5

Child Learner

OBJECTIVES

Upon completion of this chapter, you will be able to do the following:

- Describe the biologic changes, psychosocial stages, and developmental tasks that are characteristic of newborns through adolescents.
- List health education topics for newborn through adolescent clients related to biologic changes, psychosocial stages, and developmental tasks.
- Define pedagogy, and apply it to teaching newborns through adolescents.
- Describe five steps that nurses as educators take to streamline the process of providing efficient yet personalized health teaching to children in a variety of settings.
- Identify health education topics when working with clients who have disabilities.
- List ways that nurses as educators work with families, are involved in the community, and work with health team members.

CHAPTER OUTLINE

INTRODUCTION

Understanding the development of children, including biologic characteristics, psychosocial stages, and developmental tasks, is fundamental to effective client education. A developmental task is a set of skills and competencies that are peculiar to each developmental stage and that children must accomplish or master to deal effectively with their environment (Wong, Hockenberry-Eaton, Wilson, Winkelstein, & Schwartz, 2008). Young clients react differently depending on their developmental stage. Differences in development not only affect clients' reactions to their condition but also their responses to and motivation for carrying out treatment recommendations. As the educator, you need to take into account the client's developmental stage based on an understanding of the health issues faced at that stage. Another important aspect of effectively teaching children is to know how children learn at different stages. This chapter describes child development in five major stages: infants (0–1 years), toddlers (1–3 years), preschoolers (3–4 years), school-age children (5–12 years), and adolescents (13–19 years). It looks at the concept of pedagogy and children's styles of learning at various stages. Your role as the educator is examined in working with pediatric clients who have disabilities, within families, groups, communities, and health team members.

BIOLOGIC CHARACTERISTICS, PSYCHOSOCIAL STAGES, AND DEVELOPMENTAL TASKS

Children grow, develop, and learn throughout their lives, from birth through adulthood. Development of the child learner refers to change or growth that occurs in a child during the life span from birth to adolescence. A developmental task represents our culture's definition of normal development at different points in the life span. A child's development is measured through biologic characteristics, psychosocial stages, and developmental milestones or tasks. Although there are universally accepted assumptions about human development, no two children are alike. Children differ in physical, cognitive, social, and emotional growth patterns. They also differ in their genetic background and the ways they interact with and respond to their environment. Psychosocial stages emphasize the development of healthy personality traits (Erikson, 1963). Developmental changes normally occur in an orderly sequence, in predictable patterns that are age related; however, there are differences in the rate or timing of the changes from one child to another. It is important to have an understanding of the sequence of development so you can respond to the learning needs

of young clients and their parents. It is also important to be aware that regression in development may occur with stress and illness.

Infants (Birth to 1 Year)

Biologic Characteristics

Infants at birth have reflexes as their sole physical ability. A *reflex* is an automatic body response to a stimulus that is involuntary; that is, the infant has no control over the response. Many reflexes disappear within a few weeks or months after birth. The presence of reflexes at birth is an indication of normal brain and nerve development. If reflexes are not present or if the reflexes continue past the time they should disappear, this is considered an abnormal finding, and the infant should be seen by a healthcare provider for further evaluation (Wong et al., 2008). **Table 5-1** reviews the major infant reflexes and when they normally disappear.

TABLE 5-1

Common Infant Reflexes

Reflex	Response
Blinking	In response to a puff of air, the infant closes both eyes. The reflex disappears as the neurologic system matures within the first year.
Babinski	In response to stroking the side of the foot, the infant twists the foot inward and fans out the toes. The reflex disappears at about 1 year.
Grasping	In response to an object pressed against the palm, the infant attempts to grasp the object. The reflex disappears at 5 to 6 months.
Moro	In response to surprise movement or loud noise, the infant startles with the legs and head extending while the arms jerk up and out with the palms up and thumbs flexed. The reflex disappears at 3 to 6 months.
Rooting	In response to stroking the cheek, the infant turns the head toward the touch and attempts to suck. The reflex disappears at about 4 months.
Stepping	In response to holding the infant so that the feet barely touch a surface, the infant makes stepping movements. The reflex disappears at about 10 to 15 months.
Sucking	In response to inserting a finger or nipple into the mouth, the infant begins sucking. Voluntary movement occurs at around 2 months.
Glabellar	In response to tapping the forehead, the infant blinks. The reflex disappears as the neurologic system matures within the first year.
Plantar	In response to touching the ball of the foot, the infant curls the toes under. The reflex disappears at 9 to 12 months.
Tonic neck	In response to turning the head to one side, the reflex causes a relaxed baby to straighten the arm on that side and bend the other arm in the fencing position. The reflex disappears at 4 to 9 months.

