my professional development,
and to my daughter Kate,
granddaughter Summer, and grandson Aiden
who have provided a rich source of developmental
information and inspiration.

Brief Contents

PART VI The Primary Grade Child: Growth and Development Ages Six Through Eight

Contents

Preface

Understanding Child Development is designed for teachers in training and in service whose major interest is prekindergarten, kindergarten, and primary grade children. It is also a valuable tool for social service professionals, special educators, parents, home visitors, and others who require a practical understanding of young children. For students, it introduces the uniqueness of the young child (as distinguished from the older child) and shows how to work with young children in a way that corresponds to their developmental level. For in-service teachers, this text offers an opportunity to evaluate their views of the young child and compare them to the views presented here. For all adults who work with young children, this book presents a picture of the child in the context of family, school, and culture.

Organization of the Text

Working with young children is challenging. Those who work with young children agree that development and education are inseparable influences on their growth. In this text, developmental concepts are placed in practical perspective. Theory, research, and practice are related to everyday interactions with children. In each section, there is also consideration of the roles of adults—from teachers to family members—as they support the development of young children.

Understanding Child Development is divided into six sections, with a total of fifteen chapters. The first section briefly describes the young child, theories of child development, and methods of studying young children. The second section focuses on the elements of learning that apply from birth through eight years old. The subsequent sections follow the child from the prenatal period to infancy to preschool and kindergarten through the primary grades, focusing on physical/motor and health, cognitive, and affective development. Each section focuses on these topics in sequence and looks at critical social and cultural factors related to young children's development. Issues relevant to working with children with special needs are integrated throughout the text.

What's New in the Tenth Edition?

The practical application of theory and research are the foundation of this book, and in this edition, I've simultaneously streamlined the text while strengthening its foundation by providing new and updated research on the following topics related to child development:

- Updated statistics and demographic information throughout the text
- Authentic assessment (Chapter 1)
- An update on technology use in early childhood (Chapter 2)
- Electronic media in the family (Chapter 3)
- Lesbian, gay, bisexual, and transgender (LGBT) parenting (Chapter 3)

- The use of Surfaxin® in premature infants (Chapter 4)
- Brain development (Chapter 4)
- Temperament (Chapter 4)
- Special education (Chapter 5)
- The father's role in child care (Chapter 5)
- Respiratory syncytial virus (RSV) (Chapter 5)
- Speech and language, including nonverbal communication (Chapter 6)
- Cross-cultural parenting (Chapter 6)
- The impact of parental drug abuse (Chapter 7)
- A description of guidance (Chapter 7)
- Post-traumatic stress disorder (PTSD) (Chapter 7)
- Food insecurity (Chapter 8)
- Writing and drawing (Chapter 8)
- Self-regulation (Chapter 8)
- Intelligence, giftedness, and creativity (Chapter 9)
- The No Child Left Behind (NCLB) legislation and its effects (Chapter 10)
- The characteristics of multilingual children (Chapter 10)
- Reading in kindergarten (Chapter 10)
- Reflective teaching (Chapter 11)
- E-books (Chapter 11)
- Children's social–emotional behavior and characteristics (Chapter 12)
- Lesbian, gay, bisexual, and transgender (LGBT) children (Chapter 12)
- Instructive discipline (Chapter 13)
- Bullying (Chapter 13)
- Spring testing stress (Chapter 14)
- Play in the primary grades (Chapter 14)
- Pre-K to primary continuity (Chapter 14)
- Readiness (Chapter 14)
- Cyberbullying (Chapter 15)
- Mental health (Chapter 15)
- Vaccinations (Chapter 15)
- Anti-bullying programs (Chapter 15)
- Update on school lunch program guidelines (Chapter 15)
- Zero tolerance (Chapter 15)

Organizational Changes

The primary organizational change in this edition is significant: the 31 units that appeared in the ninth edition have been combined into fifteen cohesive chapters. We listened to the many reviewers who told us that this would be a helpful way to make the text more closely aligned with semester schedules. It also allows us to make this book more compatible with MindTap, which is discussed on pages xxi–xxii.

Chapter Resources

- At the beginning of each chapter are Learning Objectives and a list of the NAEYC Program Standards and Developmentally Appropriate Practice (DAP) Guidelines that relate to each chapter.

- Material related to Learning Objectives is highlighted with each objective's number.
- Boxed features include "Time to Reflect," "Technology in Early Childhood Education," "Brain Development," and "Child Development in the Real World."
- Glossary terms are provided in the margins for easy reference.
- End-of-chapter summaries correlate with the Learning Objectives at the beginning of the chapter.
- A Standards Correlation Grid on the inside front and back covers allows you to quickly locate coverage of the standards guidelines in each chapter.

Teaching and Learning Supplements

MindTap: The Personal Learning Experience

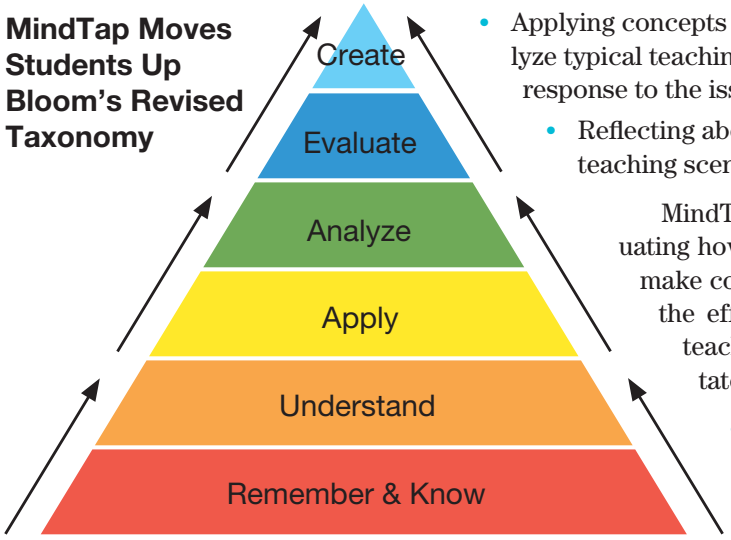
MindTap™ for *Understanding Child Development*, Tenth Edition, represents a new approach to teaching and learning. A highly personalized, fully customizable learning platform with an integrated e-portfolio, MindTap helps students to elevate their thinking by guiding them to do the following:

- Know, remember, and understand concepts critical to becoming a great teacher
- Apply concepts, create curricula and tools, and demonstrate performance and competency in key areas in the course, including national and state education standards
- Prepare artifacts for the portfolio and eventual state licensure, to launch a successful teaching career
- Develop the habits to become a reflective practitioner

As students move through each chapter's Learning Path, they engage in a scaffolded learning experience designed to move them up Bloom's Taxonomy, from lower- to higher-order thinking skills. The Learning Path enables preservice students to develop these skills and gain confidence by:

- Engaging them with chapter topics and activating their prior knowledge by watching and answering questions about videos of teachers teaching and children learning in real classrooms
- Checking their comprehension and understanding through "Did You Get It?" assessments, with varied question types that are automatically graded for instant feedback

MindTap Moves Students Up Bloom's Revised Taxonomy



- Applying concepts through mini-case scenarios in which students analyze typical teaching and learning situations and then create a reasoned response to the issues presented in the scenario
- Reflecting about and justifying the choices they made within the teaching scenario

MindTap helps instructors facilitate better outcomes by evaluating how future teachers plan and teach lessons in ways that make content clear and help diverse students learn, assessing the effectiveness of their teaching practice, and adjusting teaching as needed. MindTap enables instructors to facilitate better outcomes by:

- Making grades visible in real time through the Student Progress App so that students and instructors always have access to current standings in the class

- Using the Outcome Library to embed national education standards and align them to student learning activities, and also allowing instructors to add their state's standards or any other desired outcome
- Allowing instructors to generate reports on students' performance with the click of a mouse against any standards or outcomes that are in their MindTap course
- Giving instructors the ability to assess students on state standards or other local outcomes by editing existing or creating their own MindTap activities, and then by aligning those activities to any state or other outcomes that the instructor has added to the MindTap Outcome Library

For this book, MindTap helps instructors easily plan their course since it integrates into the existing Learning Management System (LMS) and saves instructors time by allowing them to fully customize any aspect of the Learning Path. Instructors can change the order of the student learning activities, hide activities they don't want to use, and—most important—create custom assessments and add any standards, outcomes, or content they do want (e.g., YouTube videos or Google Docs). Learn more at www.cengage.com/mindtap.

Online Instructor's Manual with Test Bank

An online Instructor's Manual accompanies this book. It contains information to assist the instructor in designing the course, including sample syllabi, discussion questions, teaching and learning activities, field experiences, learning objectives, and additional online resources. For assessment support, the updated test bank includes true/false, multiple-choice, matching, short-answer, and essay questions for each chapter.

PowerPoint Lecture Slides

These vibrant Microsoft PowerPoint™ lecture slides for each chapter assist you with your lecture by providing concept coverage using images, figures, and tables taken directly from the textbook.

Cognero

Cengage Learning Testing Powered by Cognero is a flexible online system that allows you to write, edit, and manage test-bank content from multiple Cengage Learning solutions; create multiple test versions in an instant; and deliver tests from your LMS, your classroom, or wherever you want.

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About the Author

Rosalind Charlesworth, Ph.D., is professor emerita and former chair of the Department of Child and Family Studies in the Vickie and Jerry Moyes College of Education at Weber State University in Ogden, Utah, where she taught child development and early childhood education courses. She has also taught developmental courses to students in family and consumer sciences, education, and behavioral sciences. Her career has included teaching both typical and atypical young children in university laboratory schools, public school, and child care settings, and doing research in social and cognitive development, developmentally appropriate practice (DAP), and teachers' beliefs and practices. Originally, this text grew out of several years of experience teaching child development courses for adults who planned to work with preschool children without the benefit of an appropriate textbook. It has expanded along with her experience teaching both preservice and graduate-level students who work with young children from birth to age eight.

Dr. Charlesworth is also the author of the popular Cengage Learning textbook, *Math and Science for Young Children*, has published many articles in professional journals, and has given many presentations at professional meetings. She has provided service to the field through active involvement in professional organizations. She was a member of the Early Childhood Teacher Education Panel of the National Association for the Education of Young Children (NAEYC), a consulting editor for the *Early Childhood Research Quarterly*, and a member of the National Association of Early Childhood Teacher Educators (NAECTE) Public Policy and Long-Range Planning Committees. She served two terms on the NAECTE board as regional representative and one as vice president for membership. She was twice elected treasurer and also elected newsletter editor of the Early Childhood/Child Development Special Interest Group of the American Educational Research Association, served as president of the Louisiana Early Childhood Association, and was a member of the editorial board of the Southern Early Childhood Association journal *Dimensions*. She is currently on the editorial board of the *Early Childhood Education Journal*. In 1995, she was named the Outstanding Graduate of the University of Toledo College of Education and Allied Professions. In 1999, she was corecipient of the NAECTE/Allyn and Bacon Outstanding Early Childhood Teacher Educator award. In 2014, the Department of Child and Family Studies at Weber State University awarded her the Department Legacy Award in recognition of her contributions to the field of early childhood education (ECE).

