



# Child Development Principles and Theories

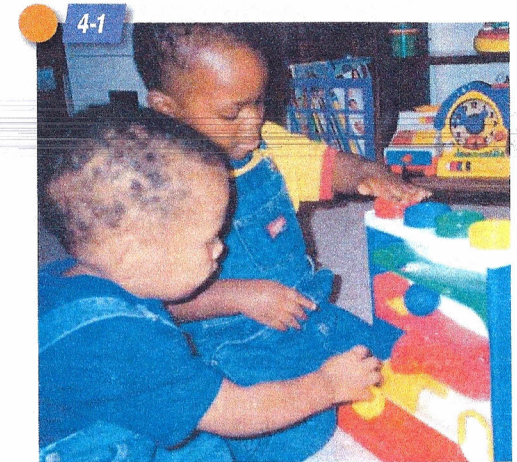
- After studying this chapter, you will be able to
- describe the areas and principles of development.
  - define *windows of opportunity* as related to brain development.
  - summarize how theories about development can be used as practical guides to early care and education.
  - contrast the developmental theories of Erikson, Piaget, Vygotsky, and Gardner.

## Terms to Know

development  
infant  
toddler  
preschooler  
physical development  
gross-motor development  
fine-motor development  
cognitive development  
social-emotional development  
cephalocaudal principle  
proximodistal principle  
maturation  
neurons  
synapses  
windows of opportunity  
theory  
schemata  
sensorimotor stage  
preoperational stage  
concrete operations stage  
multiple intelligences

Studying and understanding child growth and development are important parts of teaching young children. No two children are alike. Children differ in physical, cognitive, social, and emotional growth patterns. Even identical twins, who have the same genetic makeup, are not exactly alike. They may differ in the way they respond to play, affection, objects, and people in their environment.

Think of the children you know. Each is different from the others, 4-1. Some always appear to be happy. Other children's personalities may not seem as pleasant. Some children are active. Still others are typically



Knowledge of child development can help you understand how to work with children who have very different personalities.

quiet. You may even find that some children are easier to like.

To help all these children, you need to understand the sequence of their development. Knowledge of the areas of child development is basic to guiding young children. Linked to this is the understanding of healthy brain development.

Healthy brain development results from healthy human contact. Positive stimuli are a major factor in brain development. These stimuli begin at birth. Therefore, it is vital for children to have loving caregivers. Young children need dependable, trusting relationships. They thrive in environments that are predictable and nurturing.

Understanding theories about how people develop helps form your knowledge base in caring for young children. This combined knowledge will help you plan appropriate curriculum.



## Principles of Development

Although each child is unique, the basic patterns, or *principles*, of growth and development are universal, predictable, and orderly. Through careful observation and interaction with children, researchers and those who work with children understand the characteristics of the principles that follow.

- Development tends to proceed from the head downward. This is called the **cephalocaudal principle**. According to this principle, the child first gains control of the head, then the arms, then the legs. Infants gain control of head and face movements within the first two months after birth. In the next few months, they are able to lift themselves up using their arms. By 6 to 12 months of age, infants start to gain leg control and may be able to crawl, stand, or walk.
- Development also proceeds from the center of the body outward according to the **proximodistal principle**. Accordingly, the spinal cord develops before other parts of the body. The child's arms develop before the hands, and the hands and feet develop before the fingers and toes. Fingers and toes are the last to develop.
- Development also depends on maturation. **Maturation** refers to the sequence of biological changes in children. These orderly changes give children new abilities. Much of the maturation depends on changes in the brain and the nervous system. These changes assist children to improve their thinking abilities and motor skills. A rich learning environment helps children develop to their potential.

Children must mature to a certain point before they can gain some skills, 4-4. For instance, the brain of a four-month-old has not matured enough to allow the child to use words. A four-month-old will babble and coo. However, by two years of age, with the help of others, the child will be able to say and understand many words. This is an example of how cognitive development occurs from simple tasks to more complex tasks. Likewise,



Improved muscle strength and coordination are needed to walk and push a wheeled toy.

physical skills develop from general to specific movements. For example, think about the way an infant waves its arms and legs. In a young infant, these movements are random. In several months, the infant will likely be able to grab a block with his or her whole hand. In a little more time, the same infant will grasp a block with the thumb and forefinger.