Data from Wong, D. L., Hockenberry-Eaton, M., Wilson, D., Winkelstein, M. L., & Schwartz, P. (2008). *Wong's essentials of pediatric nursing* (6th ed.). St. Louis, MO: Mosby Elsevier.

There are a number of growth landmarks and physical changes that occur as infants grow in the first year. The weight gain of infants is particularly important. A newborn generally weighs between 6 and 9 pounds. A baby's size is influenced by a variety of factors, including the parents' size, gender, birth order, mother's health and nutrition, lifestyle choices during pregnancy, and medical problems. Babies often lose a few ounces in the first week after birth, but they regain the weight by the second week. By the end of the first month, newborns will generally have gained about 15 ounces. Between the ages of 1 and 3 months, a newborn generally gains about 6 ounces per week. Between the ages of 4 and 7 months, the weight gain is about 1.5 to 2 pounds per months. This rate typically slows a bit around 6 months of age to between 1.25 pounds per month. By 8 months the baby usually weighs around 2.5 times the birth weight. Between the ages of 8 and 12 months, weight gain is steady but at a slower pace. By the first birthday, an infant should weigh around three times the birth weight.

Psychosocial Stages

Erikson's theory of psychosocial development (1963) focuses on how children socialize and how this affects their sense of self. According to the theory, successful completion of each stage results in a healthy personality and successful interactions with others. Failure to successfully complete a stage can result in a reduced ability to progress; however, stages can be resolved successfully at a later time. Of the nine stages identified by Erikson, five relate to children (**Table 5-2**). The task in infancy is the development of *trust versus mistrust*. From the time of birth to 1 year, infants begin to learn to trust others based on the consistency of the responses of their caregivers. If trust develops successfully, the child gains confidence and security in the surrounding world and is able to feel secure in future relationships. Unsuccessful completion of this stage can result in an inability to trust, fear, anger, and a sense of insecurity about the world. It may result in anxiety and a feeling of mistrust in the surrounding world.

The most important social task for the infant is the development of attachment to the primary caretaker, most often the child's mother. This forms the basis for attachment, which is the cornerstone of emotional development. *Separation anxiety* is another attachment behavior of infants characterized by the infant showing distress by crying when a familiar caregiver leaves (Wong et al., 2008). The first signs of separation anxiety appear at about 6 months of age and are clearly evident by 9 months of age. Separation anxiety is the strongest by 15 months of age and then begins to gradually weaken.

Developmental Tasks

Infant developmental tasks for this age group include the areas of motor development and cognitive development. Motor development follows cephalocaudal and proximodistal patterns, so that motor skills become refined first from the center and upper body and later from the extremities and lower body (Wong et al., 2008). Physical development is orderly and occurs in predictable sequence. The motor sequence of new movements for infants involves the following approximate sequence:

- Lack of head and trunk control: First few months after birth
- Lifts chin while lying flat: 1 month
- Raises chest while lying flat: 2 months
- Grasps rattle: 4th month
- Sits with support: 4th month