PART I
Overview of the Young Child: Birth Through Age Eight

chapter 1

Studying the Young Child

Standards Covered in This Chapter

naeyc

NAEYC Program Standards

1a: Knowing and understanding young children's characteristics and needs from birth through age eight
1b: Knowing and understanding the multiple influences on development and learning from birth through age eight
3a: Understanding goals, benefits, and uses of assessment
3b: Knowing and using observation, documentation, and other appropriate assessment tools and approaches
3c: Understanding and practicing responsible assessment to promote positive outcomes for each child
6b: Knowing and upholding ethical standards and other professional guidelines

DAP

Developmentally Appropriate Practice (DAP) Guidelines

1: Creating a caring community of learners
2: Teachers use developmentally appropriate teaching practices
3C 2: Developmental paths are considered in planning
4A1: Assessment of development and learning is essential for teachers to plan, implement, and evaluate the effectiveness of the classroom experience

Learning Objectives

After reading this chapter, you should be able to:

1-1 Describe young children and their settings.
1-2 Compare typical and atypical infants; toddlers; three-, four-, and five-year-olds; and six- through eight-year-olds.
1-3 Identify the essential adult role with young children.
1-4 Describe the history of child development theory, define the term *theory*, and identify types of theories and how they might be applied.
1-5 Discuss precautions that should be taken when applying theories to the lower-socioeconomic-level and/or minority-group child.
1-6 Summarize important historical events in child study.
1-7 Describe methods of child study and explain authentic assessment.
1-8 Explain the need for a professional code of ethics.

1-1 Young Children and Their Settings

NAEYC
National Association for the Education of Young Children.

young children
Children from birth through eight years of age.

Who is the young child? According to the National Association for the Education of Young Children **(NAEYC)**, children from birth through eight years of age are considered to be **young children** (Copple & Bredekamp, 2009; NAEYC, 2008). They are usually grouped into approximate age categories:

Infants	Birth to 1 year
Toddlers	1 year to 3 years
Preschoolers	3 years to 5 years
Kindergartners	5 years to 6 years
Primary	6 years through 8 years

infants
Children from birth to approximately one year of age.

toddlers
Children from age one to age three.

preschoolers
Three-, four-, and some five-year-olds who have not yet entered elementary school.

The young child is a small person who is complex and at times puzzling. Jerry Tello (1995) describes how children come into the classroom as reflections of their diverse family backgrounds. Some are not prepared to take full advantage of what the classroom has to offer. Some children may "speak an entirely different language, practice different customs, expect different kinds of nurturing, embrace different values, be surrounded by people who look different, or have a variety of special needs" (Tello, 1995). This chapter defines the early childhood age span and presents diverse examples of young children's behavior.

What does the young child do? The newborn is interested in personal comfort: being warm, being well fed, and having a dry diaper. Very quickly, the newborn learns to expect attention and cuddling from the caring others in his or her environment. Soon the **infant** becomes aware of his or her own body and of things in the environment that he or she can control (Photo 1-1). By age one, the infant moves into the **toddler** period, and from age one to age three, the toddler is most interested in moving about and exploring everything (Photo 1-2). By the time the child is a preschooler, paint, clay, balls, games, dolls, trucks, and books all serve as raw materials for play. By age three, the child accomplishes many routine tasks, such as eating, sleeping, bathing, using the toilet, and dressing. Young boys and girls can walk, run, climb, yell, speak conversationally, and whisper. They can express their feelings—happiness, sadness, contentment, anger, and irritability—clearly.

Three- and four-year-olds are usually called **preschoolers**, meaning they have not yet entered elementary school, although many

Photo 1-1 The crawling infant is engrossed in reaching objects in the environment.

Photo 1-2 Young children enjoy dressing up as adults.

Photo 1-3 Four-year-olds like the companionship of other children and are more independent of adults than three-year-olds.

five-year-olds have not yet entered kindergarten and are still preschoolers (Photo 1-3). Five-year-olds are usually labeled as **kindergartners** even though kindergartners may be four, five, or six, depending on their birth dates and when they entered school. Children ages six through eight, or in grades first through third, are in the **primary period** (Photo 1.4). These age labels are rather arbitrary and do not necessarily tell us where a child is developmentally. Therefore, the following descriptions are examples; not every child is exactly like the ones described.

Infants are, as already mentioned, very dependent. Between ages one and three, the young child moves toward increased independence. Preschoolers are ready to strike out on their own, beyond the safe confines of home and parents. Many children spend extended periods away from home before age three—in a child-care home, at a relative's home, in a center-based infant or toddler playgroup, or in a full-day child care group. By age three, however, children have skills that enable them to function well without the almost constant adult attention they need in the infant and toddler years.

For the adult who works with young children in full-time child care, part-time preschool programs, elementary schools, medical settings, social service centers, or the home, questions constantly arise regarding these small people and the best educational and care practices for them. This chapter develops an initial picture of young children by describing their characteristics and actions and by presenting the essentials of the adult's role when working with them.

kindergartners
Children enrolled in kindergarten classrooms, usually between the ages of four-and-a-half and six years.

primary period
Children ages six through eight or in first through third grade.

1-2 Typical and Atypical Young Children

The children described on the following pages come from diverse backgrounds and have a variety of capabilities and needs. The following descriptions include young children at different age levels (from birth to primary grades), children with typical and atypical development, and children from various cultures.

Photo 1-4 First graders are more independent than preschoolers.

1-2a The Infant

Maria (three months old) is on the floor, happily sitting in her car seat. Dad is kneeling on the floor talking with her at eye level. Dad begins making one-syllable sounds of various pitches. Maria smiles at him, raises her fists, and kicks her feet as she mimics the sounds he makes.

Andy (nine months old) is in his stroller with the back propped up so that he can sit up more easily. The family is at a fast-food restaurant, seated at a table in the corner. His stroller is facing his mom so that she can feed him. She is facing the play area so that she can keep an eye on her two older children. She sets out the two older children's food and her own and gets out crackers for Andy. Andy is happily babbling and looking at his mom. His arms wave around, and he wiggles animatedly in his stroller. He sees the food and seems excited to begin eating. Mom gives him a cracker to munch on, but he will not accept it. He clamps his mouth shut, turns his head away, and furrows his brow. His arms begin to wave even more, and he begins to whine. He appears to want to eat what everyone else is eating. Mom breaks off a soft piece of French fry and offers it to him. He opens his mouth. He looks surprised at the taste and texture. He gums the piece down and eagerly accepts another fry.

In the daycare center's infant room, Ann (nine months) is crawling into a little cubbyhole. She sits there for a moment and then crawls back out. She picks up a toy and then drops it, and then picks it up again. She repeats these actions several times. Next, she crawls over to six-month-old Susie and yanks on her hair. Susie starts crying, and the teacher tries to soothe her. Ann looks at Susie and the teacher and also starts to cry.

1-2b The Toddler

Summer is 17½ months old. She's sitting on the floor looking at books. Her dad tells Wolf, their German shepherd, to get a toy. Summer jumps up, goes to Wolf's toy basket, picks up Wolf's favorite toy, and takes it to him. Then she gets him another toy. Wolf wags his tail and chews on one of the toys, obviously delighted.

Donna positions Haniya, a toddler with cerebral palsy, in her special seat on the countertop so that Haniya can hold her hands under the faucet. Jonathan comes in from the adjoining play area to wash his hands before snack time. Donna says to Jonathan, "Please turn on the faucet for Haniya." Jonathan does. Haniya glances at him and puts on a faint smile. She sticks her hands under the faucet of running water, seeming to enjoy the cool feeling on her hands. Jonathan sticks his hands under the water as well, and they splash the water together (Bredekamp & Copple, 1997, p. 65).

1-2c The Three-Year-Old

Miami Herald columnist Dave Barry wrote the following about his three-year-old daughter, Sophie (Barry, 2003):

> Sophie has a mermaid doll named Ariel. She has beautiful hair! She gets married a lot. She also takes a bath with Sophie every night. Ariel's hair gets very wet. But Sophie wants to sleep with her. So Daddy has to blow-dry Ariel's hair. And brush it out. Every night! Imagine how Daddy feels styling a mermaid's hair, while the other daddies are watching *Sports Center*.

Josh was a three-year-old boy with lively brown eyes, a ready smile, and dark, curly hair. … Pat, his teacher, was concerned about Josh. She had noticed that he walked and ran awkwardly, stumbling often. He didn't talk much and was difficult to understand. He frequently drooled. He had not yet mastered simple puzzles that were done with ease by the other children in the class (Chandler, 1994, p. 4).

Tamika (age three), her sweet face framed by golden ringlets of hair, sits silently in a wicker chair watching her 34-year-old mother prepare for her daily sustenance… Her mother's friend, Dorene McDonald, picks several rocks of cocaine out of her belly button, then positions a milky white pebble in a pipe. As the women alternately take hits off the small glass tube, crack smoke envelops Tamika, who blinks sleepily in her mother's arms (Nazario, 1997).

1-2d The Four-Year-Old

Four-year-old Jorge and three-year-old Hamako are on the playground in a fort. The fort is an enclosed area with windows. Inside, it contains steering wheels on two sides and a slide on another side. Jorge is pretending that the fort is a ship, and he is the captain. As Jorge steers the ship, Hamako imitates him using the other wheel. Jorge tires of the ship game and sits down on top of the slide. He tells Hamako to slide with him. She sits down behind him. Together, they form a train and go down the slide.

Four-year-old Mindy was a bright and inquisitive girl who chatted readily with the teachers and other children when she and her mother visited the preschool during

enrollment week. Mindy had spina bifida and had no feeling below her waist. As a result, she needed to be catheterized several times a day to prevent urinary tract infections. She wore braces on her legs and used a walker. … Mindy wanted to be independent. She refused assistance in negotiating the environment and in caring for herself. … She didn't want special attention and took pride in doing things for herself (Chandler, 1994, p. 34).

Four-year-old Cedric came into teacher Cathy Main's room one day, anxious to tell a story. The night before, he told his classmates at Circle Time, his dad took him riding in the car. His dad's friend was in the front seat, Cedric and his mom in back. Cedric's dad and his friend were drinking and smoking reefers. The cops started chasing them, so his dad got on the expressway and drove really fast. His mom was yelling, "Stop! Stop!" Finally the cops pulled them over. They yanked his father out of the car and threw him onto the hood. Then they cuffed him and dragged him to the police car. [This incident became the focus of dramatic play for several days. Cedric and his classmates acted out all the parts.] (Teaching Tolerance Project, 1997, p. 173).

Time to Reflect

Think about the special needs of the children in the descriptions just mentioned. Describe your reactions and interpretations. Do you think there is a "typical" child at any age? What are some factors that put some of the children described at-risk?

1-2e The Five-Year-Old

Charlie is putting together a puzzle with two other boys in his kindergarten class. The puzzle is a picture of a box of crayons. The boys open the lid and begin to take out the pieces. Charlie suggests they begin with all the pieces that have straight edges. While putting the puzzle together, Charlie says, "Green, green, I need green." He then comments, "This thing is too easy." He is finally stumped on a part and says to Taylor, "Let me see the lid!" When the puzzle is finished, Charlie puts his hands on the puzzle and smiles. Kofi says, "Let's do another one!" Charlie replies, "Kofi, you have to help us clean up this one first."

Mrs. Johnston explains Kwanzaa to her daughter's kindergarten class. … Mrs. Johnston puts both arms around her daughter and sings out: "Kwanzaa is the time to celebrate. The fruits of our labor, ain't it great! Celebrate Kwanzaa, Kwanzaa!" By the second repetition, many people in the class are singing also while the teacakes are passed around (Paley, 1995, p. 8).

Photo 1-5 Primary grade children enjoy large group activities.

1-2f The Six-, Seven-, and Eight-Year-Old

The children in the primary years seem to be in a stage of developmental integration. They can take care of their own personal needs. They observe family rules about mealtimes, television, and needs for privacy. They can also be trusted to run errands and carry out simple responsibilities at home and at school. In other words, these children are in control of themselves and their immediate world … they enjoy being challenged and completing tasks. They also like to make recognizable products and to join in organized activities (Marotz & Allen, 2013, pp. 160, 162) (Photo 1-5).