The principles of development help you understand that the order or sequence of development in children is generally the same. However, each child develops at his or her own *rate*. In any classroom, you may find children the same age who have progressed to different levels in each developmental area. Knowing the principles of development will help you observe what abilities each child has gained. It will also help you plan appropriate activities that aid children in successfully developing new skills.

Understanding the areas and principles of development is important. Recognizing how the brain functions in development is equally so. What should caregivers and teachers know about the brain and how it influences development?

## Brain Development

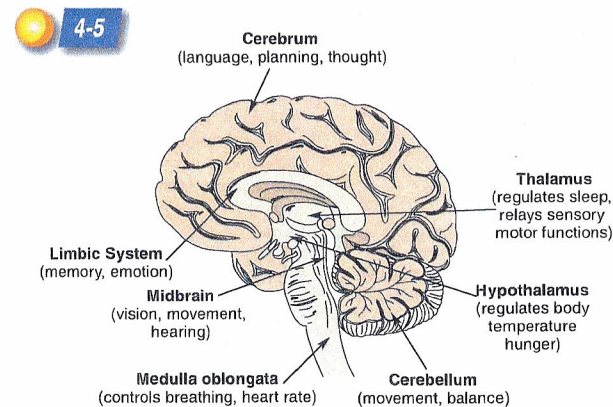
Which is more important for the developing brain—nature or nurture? This is one of the oldest debates in the study of human development. Human development depends on the interaction between nature and nurture, often called heredity and environment. Years ago, it was thought that *only* genes contributed to brain development. Today scientists say *both* factors are critical to healthy brain development. However, there are still some questions about which has the greater influence.

Modern technology allows scientists to take pictures of the brain. By comparing pictures, scientists are able to study rates of development. The studies show that young children's brains are highly active. The most rapid development occurs during the first three years of life.

Therefore, hours in infancy may have more impact on development than months in middle age. Figure 4-5 illustrates how different parts of the brain control body functions.

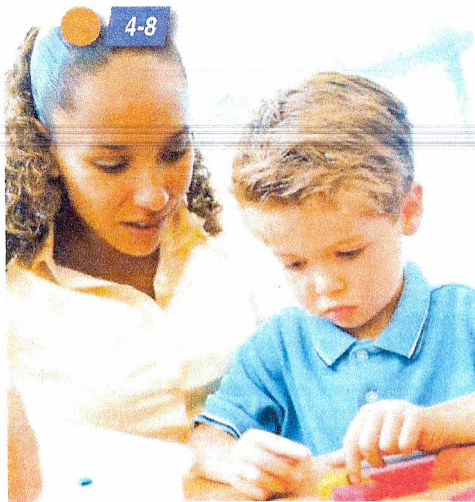
At birth, a child's brain weighs about one pound and is underdeveloped. It contains billions of specialized nerve cells called **neurons**. Although these cells are present at birth, they are not linked. After birth, the links between the neurons develop rapidly. These links, or connections, are called **synapses**. "Brain wiring" occurs as new links form. The larger the number of synapses, the greater the number of messages that can pass through the brain.

These links are a result of the child's interaction with the world. They influence the ability of a child to learn, solve problems, get along with others, and control emotions. For example, the child's growing brain responds each time a caregiver provides *sensory stimulation*. This stimulation could be in the form of holding, talking, reading, or singing. When stimulation occurs, the child's growing brain responds by forming new connections. The ability of an infant's brain to change according to stimulation is known as *plasticity*.



This diagram illustrates how different functions are controlled by different parts of the brain. Connections between them are critical to development.





Blocks of different shapes, sizes, and colors can help promote brain connections related to math and logic.

### Motor Development: Prenatal to Eight years

Motor development requires complex brain networking. The window of opportunity begins before children are even born. The window lasts for the first eight years. During this time, stable, long-lasting structures can be created. Young children need a variety of gross- and fine-motor activities to support motor development.