TABLE 5-2

Erikson's Stages of Psychosocial Development

Stage	*Description*
Trust versus mistrust Age birth to 1 year	• Learns to trust others based on caregiver response. • If trust develops, gains confidence and trust; is able to feel secure when threatened. • Unsuccessful completion results in inability to trust and fear of the world.
Autonomy versus shame and doubt Age 1 to 3 years	• Asserts independence, walks away from mother, and makes choices. • If encouraged, becomes confident and secure in own abilities. • If criticized, overly controlled, or not given the opportunity to assert self, may feel inadequate, become overly dependent, lack self-esteem, and feel shame or doubt.
Initiative versus guilt Age 3 to 6 years	• Asserts self more frequently. • Plans activities, makes up games, and initiates activities with others. • Develops a sense of initiative, feels secure in ability to lead others and make decisions. • If discouraged through criticism or control, develops a sense of guilt; will remain a follower and lack self-initiative.
Industry versus inferiority Age 6 to puberty	• Develops pride in accomplishments. • Initiates and completes projects, feels good about achievements. • Teachers play an increased role in development. • If encouraged and reinforced, feels industrious and confident about achieving goals. • If discouraged, feels inferior, doubts abilities, and may not reach potential.
Identity versus role confusion Puberty to adolescence	• Transition from childhood to adulthood. • More independent, looks to the future: career, relationships, family, housing, and so forth. • Explores possibilities and forms own identity based on outcomes of explorations. • Can be hindered, resulting in a sense of confusion about self and role in the world ("I don't know what I want to be when I grow up").

Data from Erikson, E. (1963). *Childhood and society* (2nd ed.). New York, NY: W. W. Norton.

- Rolls over: 5th month
- Sits upright in a high chair: 4th to 6th month
- Sits without assistance: 8th month
- Crawling: 9th month
- Stands with help: 10th month
- Walks with help: 12th month
- Stands alone: 14th month
- Walks alone without support or help: 15th month
- Walks up stairs with help and runs clumsily: 18th month

Infants Develop at Different Rates

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The ages for each motor skill milestone are averages; the rates of physical and motor developments differ among infants depending on a variety of factors, including heredity, the amount of activity the infant participates in, and the amount of attention the infant receives (**Figure 5-1**).

Cognitive development refers to intellectual or mental development. It includes the activities of thinking, perception, memory, problem solving, language, and speech. Jean Piaget's theory of cognitive development in the 1920s challenged the then-prevalent thinking that children think like adults. Piaget's theory (1952) is based on the idea that a developing infant builds cognitive structures, or schemes, to understand and respond to physical experiences within the environment. Piaget posits that an infant's cognitive structure increases in complexity with development, moving from displaying reflexes, such as sucking and grasping, to highly complex mental activities, such as speech. Piaget's four stages of cognitive development are included in **Table 5-3**. The infant is in the *sensorimotor stage*, in which infants begin to understand the information entering their senses and are able to interact with the world. During this stage, the infant learns to manipulate objects, although they will fail to understand the permanency of these objects if they are not within the infant's current sensory perception. Object permanence develops toward the end of the first year.

The most intensive period of speech and language development occurs during the first 3 years of life when the brain is developing and maturing. These skills appear to develop best when the infant is exposed to sounds, sights, and the speech and language of others. The beginning signs of communication occur during the first few days of life when an infant learns that crying will bring food, comfort, and companionship. The newborn also begins to recognize important environmental

TABLE 5-3

Piaget's Stages of Cognitive Development

Stage	*Age*	*Characteristics of Stage*
Sensorimotor	0–2	The child: • Learns by doing: looking, touching, and viewing • Learns through physical interaction with the environment • Builds a set of concepts about reality and how it works • Has a primitive understanding of cause-and-effect relationships • Develops object permanence at about 9 months
Preoperational	2–7	The child: • Is not able to conceptualize abstractly and needs concrete physical situations • Uses language and symbols, including letters and numbers • Is egocentric • Conservation marks the end of the preoperational stage and the beginning of concrete operations
Concrete operations	7–11	The child: • Starts to conceptualize, creating logical structures that explain physical experiences • Demonstrates conservation, reversibility, serial ordering, and a mature understanding of cause-and-effect relationships • Begins abstract problem solving and continues with concrete thinking
Formal operations	12+	The child: • Begins to develop an abstract view of the world • Is able to apply reversibility and conservation to both real and imagined situations • Demonstrates abstract thinking, including logic, deductive reasoning, comparison, and classification • Has an increased understanding of the world and the idea of cause and effect; can develop theories about the world

Data from Piaget, J. (1963). *The psychology of intelligence*. New York, NY: Routledge.

sounds, such as the mother's voice. As they grow, infants sort out the speech sounds or phonemes that compose the words of their language. Most infants recognize the basic sounds of their native language (National Institute on Deafness and Other Communication Disorders [NIDCD], 2014). **Table 5-4** reviews the developmental milestones of speech development of the infant.