In the primary class, the students are painting self-portraits with People Colors multicultural paints. Each child is asked to select the paint color that matches his or her skin tone.

"I'm gingerbread," says Rodrigo.

"I'm melon and terra cotta," boasts Millie.

"Raise your hand," Debra says, "if your color is close to Millie's."

April volunteers.

"April's a little darker than Millie," someone comments (Teaching Tolerance Project, 1997, p. 12).

In these brief descriptions of child growth from birth to age eight, an increase in independence and self-confidence is evident. At the same time, there seems to be a cycle marked by calmness at three, to increased activity at four, to calmness again as the child reaches five. The adult who works with young children must be aware that these changes are typical. Also exemplified are the diversity of backgrounds, experiences, and special needs that is evident in young children's lives.

1-3 The Essential Adult Role

Photo 1-6 Reading enriches both mental and emotional development.

Relationships with adults are critical to young children's healthy growth and development. Pediatrician T. Berry Brazelton (Hallmich, 2013) has promoted the need for nurturance to begin at birth. Brazelton uses a newborn assessment scale to find out the baby's temperament and responses. He shows parents how to interpret their baby's behavior so they can interact positively. Young children need to be nurtured and stimulated by adults (Photo 1-6). Organizations such as NAEYC, Zero to Three, and the Association for Childhood Education International (ACEI) promote positive adult/child relationships. Throughout the text, adult roles are described relative to ages, stages, and settings.

Early childhood is receiving more attention in the area of policy. Shonkoff (2010) designed a framework for guiding the future of early childhood policy. He bases his plan on our increased knowledge of early development based on research in genetics, brain development, early experience in the family and community, and the interactions among these factors. He concludes that policy makers must attend to providing programs that give young children a strong foundation for life success.

The population of the United States has changed greatly over time. The typical citizen can no longer be defined as being of white, European descent. The non-European American population is growing rapidly and includes six main groups: Latinos, African Americans, Pacific Islanders, Asian Americans, Caribbean Islanders, and Middle Easterners. In addition to these main groups are Native Americans. It is important to keep in mind that these major groups are not homogeneous. Within each group, cultural variations exist. Adults who work with young children and their families must recognize that one of the core areas of **developmentally appropriate practice (DAP)** is knowing about the social and cultural contexts in which children live (NAEYC, 2008). Okagaki and Diamond (2003) caution early childhood educators regarding the importance of developing sensitivity to parents' beliefs and practices. They explain that adults should not make assumptions about any family's child-rearing practices but should make the effort to learn what each family's needs and expectations are. Throughout the text, sociocultural factors are related to child development.

developmentally appropriate practices (DAP)
Instructional practices that are age, individually, and culturally appropriate as defined by NAEYC.

Brain Development

Brain development and activity constitute an increasing focus in the field of child development. In the past, most neuroscience research was conducted on animals such as rats and monkeys. Today, scientists have found methods for studying the human brain. Currently, more information is being obtained on the development and functioning of the human brain, but the picture is still incomplete. Care must be taken in formulating conclusions. Brain Development boxes in other chapters will look more specifically at what scientists are learning about the development of the young child's brain.

1-4 Child Development Theory

The study of children has been a subject of great interest during the twentieth and twenty-first centuries. Scholars have gathered information about and from children and have used this information to formulate ideas about how children grow and develop. Most scholars are researchers who mainly gather information. However, some scholars create broad ideas that attempt to explain how children learn and grow. These ideas are called **theories**. A theory is designed to show one plan or set of rules that explains, describes, or predicts what happens when children grow and learn. Several popular theories are described in this chapter.

theories
Ideas designed to show one plan or set of rules that explains, describes, or predicts what happens and what will happen as children grow and learn.

Child development theories have conventionally been the foundation of educational and child-rearing practices. The guidelines for practice in early childhood education published by the NAEYC are called Guidelines for DAP (Bredekamp, 1987; Bredekamp & Copple, 1997; Copple & Bredekamp, 2009). DAP is age appropriate and individually and culturally appropriate. In the past, the cultural relevance of these theories has been questioned by some developmental psychologists (i.e., Greenfield & Cocking, 1994; Goodnow, Miller, & Kessel, 1995; Coll et al., 1996). DAP has been expanded by those concerned with the care and education of minority and lower-socioeconomic-level children (i.e., Mallory & New, 1994; Lubeck, 1998a). The basis for this expansion is that the theories were adopted by European Americans from a European American point of view. Therefore, some early childhood educators believe the theories do not necessarily apply to other cultures, ethnic groups, and races such as Asian, African, Latino, and Native American, both in the United States and in their native countries. Thus, theorists have moved toward applying a strong sociocultural theoretical foundation to early education and development. For example, Hyun and Marshall (1997) proposed a model that combines DAP and a multicultural perspective, which they called **developmentally and culturally appropriate practice (DCAP)**. After describing the major developmental and **learning** theories and the views of those who propose a stronger cultural basis for child development theories, this unit concludes with cautions about applying the conventional child development perspectives to early development and education.

developmentally and culturally appropriate practice (DCAP)
An elaboration of DAP that focuses more strongly on cultural appropriateness.

learning
A behavior change that results from experience.

1-4a Types of Theories of Child Development and Learning

Some theorists identified with a child development focus on **growth**, some on how learning takes place, and others on both. The term *growth* usually refers to a sequence of changes or stages that takes place on the way to adulthood and that is controlled, for the most part, by an inherited timetable. For example, a child's head reaches full growth before his or her trunk. Learning refers to behavioral changes caused by environmental influences. A child in the United States might learn English or Spanish as a first language, whereas a child in Germany learns German. **Developmental theories** usually explain changes in the child that result from interactions between growth and learning. Every child develops in a similar manner. For example, infants explore objects by sight, taste, touch, sound, and smell before they learn that these objects still exist when out of their sight. Theories emphasizing change that originates in the environment through learning are called **behaviorist theories**. For example, if children hear language, imitate it, and are rewarded for making sounds, they will learn to talk. Behaviorist theories explain how the child learns regardless of his or her age or stage. Some learning-oriented theories explain what is happening in the mind. Others look only at behavior that can be seen. To sum up, behaviorists focus strongly on external environmental factors as they affect learning and development.

growth
A series of steps or stages that a child goes through on the way to becoming an adult.

developmental theories
Ideas that explain changes in a child due to interaction between growth and learning.

behaviorist theories
Ideas emphasizing changes that originate in the environment through learning.

Developmentalists focus on the interaction between internal genetic factors and environmental factors as children learn new concepts and skills that enable them to transition from one developmental stage to the next.

normative/maturational view
A way of looking at development that stresses certain norms.

norms
Behaviors that most children perform at a certain age.

The **normative/maturational view** is another way of looking at development. **Norms** define what most children do at a certain age. The normative maturational view stresses certain norms, such as the time when most children can sit up, crawl, walk, talk, count to 10, or play cooperatively with other children. Other norms define the average size, shape, weight, or height of a child at a specific age. Furthermore, norms can suggest typical behavioral characteristics, such as the fact that toddlers are naturally negative because they are trying so hard to be independent. Theories and norms are related in that theories try to explain why norms occur as they do.

1-4b Influential Theorists

Child development theorists attempt to describe basic processes that explain how children learn and when they are more likely to learn specific concepts and skills. Some theorists believe that people learn in much the same way, whatever their age. Others believe that learning is done in a different way as each person progresses through different stages. It is important for teachers of young children to be familiar with a variety of theoretical approaches in order to understand, explain, and respond to young children's behavior.

Some theorists whose ideas have been very influential are Jean Piaget, Lev Vygotsky, Sigmund Freud, Erik Erikson, B. F. Skinner, Albert Bandura, Carl Rogers, and Abraham Maslow. The normative/maturational view of Arnold Gesell has also added a great deal to our knowledge of child development. Table 1-1 outlines the areas that these theorists attempt to explain through theory development and research.

As illustrated in Table 1-1, each theorist, with the exception of Skinner, is interested mainly in one area of development or learning. Skinner's theory offers an explanation for any learned behavior, whether cognitive, affective, physical, or motor (as defined later in the chapter). Skinner, a behaviorist, believed that by providing positive reinforcement, observable behaviors could be strengthened or shaped (Miller, 2011). Positive reinforcers include food, smiles, compliments, and other responses that increase the chances that a behavior will be repeated. If unwanted or undesirable behaviors are ignored, they will lessen in their frequency or possibly disappear or become extinguished. Skinner's principles are especially applicable to young children, particularly toddlers and preschool and kindergarten-age children (Newman & Newman, 2007). They can also be helpful in guiding older children. These principles are also frequently applied in the field of special education, where specific behaviors must be modified in small increments.

Bandura, also a behaviorist, is known for his work on social learning. Bandura noted that much learning takes place through observation or vicariously. That is, learning takes place that is not determined by forces outside the learner but that depends on the learner's attention to someone else's behavior. The people being observed are models, and the learning process is called *modeling* (Newman & Newman, 2007). (See the examples in Table 1-1.)

Table 1-1 also shows that Piaget, Vygotsky, Freud, Erikson, Maslow, Rogers, and Gesell focused on the interaction between growth and the environment. Piaget and Vygotsky are referred to as *cognitive developmentalists* because they linked mind and environment. Piaget is known for his work on the development of logical thought and sociomoral knowledge and behavior. His work also focused on concept development. As children interact with the environment, they construct knowledge. In Piaget's view, knowledge construction is more effective for learning than direct instruction. Piaget believed that children's motivation to learn comes from their

Table 1-1 Theories of Child Development and Learning

On the left side are the three major areas of development. The headings across the top indicate the two types of theories: developmental and behaviorist.

	Type of Theory	
Tries to Explain Changes in:	**Developmental: Growth and Learning Interact**	**Behaviorist: Learning Is the Main Determiner of Behavior**
Cognitive Area: Language Concepts Problem solving Intellectual needs	Cognitive-Developmental: Development leads (Piaget) Language/Communication: Learning leads (Vygotsky) Normative/Maturational (Gesell) Self-Actualization (Maslow): Example: A supportive adult and a rich environment with freedom for exploration will allow learning and intellectual growth.	Behaviorist (Skinner): Examples: Learning to speak. Learning that red, blue, and yellow are colors. Social Cognitive Theory (Bandura): Example: The child observes the language users of his or her culture and imitates what he or she sees and hears.
Affective Area: Aggression Dependency Cooperation Fears Self-concept Affective needs Motivation	Psychosexual (Freud) Psychosocial (Erikson) Self-Concept (Rogers) Self-Actualization (Maslow) Sociocultural (Vygotsky) Sociomoral (Piaget): Examples: Through play, the young child learns the benefits of cooperation. Dependency must develop first for the child to become independent later.	Behaviorist (Skinner): Examples: Learning to hug and not to hit. Learning to help others. Social Cognitive Theory (Bandura): Example: The child observes another child being praised for helping to set the table. The child imitates what he or she has seen and heard.
Physical and Motor Areas: Body size and growth rate motor skills (e.g., creeping, walking, grasping)	Normative/Maturational (Gesell): Example: The head, and thus the brain, have the fastest growth rate during early childhood; therefore, neurological growth is rapid and determines cognitive and motor growth.	Behaviorist (Skinner): Examples: Complex skills, such as riding a bicycle or skating, and physically related behavior, such as eating nutritious food. Social Cognitive Theory (Bandura): Example: The child is told to watch while the coach kicks the soccer ball and then is asked to try to kick it the same way.

natural curiosity about the world (Mooney, 2000). Perspective taking, or seeing another's point of view, is also an important element of Piaget's theory (Newman & Newman, 2007). Vygotsky also contributed to our view of how children learn to think and speak and of the importance of adult, peer, and community social interaction to the young child's learning (Miller, 2011). For Vygotsky, the key to learning for young children comes from the support of adults and advanced peers. Imaginative play is a critical element for young children (Mooney, 2000). For Vygotsky, word meaning links speech and thought, and thus language is the key to learning. Private, or inner, speech is critical to "self-regulation, self-directed goal attainment, and practical problem solving" (Newman & Newman, 2007, p. 249). Learning and development are linked in the Zone of Proximal Development (ZPD; described in Chapter 3).