### Theories of Development

Psychologists continue to study human development. They are learning more about what people are like and how they develop. Over the past century, many psychologists have provided theories that are considered practical guides. A **theory** is a principle

or idea that is proposed, researched, and generally accepted as an explanation. Developmental theories provide insights into how children grow and learn. Theories are helpful for understanding and guiding developmental processes.

Theories can be useful decision-making tools. Since a variety of theories exists, teachers need to understand these different approaches for working with children. Theories will help you form your personal values and beliefs about learning. They will also help you understand strategies for promoting children's development.

Four major theories about how children learn are discussed in this chapter. These include theories of mid-twentieth-century psychologists Erik Erikson, Jean Piaget, and Lev Vygotsky. The final theorist, Howard Gardner, is a twenty-first-century developmental psychologist. These theories are based on observation and experiences with children. Think about the children you know as you read about theories that helped form today's ideas about working with young children.

### Erikson's Psychosocial Theory

Erik Erikson proposed a theory of psychosocial development. He believed development occurs throughout the life span. His theory provided new insights into the formation of a healthy personality. It emphasizes the social and emotional aspects of growth. Children's personalities develop in response to their social environment. The same is true of their skills for social interaction.

Erikson's theory includes eight stages. At each stage, a social conflict or crisis occurs. These are not generally tragic situations; however, they require solutions that are satisfying both personally and socially. Erikson believed that each stage must be resolved before children can ascend to the next stage.

Maturity and social forces help in the resolution of the crisis or conflict. Therefore,

teachers and parents play a powerful role in recognizing each stage. By providing social opportunity and support, teachers and parents can help children overcome each crisis. Chart 4-9 contains the first four stages of Erikson's theory. These stages occur during the early childhood years. The paragraphs that follow give a brief overview of these early stages.

#### Stage 1: Trust Versus Mistrust

During the first eighteen months of life, children learn to trust or mistrust their environment. To develop trust, they need to have warm, consistent, predictable, and attentive care. See 4-10. They need caregivers who will accurately read and respond to their signals. When infants are distressed, they need to be comforted. They also need loving physical contact, nourishment, cleanliness, and warmth. Then they will develop a sense of confidence and trust that the world is safe and dependable. Mistrust will occur if an infant experiences an unpredictable world and is handled harshly.

#### Stage 2: Autonomy Versus Shame and Doubt

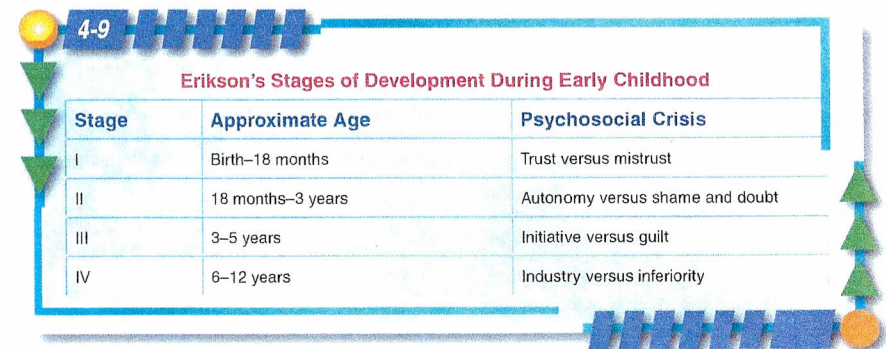
This second stage occurs between eighteen months and three years of age. During this

stage, toddlers use their new motor and mental skills. They want to be independent and do things for themselves. They are in the process of discovering their own bodies and practicing their developing locomotor (physical movement) and language skills.

The objective of this stage is to gain self-control without a loss of self-esteem. Fostering independence in children is important. At this age, toddlers start to become self-sufficient. They need to learn to choose and decide for themselves. To do this, toddlers need a loving, supportive environment. Positive opportunities for self-feeding, toileting, dressing, and exploration will result in *autonomy*, or independence. On the other hand, overprotection or lack of adequate activities results in self-doubt, poor achievement, and shame.