Toddlers (1 to 3 Years)

Biologic Characteristics

During the toddler period, weight gain slows to about 4 to 6 pounds per year as the activity level increases. The physical appearance of the toddler includes a protuberant abdomen, accentuated lumbar lordosis (inward curvature of the spine), and a characteristic gait in which the feet are placed

TABLE 5-4

Language Development: First Year

Age	Infant Response
Birth to 5 months	• Reacts to sounds • Turns head toward sounds • Cries, coos, laughs • Makes noise when talked to • Looks at faces
6 to 11 months	• Understands "no" • Says "da-da" and "ma-ma" • Tries to communicate by making gestures • Tries to imitate sounds

Data from National Institute on Deafness and Other Communication Disorders (2014).

wide apart and the child appears to walk flat footed. The birth weight quadruples by the age of 2.5 years. A steady growth in height of 2 to 4 inches per year is expected. During this time the child perfects the gross and fine motor skills that emerged during the first year by developing balance, coordination, stability, and an improved ability to manipulate objects. Emotional and physical readiness for toilet training begins at around 18 months.

Psychosocial Stages

Toddlers are in Erikson's stage of *autonomy versus shame and doubt*. From the ages of birth to 1 year, children begin to learn how to trust others based on the consistency of the responses of their caregivers. Toddlers strive to develop a sense of autonomy within the boundaries of a trusting parental relationship. If trust develops successfully, the child gains confidence and security in the surrounding world. The child is then better able to develop affectionate and trusting relationships with family members and with adults outside the family. Unsuccessful completion of this stage can result in an inability to trust and therefore a sense of fear about the world.

Developmental Tasks

Toddlers are in Piaget's *preoperational stage* of cognitive development. A hallmark of this stage is egocentrism, or the tendency of children to recognize their environment only in terms of their own point of view. Toddlers think that parents and others share their thoughts. The toddler applies new knowledge of language and begins to use symbols to represent objects, such as pretending a broom is a horse. They may experiment with objects in their minds, first predicting what will happen if they do something to an object, then transforming their plans into action. To some degree mental prediction and planning replace overt trial and error as growing toddlers experiment and attempt to solve problems. The toddler is now better able to think about things and events that are not present. Language development is proceeding rapidly in the toddler, but the ability to understand language is greater than the ability to express it, which creates frustration. **Table 5-5** reviews the milestones for language development at this stage.

TABLE 5-5

Language Development: Toddler Years

Age	Toddler Response
12 to 17 months	• Attends to a book or a toy for a few minutes • Follows simple directions • Answers simple questions nonverbally • Points to objects, pictures, or family members • Says two to three words to label a person or object (pronunciation may not be clear) • Tries to imitate simple words
18 to 23 months	• Enjoys being read to • Follows simple commands without gestures • Points to simple body parts • Understands simple verbs • Makes animal sounds • Starts to combine words such as more milk
2 to 3 years	• Knows about 50 words at 24 months • Knows some spatial concepts such as in and on • Knows pronouns such as you, me, and her • Knows descriptive words such as big and happy • Says about 40 words at 24 months • Speech is becoming more accurate but may still leave off ending sounds; strangers may not be able to understand much of what is said • Answers simple questions • Begins to use more pronouns such as you and I • Speaks in two- to three-word phrases • Uses question inflection to ask for something (e.g., my ball?) • Begins to use plurals such as shoes or socks and regular past-tense verbs such as jumped

Data from National Institute on Deafness and Other Communication Disorders (2014).

Preschool (3 to 4 Years)

Biologic Characteristics

The preschooler has a steady growth rate of approximately 4 pounds of weight and 2 inches of height per year. The body lengthens, and the protuberant abdomen disappears. In terms of physical abilities, a 3-year-old can kick a ball, jump in place, build a tower of nine cubes, copy a circle, put on most clothing and shoes, and eat without assistance. By the age of 4 years, the child can climb a ladder, throw a ball overhand, hold a pencil, cut and paste, wash and dry hands, brush teeth, and ride a bike with training wheels. Most basic gross motor abilities have emerged. Existing skills are practiced and perfected, and the child develops mastery in applying motor skills to increasingly challenging and complex situations.