Freud and Erikson are known for their theories of social and personality development. Freud focused on sexual and aggressive drives as motivators, whereas Erikson (a student of Freud's daughter Anna, also a noted psychiatrist) was more interested in social motivators. Freud's concepts of the id, ego, and superego are useful for looking at how we develop self-regulation and make moral decisions. Erikson's psychosocial theory is very popular with early childhood educators. Erikson focused on the interaction between the individual and the social environment. At each stage of life, the

individual must deal with a crisis. These crises are normal stresses that occur when we try to adjust to the demands of society (Newman & Newman, 2007). During early development, each crisis illustrates an underlying description of the behavior we see young children dealing with.

Rogers focused on the development and organization of the self-concept and believed that children have a capacity for self-direction. Adults have the responsibility to support children's efforts to develop control of their own actions. Rogers was very similar to Vygotsky in his view of adult–child relationships. Rogers's student Thomas Gordon developed a program of child guidance based on Rogers's theory (Marion, 2007). Three widely used Rogerian-based guidance strategies are the following (Marion, 2007, p. 302):

- Figure out who owns the problem, adult or child.
- Listen actively when a child owns the problem.
- Deliver an "I message" when the adult owns the problem.

Maslow contributed the theory that there is a hierarchy of human needs. Physiologic needs are the most basic. Next come safety needs, then belonging needs, then needs for esteem, and finally needs for self-actualization. Self-actualization is filled with the needs to fulfill our potential. Gesell's research focused on the development of growth and development norms and their practical applications for childrearing and teaching.

Several of these theorists/researchers viewed growth and learning as proceeding in an orderly fashion from birth to adulthood. Table 1-2 shows the stages associated with each theorist. The data gathered by Gesell indicate that physical and motor growth develop at a continuous, rapid rate that levels off at approximately six years of age. According to Piaget, the young child proceeds through three periods of cognitive and sociomoral development from birth to about age 12. In the affective area, Freud and Erikson each looked at different aspects of development. Because Erikson was Anna Freud's student, it is not surprising that the three-step structure of his early childhood stages is similar to Anna's father's. However, whereas Freud's stages focus on the child's psychosexual interests, Erikson's focus on the psychosocial side. Vygotsky believed that child development proceeds through a series of five stages. He focused on the social aspects of learning—that is, the role of adults and older children in supporting cognitive, self-regulation, and language development. Note how the major stages are parallel. Each theorist noted changes in development at about the same ages.

Maslow and Rogers are neither strictly learning nor strictly developmental theorists. Their ideas focus on the process of achieving a positive self-concept. Love from parents and positive interactions with peers help the child move toward adult self-actualization. The self-actualized adult's basic needs for survival, security, belonging, and esteem are fulfilled. The adult is then able to fulfill intellectual and aesthetic needs and become a fully functioning person.

Piaget's and Vygotsky's theories are the most popular guides to early childhood education and development. Their ideas focus on both the cognitive and the affective views of learning and are the foundation of the **constructivist** approach that is the basis of DAP. Initially, the constructivist approach grew out of Piaget's theory (DeVries & Kohlberg, 1990; DeVries, 1997; DeVries, Zan, Hildebrandt, Edmiaston, & Sales, 2002; Papert, 2004). Later, Vygotsky's theory was incorporated (Berk & Winsler, 1995; Bodrova & Leong, 2007). On the social/emotional side, Erikson's theory is very popular and practical. For those working with children with special needs, behaviorist theory is also widely employed because it is useful in analyzing behaviors and creating programs aimed at specific developmental and instructional needs.

constructivist
A believer in the idea that children construct their own knowledge through interaction with the environment.

Table 1-2 Stages of Development from Birth to Age 13

	Areas				
	Physical Motor	Affective		Cognitive	
Age	(Gesell)	Social/Personality (Erikson)	Personality (Freud)	(Piaget)	(Vygotsky)
Birth–16 months	The body develops rapidly from head to toe (lifts head, then shoulders, then sits up) and from the center out (reaches, then grasps).	**Crisis I: Trust Versus Mistrust** The relationship with the caretaker during feeding is central.	**Oral Stage** The mouth is the source of pleasure; feeding and teething are central.	**Sensorimotor Period** The child's sensory (hearing, tasting, touching, seeing, smelling) and motor skills develop and are the means for learning.	**Infancy** (2 months–1 year) Leading activity: Emotional communication. Private speech: Public cooing and babbling.
18 months–2 years		**Crisis II: Autonomy Versus Shame and Doubt** The child strives for independence.	**Anal Stage** Bowel movements are a source of pleasure. Toilet training is a critical area.	**The Preoperational Period** Language and cognitive development are rapid as learning takes place through imitation, play, and other self-initiated activities. Indicate that this period continues in box below.	**Early Childhood** (1–3 years) Leading activity: Manipulation of objects. Overt private speech develops self-regulation.
3 years		**Crisis III: Initiative versus Guilt** The child plans and carries out activities and learns society's boundaries.	**Phallic Stage** Sex role identification and conscience development are critical.		
6 years	By age six, the rate of development levels off.				**Preschool Age** (3–7 years) Leading activity: Play. Overt private speech develops self-regulation.
7–13 years	The child can engage in activities requiring more physical strength and coordination.	**Crisis IV: Industry versus Inferiority** The child needs to be productive and successful. Failure results in feelings of inferiority.	**Latency Stage** The child consolidates previous stages' developments.	**Concrete Operations** Abstract symbols and ideas can be applied to concrete experiences.	**School Age** (7–13 years) Leading activity: Learning. Silent private speech serves to regulate task-related behavior and performance.

1-4c Theories of Development and Learning: The Sociocultural View

As previously mentioned, ever since the publication of the DAP guidelines, increased attention has been given to the appropriateness of applying developmental theory to early education and the development of children from diverse cultures and with

diverse capabilities (New & Mallory, 1994). NAEYC has addressed this critique in its revised guidelines (Copple & Bredekamp, 2009; NAEYC, 2008).

Early childhood educators who do not accept developmental and learning theories as the foundation of understanding and planning for young children believe that sociocultural factors should provide the basis for the education of young children. Lubeck (1998a) believes that the traditional early childhood developmental view results in pressure to conform and a decreased respect for diversity because it presents universal developmental stages that suggest universal methods of instruction. Lubeck also believes that early childhood educators should be less firm in their convictions and should avoid formulating guidelines based on consensus. Instead, planning for children's education should grow out of cultural and community beliefs and interests. Ryan and Grieshaber (2004) believe that a developmental knowledge base is not adequate to teach children in today's world. They question whether culturally appropriate practices can be based on research done with homogeneous white, middle-class populations. They believe that the conventional child development view is out of date and doesn't recognize the issues faced by children in current society. Ryan and Grieshaber thus view children from a **critical theory** perspective. Critical theorists look at the power relationships in the classroom. They encourage teachers to "make sense of the ways their practices can contribute to unequal opportunities for students" (Ryan & Grieshaber, 2004, p. 45). They believe that knowledge is socially constructed and that no universal truths, principles, or laws can be applied to everyone, in contrast to the implication of developmental and behaviorist theories. Thus, it can be seen that there is a major difference between the developmental and behaviorist and the critical theory views. This author (Charlesworth, 1998a, b) believes that developmental universals exist and that the developing child should be the focus of educational planning, with cultural and community interests being an essential consideration. This view does not preclude flexibility in specific planning; rather, it supports it. Child development and learning should be viewed for individual children within their cultural context, as suggested by a variety of professionals in the field (Mallory & New, 1994).

critical theory
Encourages teachers to examine the power relationships in the classroom.

1-4d Ecological Theory

An interest has developed in recent years on person-in-context views (Miller, 2011). This type of theory is closely related to the sociocultural views, in that individuals are viewed within their cultures. Urie Bronfenbrenner's ecological-systems approach has been very influential. A diagram of Bronfenbrenner's system is included in Chapter 3. His theory is made up of layers that range from the child's immediate environment (such as home, school, and peer group), which links with societal institutions (such as an economic system, government, and mass media), which in turn link with the beliefs and values of society. The layers interact with each other and with the child.

The next section of this chapter defines and provides examples of the major developmental areas that are of interest to theorists and researchers. (Each of these areas is discussed in Parts 3–6.) Finally, there are examples of applications of theories to everyday problems.

1-4e Developmental Areas That Theories Attempt to Explain

Theories differ regarding the specific part of growth and learning they try to explain and describe. For purposes of study, child growth is usually divided into four areas: cognitive, affective, physical, and motor.

Child Development in the Real World

Developmental Theory and Program Structure

Theory provides direction for a developmentally appropriate program structure. Structure is necessary for any program, in several areas: classroom space, guidance techniques, instructional methods, materials, curriculum, and assessment. Structure based on the development of young children includes some of the following factors that can be related to developmental theory:

- Classroom space is clearly divided into a variety of learning areas. The space includes table areas, a soft-carpeted area, floor areas used as instructional space, and centers with open shelves where children can select materials. (Piaget and Erikson)
- Guidance techniques should be clear, consistent, positive, and inductive. Time blocks are broad and flexible but follow a consistent routine. Children have choices of activities that fit their competencies, interests, and learning styles. Children are involved in rule making. (Rogers, Bandura, Erikson, Piaget, and Vygotsky)
- Instructional methods include whole-class, small-group, and individual activities as appropriate. Children are encouraged to construct their own knowledge. The focus is on creative thinking and problem solving. Peer interaction is encouraged, and play is the major vehicle for learning. (Piaget and Vygotsky)
- Materials are organized in space, are concrete, and are open-ended and promote creativity. First-hand experiences are provided. (Piaget)
- Curriculum is guided by standards and scope and sequence but adapted for individual children's development. Content is integrated, and there is equal emphasis on cognitive, affective, and psychomotor areas of development. (Piaget, Vygotsky, and Erikson)
- Assessment is done in an organized manner, mainly through observations and individual interviews as children work with appropriate materials. Observations are done daily to obtain information used for planning. Information for planning is obtained regarding children's current competencies and interests. Planning can then focus on age, individuality, and culturally appropriate teaching strategies. (Piaget and Vygotsky)

cognitive growth
Centers on the mind and how the mind works as a child grows and learns.

affective growth
Centers on the self-concept and the development of social, emotional, and personality characteristics.

Cognitive growth centers on the mind and how the mind works as a child grows and learns. Piaget and Vygotsky are especially prominent in the cognitive area. (See Table 1-2. on page 11)

- Jenny, age 14 months, points to her pet cat and says, "Ki Ki." Jenny is learning to speak and has learned the concept of cat (Ki Ki).
- Javier, age three, wants a cup. He tries but can't reach it. He pulls the kitchen stool over, climbs up, and gets the cup. Javier has solved a problem.
- Lai, age five, is given a plate of cookies and told to give the same number of cookies to each child in her class. She goes from one child to another, giving each child one cookie at a time. Lai understands that, by using the idea of one-to-one correspondence, she can divide a group of things into groups of equal size.
- Bill, age six, takes three red blocks and four blue blocks and combines them into one group. Then, he picks up his pencil, and on a sheet of paper he writes, "3 + 4 = 7." Bill is making the connection between concrete objects and abstract symbols.