#### Stage 3: Initiative Versus Guilt

Between three and five years of age, the third stage occurs. According to Erikson, it emerges as a result of the many skills children have developed. Now children have the capacity and are ready to learn constructive ways of dealing with people and things. They are learning how to take initiative without being hurtful to others. They are also busy discovering how the



The first four stages of Erikson's theory concern children from birth to twelve years.



development promote cognitive development. Babies' physical actions, such as sucking, grasping, and hitting, help them learn about their surroundings. Movements are random at first. Gradually they become intentional as behaviors are repeated. Children begin to learn that objects still exist even when they are out of sight. This is known as *object permanence*. Through exploration and exposure to new experiences, new concepts are learned.

The **preoperational stage** takes place between ages two and seven. Children during this stage are very *egocentric*. This means that they assume others see the world the same way they do. Children do not yet have the ability to see others' points of view. During this time, representation skills are learned. These skills include language, symbolic play, and drawing. See 4-13. Children learn to use symbols and internal images, but their thinking is illogical. It is very different from that of adults. Children begin to understand that changing the physical appearance of something does not change the amount of it. They are able to recognize the difference between size and volume. For example, a ball of clay can be stretched into a long rope. Even if the physical appearance changes, the amount of the object does not change. This skill is called *conservation*. At this stage, children can also classify groups of objects and put objects in a series in order.

During the ages of seven to eleven years, **concrete operations** begin. Children develop the capacity to think systematically, but only when they can refer to actual objects and use hands-on activities. Then they begin to internalize some tasks. This means they no longer need to depend on what is seen. They become capable of reversing operations. For example, they understand that  $3 + 1$  is the same as  $1 + 3$ . When real situations are presented, they are beginning to understand others' points of view.

The fourth stage, *formal operations*, takes place from eleven years of age to adulthood



4-13  
This child is at the preoperational stage of Piaget's cognitive development. She is using her finger to represent a baby bottle.

(the age range you are in right now). According to Piaget, young people develop the capacity to think in purely abstract ways. They no longer need concrete examples. Problem solving and reasoning are key skills developed during this stage.

### Vygotsky's Sociocultural Theory

Both Jean Piaget and Lev Vygotsky believed that children build knowledge through experiences. Piaget believed this

happened through exploration with hands-on activities. Vygotsky, on the other hand, believed that children learn through social and cultural experiences. Interactions with peers and adults help children in this process. While interacting with others, children learn the customs, values, beliefs, and language of their culture. For this reason, families and teachers should provide plenty of social interaction for young children. See 4-14.

Vygotsky believed language is an important tool for thought and plays a key role in cognitive development. He introduced the term *private speech*, or self-talk. This refers to when children "think out loud." After learning language, children engage in this self-talk to help guide their activity and develop their thinking. Generally, self-talk continues until children reach school age.

One of Vygotsky's most important contributions was the *zone of proximal development* (ZPD). This concept presents learning as a scale. One end of the scale or "zone" includes the tasks that are within the child's current developmental level. The other end of the scale includes tasks too difficult for children to accomplish, even with help.

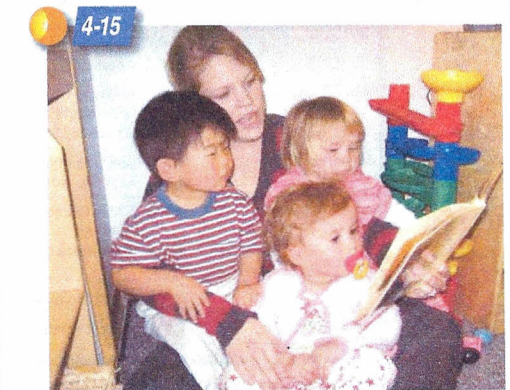


4-14  
According to Vygotsky, children learn the rules of social interaction through play.

In the middle are the tasks children cannot accomplish alone. These are achieved with help from another knowledgeable peer or adult. The term used for this assistance is *scaffolding*. Just as a painter needs a structure on which to stand and paint a building, scaffolding provides the structure for learning to occur. For example, a teacher could scaffold a child's learning while constructing a puzzle. The teacher might demonstrate how a piece fits or provide clues regarding color, shape, or size. The "zone" is constantly changing. In contrast to Piaget, Vygotsky believed that learning was not limited by stage or maturation. Children move forward in their cognitive development with the right social interaction and guided learning, 4-15.