Psychosocial Stages

The preschooler moves through two of Erikson's stages of psychosocial development: the stage of autonomy versus shame and doubt, and the stage of *initiative versus guilt*. After developing basic trust, the child goes on to begin to plan activities, make up games, and initiate activities with others. If given this opportunity, the preschooler develops a sense of initiative and feels secure in the ability to lead others and make decisions. If this tendency is not encouraged, either through criticism or control, the child develops a sense of guilt. The child may feel like an annoyance to others and therefore remain a follower, lacking in self-initiative.

At 2 years and older the preschooler develops rudimentary relationships with other children, which are usually characterized by *parallel play*; that is, play in the presence of rather than in interaction with other children. As the child progresses, social relationships increase outside the family, and interactive and cooperative play skills with peers are expanded. The preschooler also begins to imitate and practice social roles. Concepts of right and wrong are learned as the child begins to understand the nature of rules, which causes the child to experience guilt when doing wrong.

Developmental Tasks

Preschoolers are in Piaget's preoperational cognitive stage. A concrete thought process is evident in this stage by what Piaget calls *transductive reasoning*, which describes how the preschooler cannot think from the general to the particular or from the particular to the general. Piaget also describes the concept of *centering* as lacking in the preschooler's thinking. The child cannot consider more than one factor at a time when solving a problem or connect a reversible operation to the original act. This is called *irreversibility*. Piaget describes preschool-age children as preoperational because they do not yet use logic. They understand the world through magical thinking and have difficulty distinguishing between wishes and what really happens. They believe that thoughts and strong feelings can make things happen.

A major accomplishment in the preschool stage is the perfection of language skills and the use of language to communicate with others. During the preschool years language progression depends on aptitude, the opportunity for using language, the quality and quantity of language used at home, and the child's range of experiences using language to communicate. It is also at this stage that grammar and syntax are refined, and vocabulary increases rapidly (**Table 5-6**).

School Age (5 to 12 Years)

Biologic Characteristics

The school-age child gains an average of 6 pounds and grows approximately 2 inches per year. Growth is marked by spurts and times of little growth as dictated by genetics. During these years boys and girls are of similar size, but school-age children tend to be concerned about their rate of growth and what their height and weight will be. The child practices, refines, and masters complex gross and fine motor skills. Examples of gross motor skills for school-age children include balancing on one foot, tandem walking, hopping on one foot, pedaling a bicycle, and bathing self. Fine motor skills for this age group include drawing a person with three to six parts, cutting with a knife, tying a bow, drawing a diamond, and having good eye–hand coordination. This is also a time when the school-age child begins to lose baby teeth, and the permanent teeth emerge.

TABLE 5-6

Language Development: Preschool Years

Age	*Preschooler Response*
3 to 4 years	• Groups objects, such as food and clothes, together • Identifies colors • Uses most speech sounds but may distort some of the more difficult sounds, such as l, r, s, sh, ch, y, v, z, and th; these sounds may not be fully mastered until age 7 or 8 years • Uses consonants in the beginning, middle, and end of words; some of the more difficult consonants may be distorted, but attempts to say them • Strangers are able to understand much of what is said • Able to describe the use of objects such as fork, car, and so forth • Has fun with language; enjoys poems and recognizes language absurdities such as Is that an elephant on your head? • Expresses ideas and feelings, rather than just talking about the surrounding world • Uses verbs that end in -ing such as walking, talking • Answers simple questions such as What do you do when you are hungry? • Repeats sentences

Data from National Institute on Deafness and Other Communication Disorders (2014).

Psychosocial Stages

School-age children are in Erikson's stage of *industry versus inferiority*. In this stage children begin to develop a sense of pride in their accomplishments. They initiate projects, see them through to completion, and feel good about what they have achieved. During this time teachers play an increased role in the child's development. If children are encouraged and reinforced for their initiative, they begin to feel industrious and confident in their ability to achieve goals. If this initiative is not encouraged, if it is restricted by parents or teachers, the child will begin to feel inferior, doubting his or her abilities, and may not reach full potential. Relationships with people outside the family become more important to the school-age child. They develop friendships and participate in peer group activities. The child imitates, learns, and adopts age-appropriate social roles, including those that are gender specific. The child develops an understanding of rules that can be relied on to dictate proper social behavior and govern social relationships and activities. The child develops a sense of self as an individual with awareness of likes and dislikes and with special areas of skill. Introspection is possible at this age.