Photo 1-7 Emotional and play support from a warm, concerned adult helps the child develop in the affective and cognitive domains.

Affective growth centers on the self-concept and the development of social, emotional, and personality characteristics (Photo 1-7).

Freud, Erikson, Rogers, and Maslow focused particularly in this area (see Tables 2-1 and 2-2 on pages 36 and 52).

- Mrs. Smith holds Tony, age one month, in her arms, rocking him and softly singing a lullaby. Mrs. Smith is helping Tony experience the attachment necessary as the basis for later independence.
- John, age four, almost always smiles and looks happy. Other children like him and want to play with him. He is always kind to other children and tries to find a place for them in his play. John has a positive self-concept and has developed well in the affective area.
- Louisa, age five, takes whatever she wants and hits children who try to defend their property. She has not yet acquired the skills to interact positively with others.
- Thuy, age six, would like to have a candy bar before dinner. However, her mother has told her that she will have to wait until after dinner. Just thinking about taking a candy bar makes her feel guilty. At six, Thuy has developed a conscience that tells her not to disobey her mother.

physical growth
Development of the body and its parts.

Physical growth has to do with the development of the body and its parts (Photo 1-8). Gesell focused on this area and typical behavior. (See Tables 1-1 and 1-2. on pages 9 and 11)

- John, age four, weighs 36.6 lb (16.6 kg) and is 3.4 ft (104 cm) tall. This is average for his age.
- Kerry, age two-and-a-half, weighs 35.5 lb (16.1 kg), and her height is 2.95 ft (90 cm). She is below average in height and above in weight. She appears short and chubby.
- Carlos, at age seven, is well proportioned. His legs have outgrown their toddler stubbiness.

motor development
The development of skill in the use of the body and its parts.

Motor development refers to the development of skill in the use of the body and its parts. Gesell focused on normative development in tis area. (See Tables 1-1 and 1-2.)

Photo 1-8 Preschool children have reached a stage of development in which they can participate and enjoy simple teacher-directed games.

- Pete, age three, does well at lunch. He eats his soup with a spoon, spilling very little, and easily pours milk from a pitcher.
- Rosa, almost age five, hasn't yet learned to skip, can hop on one foot only three times before losing her balance, and can't walk in a straight line.
- Azam, age seven, and several of his classmates have joined an after-school soccer team. He can now coordinate his body and his mind and is ready to engage in team sports with rules.

1-4f Theory Application

To clarify the ideas and the usefulness of these important theorists, a brief example of an application of each theory follows.

Application 1: Piaget

A teacher of young children wants to know whether preschool children really need to role-play. From reading Piaget, the teacher finds that

Photo 1-9 Primary-level students enjoy working together on projects.

Piaget believed that dramatic play is essential to cognitive development. Through pretending to be someone else and through the use of objects for purposes other than originally intended (e.g., sand used to make a pie), children have their first symbolic experiences. These experiences are the basis for more abstract symbolic learning, such as when children learn to use letters, numbers, and words as symbols (Photo 1-9). The teacher also investigates Vygotsky's view of play. Vygotsky emphasized learning self-regulation through play; that is, children learn the rules of social interaction through play.

Application 2: Vygotsky

A child care provider wonders why it is important to provide support for children's language development through activities such as conversation and storybook sharing. At a professional meeting, the child care provider attends a session about **scaffolding**, a process through which an adult supports the child's language development, thus reinforcing the child's efforts at verbal expression. It can be used during storybook sharing, when the adult extends the experience by asking the child questions. The process continues by encouraging the child to ask questions and relating the story to the child's personal experiences.

scaffolding
A process through which an adult or older child supports the child's learning, providing support as the child moves from the current developmental level to a higher level.

Application 3: Erikson

A preschool teacher wonders how much freedom four- and five-year-olds need to work on their own. From Erikson, the teacher finds that the child of this age must learn to take the initiative when appropriate and, at the same time, learn the rules for the kinds of behaviors that are not allowed. The teacher realizes that a delicate balance must be found between being too permissive and being too restrictive.

Application 4: Freud

Mrs. Ramirez is concerned that her daughter, two-year-old Tasha, is not responding well to toilet training. Mrs. Ramirez talks to a Freudian-trained psychologist at the health center. The psychologist explains to Mrs. Ramirez that toileting is a significant activity for a child Tasha's age and should be handled gently and patiently.

Application 5: Maslow

Mr. Ogden, a kindergarten teacher, is concerned that the breakfast program at his school may not be funded next year. A good breakfast, he believes, is necessary not only for health reasons, but also to give the child the security of knowing that his or her basic needs will be met in a predictable fashion. A child who is concerned about where the next meal is coming from will not be able to concentrate, damaging the social and cognitive needs that the school program is designed to fulfill.

Application 6: Rogers

The local early childhood education professional group is contacting state legislators to gain their support to lower the adult/infant ratio in child care centers in the state. This group of educators supports its stand with the ideas of several experts, including Rogers. According to Rogers, children must be loved and feel secure to grow into loving adults. This love and security come from their relationships with their caregivers. Infants, especially, need a great deal of individual attention; a low adult/infant ratio helps fulfill this need.

Application 7: Skinner

A child care provider is worried about a very aggressive child she has in her home each day. She seeks help from a psychologist, who suggests a Skinnerian approach.

The child care worker observes the child carefully each day for a week. She keeps a count of each time the child hurts another child or breaks a toy. She also notes each incident in which he does something that is not aggressive. The next week, she makes a point of giving him attention when he does something positive and ignoring his bad behavior unless he is hurting someone, in which case he goes to the cool-down chair until he regains control. After three weeks, she counts incidents of aggressive behavior and positive behavior. She finds that the positive behaviors have increased and the negative behaviors have decreased.

Application 8: Bandura

A mother is concerned about her child's use of unacceptable language. She speaks with his teacher, who probes to find out where he might have learned such language. The mother realizes that her father, who lives with the family, peppers his speech with a great deal of profanity. Her son spends a lot of time with his grandfather and has observed and is imitating his vocabulary.

Application 9: Gesell

A mother is concerned about her three-and-a-half-year-old daughter's behavior. Her daughter's teacher reads to her from a book by Gesell and his coworkers. Something unexpected and confusing seems to be happening to the smooth, conforming three-year-old as he turns three-and-a-half. Where did all this turbulence and trouble come from? Why is there such opposition—so much refusal to obey or even to try (Gesell et al., 1974)? The mother reads on and is relieved to find that her child is a typical (if negative) three-and-a-half-year-old girl.

Application 10: Sociocultural

John Hughes is the principal of a school on a Navajo reservation. He is feeling frustrated because the parents of his students are not cooperative in seeing that their children attend school regularly. A friend recommends that he learn more about Navajo culture. He reads a chapter by Jennie R. Joe (1994) that explains Navajo customs regarding formal instruction. Mr. Hughes discovers that Navajos divide learning, which is lifelong and begins at birth, into three different levels. Initial instruction is informal and focuses on language, religion, customs, and other areas that are necessary to become a useful member of Navajo society. At the next level, an occupation is acquired, and the necessary skills are learned through an apprenticeship. Formal instruction, the third level, is restricted to young adults who are interested in becoming healers or religious leaders.

This view explains why, when the U.S. government introduced formal schooling for children, most Navajos misunderstood the intent and refused to send their children. Also, because Navajos believe in individual autonomy, they do not force their children to go to school. On the other hand, because the government prevented parental involvement in education, communication and information sharing were not instituted. After obtaining this information, Mr. Hughes sees that he needs to share information with parents and let them know that he wants schooling to be culturally relevant. He decides to meet with community leaders to develop a plan that encourages more parental involvement in classroom activities, policy, and decision making. Parents would then see the value of formal education and support regular school attendance.

Table 1-3 is a summary of the major developmental and learning theories applied in practice. Note the adult roles and the corresponding environmental factors.

Adults who work with young children must have a sound, underlying theoretical basis to support their actions (Glascott, 1994). Throughout this book, theory is applied to practice. However, caution is also taken to clarify some of the limitations of taking any theory too literally. Theory should always be considered within the child's sociological context of family, community, culture, and language.

Table 1-3 Summary of the Major Developmental and Learning Theories Applied in Practice

Theory	Adult Role	Environmental Factors
Cognitive-developmental/ constructivist (Piaget and Vygotsky)	Guide; provider of scaffolding; sets the stage for learning	Some freedom and choice; concrete materials and activities; opportunities for social interaction
Psychoanalytic (Freud, Erikson, Rogers, and Maslow)	Guide; especially focuses on the affective areas; sets the stage for learning	Some freedom and choice; concrete materials and activities; opportunities for social interaction; environment is therapeutic (nurturing and comfortable for expression of feelings)
Behaviorist (Skinner)	Director; sets the stage for learning; provides reinforcements and punishments; manages behavior	Allows for maximum positive reinforcement of appropriate adaptive behaviors
Social cognitive (Bandura)	Models appropriate behavior	Provides appropriate social models; clarifies appropriate behavior
Sociocultural (Lubeck and Ryan)	Facilitators and interventionists; assist children in recognizing their views of race, gender, and sex	Provide a varied environment that encourages children to develop their personal interests and examine their personal views

1-5 Applying Developmental and Learning Theory and Research with Caution

Stott and Bowman (1996) provide a thoughtful view of the relationship between theory and practice. They point out that theory and research are only one set of data that may shape teaching practice. The individual's personal experience and children's roles in family and community are also important to the total picture. Therefore, theory and research should be applied with caution.

What makes theories worth reading and discussing is not the assumption that they mirror reality, but that they serve as suggestions or estimations—that is, they help us arrange our minds. Theories are helpful in that they organize and give meaning to facts, and they guide further observation and research (Stott & Bowman, 1996, p. 171).

Stott and Bowman also point out that theory and research from other areas, such as anthropology, sociology, mathematics, various sciences, and the arts, contribute to ideas that may guide teaching practice. Furthermore, each person and each cultural group holds individual values regarding the goals of education. It is for this reason that teachers must be able to integrate multiple perspectives.

Developmental research can also be viewed from different perspectives. A group of child development researchers has developed a model for studying minority children's development (Coll et al., 1996). This model is set up in a linear fashion, moving from sociocultural variables to the child's competencies. Coll and colleagues state that the primary developmental processes operate in the same fashion for children of color as they do for Caucasian children. However, it is very important to consider these children's special circumstances, such as racism, social position, culture, and so on. Rather than accepting white, middle-class child-rearing approaches as applying to all children, child-rearing practices appropriate for children of color need to be considered. Equally important are the characteristics of the child, with age, temperament, health, maturational timing, and race being essential to consider. Coll and colleagues also explain that there is evidence that children of color may have distinct biological factors that are important influences on their development. The Coll et al. model places these diverse factors at the core of many developmental influences.

Brain Development

Applying Research to Practice

Brain development research findings have been applied inappropriately by many to instruction. There is concern that brain research may be misused to mistreat children of color or children living in poverty. So-called brain-based child-rearing and instructional recommendations are made based on psychological and educational research, not brain research. Accurate information must be provided to those who care for and educate young children.

Time to Reflect

From this overview of theories, which one(s) do you find most appealing? Why? Why must we be cautious in applying developmental theories and research to teaching practice?