### Gardner's Multiple Intelligences Theory

Howard Gardner has helped teachers rethink how they work with young children. Traditional intelligence tests mainly focus on language and math/logic skills. In contrast,



4-15  
Vygotsky believed it is important to support language development. During storytelling, the teacher extends the experience by asking questions.



### Verbal-Linguistic Intelligence

*Verbal-linguistic intelligence* involves the ability to use language for expression. People with this type of intelligence have well-developed language skills. They demonstrate sensitivity to the meaning, sound, and rhythm of words. Lawyers, poets, public speakers, and language translators have this type of intelligence.

Young children with this intelligence learn best by talking, listening, reading, and writing. These children quickly learn the words to new stories, songs, and finger plays. They enjoy talking to other people and are able to speak in an interesting and engaging manner. They are also able to learn a second language with ease.

This intelligence can be nurtured by environments rich with language opportunities. Children learn language in settings where it is used. Teachers need to follow the children's interests. They can then use these interests to engage children in meaningful conversations. Children's storybooks, songs, poetry, chants, and rhymes can serve as means for learning new vocabulary words. Listening to and telling stories can also promote language development.

### Interpersonal Intelligence

People with *interpersonal intelligence* display excellent communication and social skills. These people have a gift for understanding the feelings, behaviors, moods, and motives of others. They make friends easily. They use language to develop trust and bonds with others. They are also skilled in supporting others and empathizing with them. These skills are important for teachers, politicians, salespeople, and people working in the service industry.

These skills are nurtured in young children when caring behaviors are modeled for them. Teachers should keep this in mind.

They can share experiences and provide the children with chances for verbal interaction. Books focusing on emotions can be acted out.

### Intrapersonal Intelligence

*Intrapersonal intelligence* is the ability to understand the inner self. This is also known as *self-awareness*. It involves knowing your skills, limits, and feelings. It includes understanding your desires and motives. The ability to organize groups of people is part of this strength. Communicating needs clearly is another aspect. Psychologists, social workers, religious leaders, and counselors are examples of people with this type of intelligence.

How can you foster this type of intelligence? In the classroom, share emotions that all children experience. These include joy, sadness, regret, and disappointment. Classroom examples should be shared as well as storybooks that contain emotional concepts.

### Visual-Spatial Intelligence

*Visual-spatial intelligence* allows people to use their vision to develop mental images. People who have this type of intelligence show a preference for pictures and images. Photographers and artists are some examples. Architects, engineers, and surgeons also need this ability. They use it to see the relationship of objects in space.

Teachers can foster this intelligence by providing children with unstructured materials. Building blocks and puzzles strengthen this type of intelligence, 4-18. Make and use visual aids wherever possible. For example, classroom schedules, recipes, and stories can all be displayed on charts. Shelving units can be labeled with pictures cut from equipment catalogs.



Visual-spatial intelligence can be promoted through toys such as blocks and puzzles.

### Naturalistic Intelligence

*Naturalistic intelligence* is developed from the need to survive. This is the ability to classify objects in nature such as animals and plants. It depends on a type of pattern recognition. This strength also includes the ability to distinguish among types and brands of objects. Sailors, gardeners, chefs, and farmers are people who have this intelligence.

To build on this intelligence, provide cooking activities and nature walks. These help develop use of the senses to gather information. Planting and growing a garden helps the children observe cycles. Rocks, seashells, flowers, leaves, seeds, and coins can also be collected. In the classroom, they can be sorted and classified. Post picture collections and share books about natural events.

## Making the Pieces Fit

You might be thinking, "How will knowing about the areas and principles of development, the brain, and theories help me in my career in working with children?" The answer is both simple and complex. It's much like fitting together the pieces of a puzzle. In order to become a nurturing, responsive teacher, you must have insight into how children grow and develop.

The brain affects all aspects of growth and development. The areas and principles of development are similar for all children. Development generally progresses in a similar way for all children. Although each theory looks at development from a different angle, each offers a wealth of insight into how children develop. On what do the theorists agree? Children learn best in a caring environment rich with opportunity for learning. In addition, caregivers help build the self-confidence and self-worth children need to safely explore the world.