Sociocultural and curriculum content views of behavior and development are woven throughout this text to illustrate the relationships between culture, content, and development. To understand any individual child's development, adults who work with young children may need to select, combine, and integrate various theories and values.

Both developmental- and behavior-oriented theories attempt to explain what happens as children develop mental, social, physical, and motor skills. Sociocultural theory provides explanations from a more diverse view. Each type of approach to explaining early development can be applied to everyday work with children. More details regarding the views of these theorists and researchers and their application to everyday practice are included in the following chapters of this book. Ideally, child development and early childhood education should work as one (Elkind, 1993). This text is designed to demonstrate how this goal can be achieved.

1-6 A Brief History of Child Study

Adults who work with young children have become more aware in recent years of the need to know how young children develop. Adults now realize that knowledge of child development is necessary to understand, interact with, and plan for children. However, this was not always the case. Only during the twentieth century did the study of how children grow and learn develop into an area that stands on its own merit. Before the twentieth century, most adults did not feel that there was anything special to be known about young children. Therefore, the study of young children was not an important area for research on human development.

Currently, child development researchers study a host of questions and problems to find answers that will help those who work with young children. Examples of concerns relevant to child study in the twenty-first century include the effects of child care experience on young children's development, the effects of formal early education on children and their families, the influence of technology on child behavior and development, the characteristics of infants, the rate of brain growth, the effects on children of prenatal maternal substance abuse, literacy development, and the role of the father in the lives of young children.

1-6a 1800s–1930s

baby biographies
Diary records of interesting things a particular child does each day.

In the late 1800s, **baby biographies** began to appear, which were the first kind of recorded child research. Parents kept diary records of interesting things their children did each day. These diaries inspired much of early child research. As the twentieth

century approached, G. Stanley Hall performed the first organized research project on a large group of children. He asked parents all over the United States to fill out questionnaires about their children. This project was the beginning of child development as the field of study we know today. In the 1930s and 1940s, Arnold Gesell began his studies of children's motor development, and Freud's psychoanalytic theory became influential, as did John B. Watson's behaviorism, Unlike Freud and Erikson, Watson viewed psychology as the study of and control of observable behavior in contrast to inner thoughts. Watson's work led to the popular approaches to behavior control and behavior change that are used in special education and behavior therapy today.

1-6b 1940s–1960s

From 1943 to 1963, the interest in applying theories of learning to the study of development gained prominence. The objective was to translate Freud's areas of interest, such as aggression, sex typing, and dependence, into learning theory terms. John Whiting attempted to relate early child-rearing practices to later personality development. Robert R. Sears examined the relationships among early child-rearing practices, such as weaning, toileting, punishment, dependency, and the like. During this time, B. F. Skinner developed operant conditioning, which has been widely applied to the study of children. Sears's and Skinner's work reflected an interest in practical application. During the 1943–1963 period, there was an increased awareness of the influence of biology on behavior and on the importance of the earliest experiences of children on their development. Piaget's influence came to North America in the 1960s (Parke, 2004).

1-6c 1960s–1980s

Parke (2004) describes the period from 1963 to 1983 as being dominated more by themes than by theories. Major themes included concerns about cognitive development, infant sensitiveness, social learning, social interaction, and the area of emotion. Piaget's work was translated into English and interpreted by J. McVicker Hunt and John Flavell. Piaget's view of the interaction between nature and nurture became popular. Through Bronfenbrenner's work (described later in this chapter), the importance of context became a major focus. Another major advance was the discovery of the tremendous learning capacity of infants.

1-6d 1980s–2000s

From 1983 to 2003, the neurologic basis of behavior was an important focus, and it continues to be today (Parke, 2004). The search for a grand theory of development was abandoned, and more eclectic, flexible models of theory application were adopted. Theories became flexible guides for understanding development. Among the important discoveries, it was found that there are changes in the cortical function of the brain between five and seven years of age, changes that occur at the same time as shifts in children's learning and memory; thus, there have been exciting findings in the area of genetic and hormonal influences on behavior and development.

Parke (2004) saw the need for more interdisciplinary research, more focus on solving childhood problems, and more cultural sensitivity, all of which are currently more of a focus. The study of child development has made much progress since it began, but there is still room for more progress. As time goes by, we see that children are complex and that we tend to come up with more questions than answers.

In the study of young children, we have a desire to learn everything. David G. Smith (n.d.) reminds us that we cannot define what a child is. We have to look at each child in relation to others, such as parents, teachers, and peers. Every person

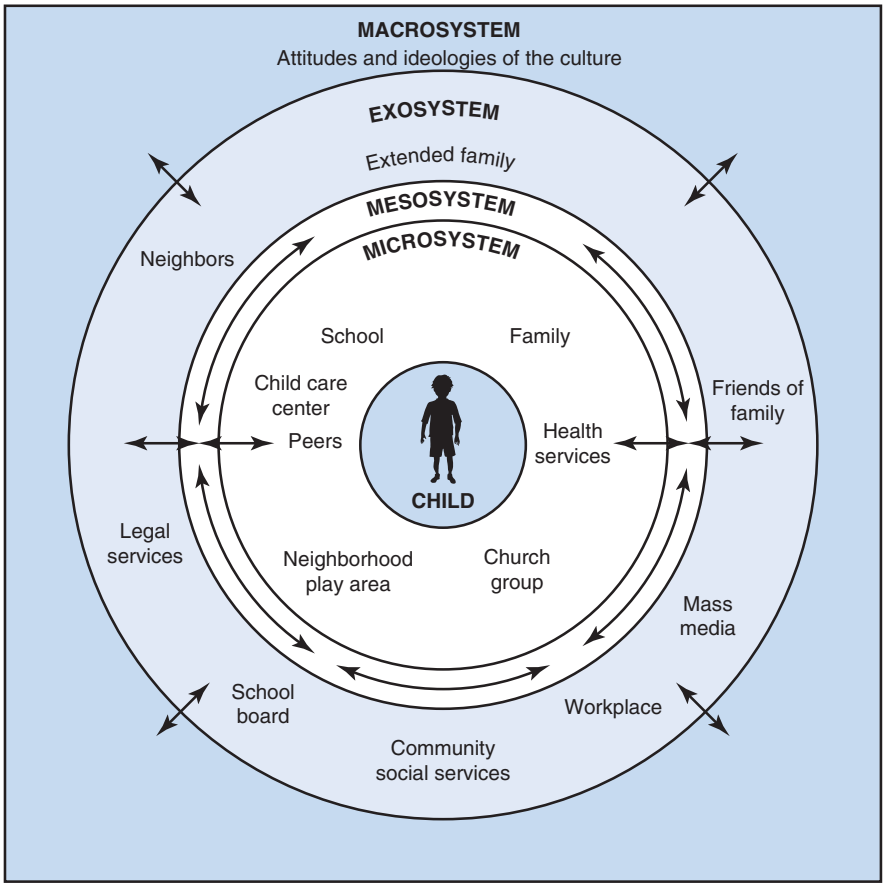

Figure 1-1 Ecological research model.

ecological research model
Viewing children in all their roles in all the areas of their environments.

microsystem
A child's relationship to home, school, neighborhood, peer group, and church.

mesosystem
The interactions and relationships between and among the child's home, school, neighborhood, peer groups, and church.

exosystem
A child's interactions and relationships with local government, parents' workplaces, mass media, and local industry.

macrosystem
A child's interactions and relationships with the dominant beliefs and ideologies of the culture.

chronosystem
The time dimension in the ecological system.

who has contact with a child has a personal picture of that child. Even when these pictures are assembled into one portrait, we still do not have all the pieces. As we consider child research and its applications, we thus need to be cautious and keep in mind that although it tries to explain all, it really cannot. Smith (n.d., p. 4) reminds us that "because the aim of Child Psychology's effort is to understand the child more completely, to contain him, and to control him, it misses the point. Children are always beyond our understanding because they are beyond us." Keeping this caution in mind, we can benefit from the bits and pieces of understanding gleaned from research in child development.

Ecological Research Model

Although we will never know everything about any child, we want to know as much as we can. To accomplish this, Bronfenbrenner (1979, 1989, 1992) developed an **ecological research model** (Figure 1-1). Bronfenbrenner stresses the importance of viewing children in all their roles in all areas of their environments. Children must be studied within their **microsystem**, which includes their relationship to home, school, neighborhood, peer group, and church. Of equal importance are three other ecological systems that affect children's lives. Surrounding the microsystem is the **mesosystem**, which includes the interactions and relationships between and among home, school, church, peer group, and neighborhood. Moving farther out into the world, additional influences come from the **exosystem**, which includes influences such as the local school board, local government, parents' workplaces, mass media, and local industry. Beyond this system is the **macrosystem**, which encompasses the dominant beliefs and ideologies of the culture. Cutting across all these systems is the **chronosystem**, which is the time dimension as it relates to the child's environments. The child's history and age are examples of this dimension.

Within any microsystem component such as the classroom, "the structure and content of the setting, and the forms of developmental process that can take place within it, are to a large extent defined and delimited by the culture, subculture, or other macrosystem structure in which the microsystem is embedded" (Bronfenbrenner, 1989). As you look at children daily in the classroom, it is essential to consider these other outside factors as they influence children's behavior. Also critical is the place of the family in the child's ecological system. With many stressors impinging on the family, it is important to be aware of how family stressors may be affecting the child (Swick & Williams, 2006).

The developmental research field in the twenty-first century is very different from its beginnings in the twentieth century. Fabes, Martin, Hanish, and Updegraff (2000) summarize and evaluate some of these differences. From the narrow focus of descriptive studies and later experimental laboratory studies, the field has expanded into topics influenced by the systems outlined by Bronfenbrenner (1979, 1989, 1992). More emphasis is placed on topics that will help improve the lives of children and have an effect on public policy. For example, the tragic school shootings that took place in the twentieth and twenty-first centuries were an impetus to do more research on violence.

1-7 Methods of Child Study and Authentic Assessment

Each adult who works with young children needs to study those children closely. Adults need to know as much as possible about each child in order to plan appropriate learning environments. It is important that what is learned from a child development course be checked against and applied to children whom the adult knows. From the study of the children in their care, adults can obtain valuable information to use in planning for children and their families. For instance, specific information can be obtained to share with parents during conferences.

Several methods for collecting and recording information can be used by teachers, parents, and others who work with young children. These methods include the diary method, individual interviews with caretakers and/or children, and naturalistic observations. Portfolio systems are used by many as guides for organizing the information collected by teachers and students (Gelfer & Perkins, 2006; Grace & Shores, 1998; Seitz & Bartholomew, 2008; Gestwicki, 2011, Mueller, 2014). Portfolios are collections of children's work, and **portfolio** systems provide an ongoing record of the child that can be used to assist him or her in making smooth transitions to new classrooms and new programs. Taking advantage of as many of these opportunities as possible will prove beneficial later in your career. The following are examples of these methods.

portfolio
An ongoing record of a child that includes information collected by the teacher and the student.

1-7a Anecdotal Record

1. Child: Sam; it is his second day in the toddler room.
2. Setting/activity: The children are finishing breakfast. Sam is still sitting at his place.
3. Anecdote: Sam was chewing on his napkin. He actually bit pieces off and was chewing with great energy as he glanced around at the rest of the room. Suddenly, the teacher, Heidi, apparently noticed that he was finished eating and was now chewing on his napkin. She bent down and calmly indicated to him that he

should spit the sodden remains of the napkin into the garbage tub. Sam turned, stood up, and willingly followed Heidi's directions as she demonstrated how to scrape his bowl and place it in the dirty dishes tub.

This anecdote is a short story that describes a significant incident. In this case, it is documentation that Sam appears to be comfortable starting school and is content to wait patiently (although eating the napkin may indicate some stress) until the next step in the breakfast routine is explained. An adult can jot down a brief note at the time of the incident and write a more detailed account later.

1-7b Diary Method

Grandma is keeping a record of four-year-old Summer's development.

> June 15. Today, Summer ran into the house eager to show me a book she was holding. She told me to sit in an armchair. She then perched on one arm and told me she would read me the story of *The Cat on the Mat*. She was very pleased with her accomplishment. She pointed to each word as she read and demonstrated a good understanding of the print-to–oral language relationship.

1-7c Parent Interview

A parent is interviewed about her child's experience in child care (Pausell & Nogales, 2003, p. 34):

> My son, he loves to go to school. If one day I can't take him to school or something, he will get mad at me. He says, "No, Mama, I want to go to school. I have to go to school." We had spring break and all he talked about was going to school, but I'm like, "Honey, there's nobody at school." So it was pretty funny, he really wanted to go to school, and I knew he enjoyed his class.

1-7d Interview with a Child

> Interviewer: What makes the clouds move along?
>
> Child: God does.
>
> Interviewer: How?
>
> Child: He pushes them … [the clouds] stay [in the air] because God wants them to stay. (Piaget, 1966, p. 63)

1-7e Running Record

It's the first day of toddler preschool after the holiday vacation. Ann is the head teacher, and there are two new student teachers, Kate and Sandy. Summer's mom brings her in at 10:30 AM (half an hour after class has started). The other children are busily involved in activities: water pouring, mini-trampolines, writing center, easel painting, playdough, home center, library, and tables with a variety of manipulatives. Summer looks around the room as her mother signs her in. Mom leaves. Summer heads right for the easel, grabs a paintbrush, and begins to paint. As she holds the paintbrush, her attention goes toward the trampolines. She walks over and observes. A teacher asks if she would like to try one and steers her toward it, but she indicates that she wishes to stand back and observe, and then she goes to a table where there is bright green playdough. A teacher invites Summer to sit. Summer grabs a lump of dough and pounds it on the table, at the

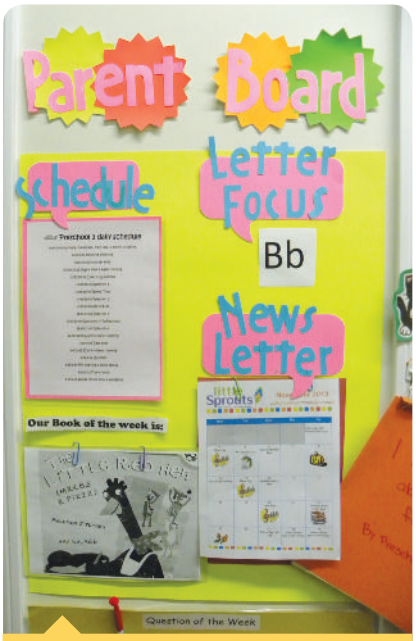

Photo 1-10 A bulletin board keeps parents informed about school activities.

same time observing the rest of the activities. She gets up and scoots over to the trampolines. While she appears to be making a decision, two of the bigger boys jump onto the vacant spaces on the trampolines. Summer returns to the easel.

From the diary record, we learn what a parent or other adult believes is important enough to write down. Thus, the information is very selective. However, an adult who understands and applies a thorough knowledge of child development to making selections can learn a great deal about what is happening with children as individuals and as a group. A teacher does not have time to write a detailed diary entry on each child every day but can write descriptions of individual incidents or anecdotes that seem of special importance (Nicolson & Shipstead, 1994; Bentzen, 2009).

Parent and child interviews are used to obtain information that is specific to something the interviewer would like to know. The value of parent interview information depends on the accuracy of the parent's memory of past events and the parent's opinion of the child's behavior (Photo 1-10). It can be quite subjective, but it is still important and can yield information that otherwise would not be available. Child interviewing is critical to the process of teaching (Photo 1-11). Informal questioning (described more in later chapters) is a necessary means for finding out what young children know and how they think. Observation and interviewing are two of the teacher's most important tools.

In the example given, the **running record** observation was done by an outside person and describes what the child did in a detailed, factual way (Photo 1-12). The reader is left to decide what is important about the incident. This type of record is usually called a running record or a **specimen record** (Nicolson & Shipstead, 1994; Bentzen, 2009). It is time-consuming to gather information in this manner, but the yield can be very revealing. Developmental and educational researchers are turning more to naturalistic observations and interviews to gather information on children and teachers (McLean, 1993; New, 1994). Naturalistic observation can be done in a more structured and less time-consuming fashion by using some predetermined categories or a checklist of behaviors (Nicolson & Shipstead, 1994; Bentzen, 2009).

Adults who work with and gather data from young children must be skilled observers (Jablon, Dombro, & Dichtelmiller, 2007). For example, with the increasing

running record
A naturalistic observation made by an outside person that describes what the child did in a factual way and in great detail; also called a *specimen record*.

specimen record
See running record.

Photo 1-11 Specific facts can be learned during a one-to-one child interview.

Photo 1-12 Naturalistic observation is used to find out what children do during their normal daily activities.

Technology in Early Childhood Education

Using your library's database and online search engines, find out how teachers and children are using technology to assemble information for a child's portfolio.

diversity of our school population, teachers need to research each of their students to plan for him or her in a culturally relevant way. New (1994) suggested three roles teachers can take. First, using photographs, videotapes, audiotapes, children's work samples, anecdotal records, and other observation data, teachers can document children's daily activities. Second, teachers can experiment with a variety of teaching strategies and materials, seeking practices that promote motivation and learning for their students. Third, teachers can take on the roles of anthropologists as they study the culture of each of their students. In early childhood education, the use of methodology involving collaboration between researchers and teachers and teachers as researchers of their own practices has expanded.

1-7f The Challenge of Authentic versus Inappropriate Assessment

The pressure of required standardized testing is frustrating to teachers at all levels (Kohn, 2001a). Even in prekindergarten programs, such as Head Start, a multitude of assessments are required. Teachers are pressured to meet standards of achievement that force them to use more developmentally inappropriate instructional practices to prepare children for narrowly focused, developmentally inappropriate tests (Popham, 2005). Young children do not develop at exactly the same pace at every age. Even if they have mastered a concept or skill, they may not be able to show it on a group-administered test. Even individually administered assessments can present problems. Often, such an assessment can be too narrowly focused and consume valuable instructional time. For example, the Reading First Initiative requires the assessment of early literacy skills using Dynamic Indicators of Early Literacy Skills (DIBELS), which has a narrow focus and takes up time that might be better used for more appropriate assessment methods. DIBELS focuses on subskills, ignoring skills such as comprehension of the material (Gordinier & Foster, 2004/2005; Li & Zhang, 2008).

These mandated testing requirements can be very stressful for both teachers and students. The challenge for teachers is to do the minimum amount of specific test preparation so that most class time can be spent on meaningful learning and developmentally appropriate authentic assessment. In addition, teachers and parents need to take action to change the system (Kohn, 2001a). The appropriate assessment methods for young children include observation records, interviews, collections of children's work samples, checklists, rating scales, and **rubrics** (a defined assessment guide) (McAfee, Leong, & Bodrova, 2004). These strategies and tools can become a part of everyday instruction.

More and more educators are moving toward **Authentic Assessment**, which is also referred to as Performance Assessment, Alternative Assessment, or Direct Assessment. In contrast to conventional test-based assessment (multiple choice, true-false, fill in the blanks, or matching items) authentic assessment requires some kind of performance that reflects the required knowledge and/or skills of the subject (Mueller, 2014). The performance reflects a real-world task. Mueller (2014) provides a detailed Authentic Assessment Toolbox online. For Authentic Assessment, students select a problem to solve, such as building a house for the pet gerbil, planning and planting a garden, or finding out the best characteristics for a parachute that works. It is usually evaluated using a rubric or a scoring scale such the one as in Table 1-4.

Time to Reflect

Think about your experiences with testing. How do you feel when you have to take a test? Can you remember any of your early test experiences in elementary or high school? Have you spoken with any teachers or children about their experiences? Compare your experiences with those of other people in your class.

rubrics
Scales used to evaluate student performance and student products.

Authentic Assessment
Assessment that requires a performance that demonstrates the desired learning.

Table 1-4 General Rubric for Evaluation of a Performance or a Product Report

Student (s) Name (s) _____

Performance Objective _____

	Beginning 1	Developing 2	Well Done 3	Excellent 4	Score
Organization	Not clear	Somewhat clear but some missing parts	Fairly clear; A few missing pieces	Clearly organized	
Explanation/ description of problem	Not clear	A little difficult to pin down objective	Objective is clear but could include further detail	Clear and thorough	
Description of procedure	Not sequential	Some steps clear; some confusing and lacking in detail	Most steps are clear; some are lacking in detail or are confusing	Steps are easy to follow and are logical and detailed.	
Results	Not clearly described	Presentation Not totally clear and accurate	Mostly clear presentation	Clearly described; illustrated with pictures, diagrams, graphs, or tables	
Conclusion	Not logical, lacks detail	Illogical, needs more detail	Logical conclusion(s) but could be more detailed	Logical explanation for results	
Clarity in written and/or oral report	Not clear which group member did what	Each group member has a fairly clear part to present.	Logically organized, although some steps not clear	Very nicely organized. Each step of research and/ or development is clearly presented.	
Cooperation if group activity	Not clear what each person's responsibilities were	One person took over and didn't encourage group participation.	Everyone has a part in planning, research, production, and/or organization.	Each person's responsibilities in the group are clear, and all contribute.	
Timeliness	Project late			Project completed on time	

It is also important to assess classroom quality. Tools such as the Early Childhood Environmental Rating Scales (ECERS) and the Classroom Assessment Scoring System (CLASS) are frequently used for this purpose. The ECERS has four different scales. Each scale evaluates the following classroom characteristics: Physical Environment, Basic Care, Curriculum, Interaction, Schedule and Program Structure, and Parent and Staff Education. CLASS is a tool for observing and assessing the quality of classroom interactions between teacher and students. CLASS measures three broad domains of classroom quality: emotional support, classroom organization, and instructional support. These domains have been found to be linked to student achievement and social development.

1-8 Professional Ethics

principles
Guides for conduct that can help solve ethical problems.

Whether a teacher, a researcher, or a student of child development, one must always follow the **principles** of professional ethical conduct. NAEYC has adopted such a code (NAEYC's Code of Ethical Conduct, 2011), which is designed to assist teachers

and others in solving ethical dilemmas. It focuses on the daily practices of adults who work with young children ages birth through eight and their families. However, "when the issues involve young children, then these provisions also apply to specialists who do not work directly with children, including program administrators, parent educators, early childhood adult educators, and officials with responsibility for program monitoring and licensing" (NAEYC's Code of Ethical Conduct, 2011, p. 1). The code also applies to students of child development and early childhood education. It addresses professional responsibilities in four areas: children, families, colleagues, and community and society. The code includes **ideals** and principles for each area. The ideals reflect the goals of practitioners, and the principles are guides for conduct and can help solve ethical problems, which are problems for which there is no clear solution. The most critical principle is:

> P.1.1—Above all, we shall not harm children. We shall not participate in practices that are emotionally damaging, physically harmful, disrespectful, degrading, dangerous, exploitative, or intimidating to children. *This principle has precedence over all others in the code.* (NAEYC, 2011, p. 3; italics in original)

ideals
Goals of practitioners.

Summary

1-1 Describe young children and their settings. Understand what is meant by the young child. The text describes growth and development from the prenatal period through the eighth year of life and the settings where children of these ages may be found.

1-2 Compare typical and atypical infants; toddlers; three-, four-, and five-year-olds; and six- through eight-year-olds. Examples of children's behavior at a variety of ages and stages have been presented to begin the process of reflecting on their similarities and differences.

1-3 Identify the essential adult role with young children. Adults need to love and nurture children.

1-4 Describe the history of child development theory, define the term *theory*, and identify types of theories and how they might be applied. The history of child development theory as giving direction to the study of young children began in the twentieth century. Theorists such as Piaget, Vygotsky, Freud, and Erikson were very popular and still underlie developmentally appropriate practice and can guide our thinking regarding child behavior. Major theories, and their focus and application are described.

1-5 Discuss cautions that should be taken when applying theories to the lower-socioeconomic-level and/or minority-group child. Theory and research must be cautiously applied in light of family and community beliefs and practices.

1-6 Summarize important historical events in child study. The study of child development is a fairly new area of research. This field came into prominence in the twentieth century, becoming a recognized field of study in 1933.

1-7 Describe methods of child study. Teachers and others who work with young children must gather information using a variety of methods such as observation and collection of artifacts. Authentic Assessment requires children to perform an activity that reflects that they understand the required concepts and information.

1-8 Explain the need for a professional code of ethics. Those who work with young children and their families must do so in an ethical manner. NAEYC has adopted a Code of Ethical Conduct. The key ethical principle is, "Above all, we shall not harm children."

chapter 2

How Play, Technology and Digital Media, and Disabilities Affect Learning

Standards Covered in This Chapter

naeyc

NAEYC Program Standards

1c: Using developmental knowledge to create healthy, respectful, supportive, and challenging learning environments for young children

4b: Knowing and understanding effective strategies for early education, including appropriate uses of technology

DAP

Developmentally Appropriate Practice (DAP) Guidelines

1: Creating a caring community of learners

2: Teachers use developmentally appropriate teaching practices

2E 3: Teachers organize schedule to provide time for play

2E 4: Teachers provide experiences, materials, and interactions to enable play

Learning Objectives

After reading this chapter, you should be able to:

- **2-1** Determine how you can tell when learning has taken place.
- **2-2** Explain how perception is a critical aspect of learning.
- **2-3** Describe the features of learning and the approaches to how learning occurs.
- **2-4** Compare the pros and cons of digital media as a vehicle for young children's learning.
- **2-5** Explain how developmental theories support the value of play.
- **2-6** Determine the vehicles and functions of play.
- **2-7** Describe the contexts for play.
- **2-8** Explain the advantages of inclusion for children with special needs.

2-1 An Overview of Learning

learning
A behavior change that results from experience.

Learning may be defined as behavior change that results from experience. Learning experiences involve many kinds of activities, as the following examples show:

> Carla, age six, is sitting on the sofa next to her 13-year-old sister, Becky. They are kneading a gooey substance. Becky has taken the gooey substance and separated it into two equal pieces for them to work with. Carla is watching Becky as she creates designs using her forearm as a table for the goo, and the palm, wrist, and forearm of her other arm to shape the material. Carla asks Becky to help her do the same. Carla follows each step as Becky gives her directions. First, she extends her arm and places the goo on her forearm. Next, she uses her palm to flatten the material. She sees Becky use her wrist and other forearm in a twisting motion to extend the material into an oval shape. She is unable to duplicate the motion and asks Becky to show her how it's done. Becky takes Carla through the steps and movements of the wrist and forearm. She has Carla repeat the movements, and Carla is successful.
>
> Pablo, age five, exclaims, "I can ride my bicycle, and, look, it only has two wheels!" Aunt Sara responds, "That is so cool!" "Yup, watch me," says Pablo as he starts to ride on the sidewalk in front of the house. He rides out of sight and comes pedaling back about three or four minutes later. He looks very proud.
>
> Kate, age four, points to a small creature that is walking on the sidewalk and asks, "Dad, what's that?" "That's a big red ant," answers her dad.
>
> Chan, age three, grabs Ginger's truck. Ginger hits Chan. Mrs. Clark steps over and says, "Wait a minute. This has to stop." She puts an arm around each of them and looks at each in turn, explaining, "Taking other people's toys is not allowed, but hitting is not allowed either. Chan, next time, ask Ginger to let you use the truck when she is done with it. Ginger, when someone takes something from you, ask for it back. If they won't give it back, come and ask Mrs. Clark for help."
>
> Summer, almost 15 months, is moving Grandma's refrigerator magnets around on the refrigerator door. Apparently satisfied that the objects will stick to the refrigerator, she moves around the kitchen, checking whether the magnets will stick to the wooden cupboards; they do not.
>
> Sonja, nine months, selects a small bucket and then a small cow and sticks the cow into her mouth and makes a noise with it. She picks up another toy and, as she plays with it, she says, "Ma ma ma ma ma and aaaah."

neurons
Tiny cells that are the building blocks of the brain.

axon
An output fiber that sends information to other neurons.

dendrites
Short, hairlike fibers that receive information.

myelin
A white, fatty material that protects axons.

synapses
The connections among nerve cells.

plasticity
The abundance of synapses that accounts for why the young child's brain learns new skills quickly.

In these experiences, each of the children has learned a new behavior. Carla has learned through supportive scaffolding to work with the goo. Pablo has learned to ride his two-wheel bike. Kate has learned to identify and name a red ant. Chan and Ginger have been told how to solve problems peacefully. Summer has learned that, while the magnets will stick on the refrigerator, they don't stick to the wooden doors. Sonja is learning the attributes of objects and is practicing the sounds included in conventional language. Future behavior will demonstrate whether the children have learned these skills.

As described in Chapter 1, different theorists have their own views of learning. Developmentalists emphasize the interaction between growth and learning. Behaviorists emphasize the effect of the environment on learning: Kate learned the name *red ant*

Brain Development

The Parts of the Brain and How It Functions

Starting from conception, brain growth and development move at a rapid pace. The advent of new technology in the latter part of the twentieth century enables the brain to be studied in detail (Shore, 1997; Thompson & Nelson, 2001). The positron emission tomography (PET) scan and magnetic resonance imaging (MRI) enable the observation of the structure of and activity in the brain (Lightfoot, Cole, & Cole, 2013). The brain is part of the central nervous system. It has two hemispheres (or halves), each of which has four lobes (Shore, 1997). Different parts of the brain have different functions (Porter, 2006). The upper portion, or cortex, is where most of our mental activity, such as thinking, planning, and remembering, takes place. Small cells called **neurons** are the building blocks of the brain. Infants are born with about 100 billion brain cells. Each neuron has an **axon**, an output fiber that sends information to other neurons. Each neuron also has **dendrites**, which are short, hairlike fibers that receive information. As children grow, the number of neurons stays about the same, but each cell increases in size and grows more dendrites. Axons transmit messages to other neurons and are protected by a white, fatty material called **myelin**. The key to brain development is the connection of neurons to each other. These connections are called **synapses** (Figures 2-1 and 2-2).

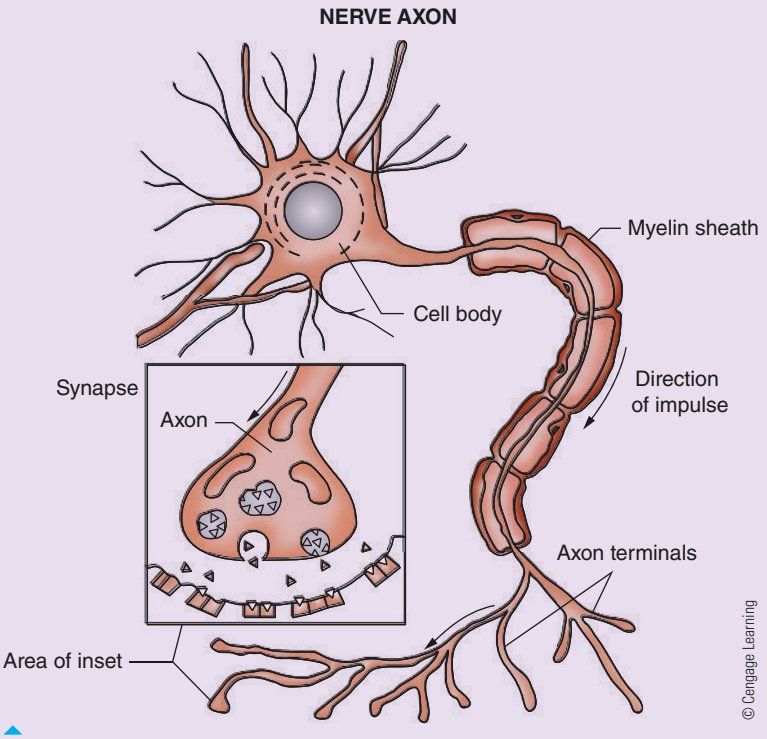

Figure 2-2 Diagram of a synapse and a nerve axon.

Children's experiences provide increased connections. Any neuron may be connected to as many as 15,000 other neurons. During the early years, children's brains develop more synapses than are needed. This abundance of synapses accounts for the **plasticity** of the young child's brain, which allows it to learn new skills much more quickly than the pruned adult brain (Murray, 2006; Twardosz, 2012). After the first year, pruning takes place—that is, unused synapses are lost. The ones that remain as a permanent part of the brain connections are the ones that are used repeatedly. If they are not used, they are eliminated. Dendrites also increase rapidly in number. During the first five years, the greatest growth of synapses and dendrites takes place. By age five, the child's brain weighs as much as an adult's.

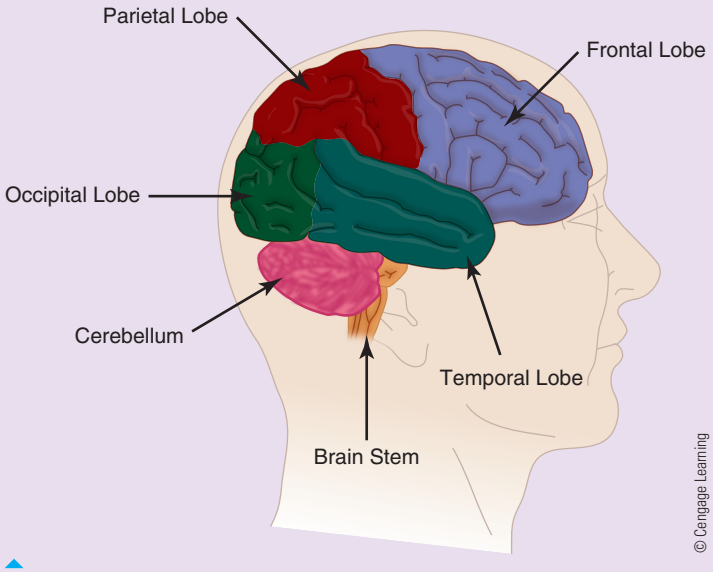

Figure 2-1 The major parts of the brain.

There is a concern about the rush to apply the results of brain research to teaching and learning (Willis, 2007; Worden, Hinton, & Fischer, 2011; Fischer, 2012). Research findings that document the ages when the brain is most active do not necessarily indicate that people are most educable at these ages. Willis, Worden and colleagues, and Fischer all suggest caution in developing a so-called brain-based curriculum because there is no validation from the meshing of cognitive studies, neuroimaging, and educational classroom research that curricula should be developed based on these findings. For the future, Worden and colleagues and Fischer suggest that there should be more cooperation and communication among teachers, researchers, and cognitive psychologists.