Developmental Tasks

School-age children are in Piaget's stage of *concrete operations*. During this stage accommodation (the ability to modify schema to fit the world) increases. The child develops an ability to think abstractly and make rational judgments about concrete or observable phenomena that in the past the child needed to physically manipulate in order to understand. Some specific skills that develop at this time are the ability to classify items and put them in a series, recognize logical relationships among elements in a serial order, and understand that the quantity, length, or number of items is unrelated to the arrangement or appearance of the object or items (conservation). The school-age

FIGURE 5-2

The School-Age Child Learns to Solve Problems

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child can take into account multiple aspects of a problem to solve it. He or she understands that numbers or objects can be changed and then returned to their original state (reversibility). The child moves toward more cooperative interactions and develops the ability to understand other people's perspectives (**Figure 5-2**).

School-age children generally enter this developmental stage with the ability to understand and speak a language. School focuses on learning to read and write. Success in school depends on three things: the child having the visual ability to read, the auditory ability to perceive language spoken to him or her, and the fine motor skills for handwriting.

Adolescent (13 to 19 Years)

Biologic Characteristics

Adolescence is a time of accelerated physical growth in weight and height; 15–20% of adult height and 50% of adult weight is achieved. This is also the time of onset of puberty, or sexual maturity, which signals the ability to reproduce. Females usually begin puberty 2 years earlier than males and experience their growth spurt earlier. Physiologic changes in puberty include the development of secondary sex characteristics. In females the first sign of puberty is often breast development. Other signs are the growth of hair in the pubic area and armpits. Menarche, the onset of menses in girls, usually happens later in puberty, at around 13 years of age. In males puberty usually begins with the testicles and penis getting larger. Then hair grows in the pubic area and armpits. Muscles

grow, the voice deepens, nocturnal emissions begin, and facial hair develops as puberty continues. Even though the physical changes are usually sequential in nature and are mediated through the hormonal regulatory system, there are individual variations for onset and duration of puberty. Some adolescents may begin puberty earlier than normal, a condition called precocious puberty. Others may have delayed puberty, meaning the process begins later than normal.

Psychosocial Stages

The adolescent is in Erikson's stage of *identity versus role confusion*. This is a period of transition from childhood to adulthood. Adolescents want more independence and begin to look to the future in terms of career and future relationships. Social relationships center on their peer group, with decreased time spent with family. Group values often guide their individual behavior, and acceptance by peers becomes a critical part of self-esteem. Adolescents explore possibilities and begin to form their own identities based on the outcome of their explorations. Identity is defined as a coherent conception of the self, made up of committed goals, values, and beliefs. This sense of who they are can be hindered, which can result in a sense of confusion about themselves and their role in the world. Toward the end of this stage, identity becomes more individualized, and the adolescent develops a more stable sense of self that is separate from either family or peer group.

Developmental Tasks

Piaget's stage of *formal operations* describes the adolescent's cognitive development. This stage brings cognition to its final form. Adolescents no longer require concrete objects to make rational judgments. Abstract, theoretical, philosophical, and scientific reasoning become possible. At this time they also develop an understanding of long-term cause and effect. Adolescents question, reinterpret, and revise their previous knowledge base. At this point they are capable of hypothetical and deductive reasoning. There are many possible options for teaching adolescents because they can consider options from different perspectives. It is common for them to challenge current thinking and have a sense of idealism about the world as they move toward a formal thinking process.

Language development is largely complete by adolescence. Language at this stage exhibits evidence of reflective and abstract thought, with increasingly complex grammatical construction of speech and writing. Adolescents have the ability to define and discuss abstractions such as health, love, and peace. They are also aware that words can have multiple meanings. The use of slang is common. This is considered to be an opportune time developmentally to learn other languages.

IMPLICATIONS FOR HEALTH EDUCATION

It is critical to understand child development to provide effective health education to children, their parents, and their caregivers. Knowledge of child development enables you to prepare client education plans based on realistic child expectations, and it increases the chances of adherence and success in promoting, retaining, and restoring health. As an educator your knowledge and understanding of cognitive and perceptual behavior serves as a guide in counseling. Use this knowledge to influence behavior by listening to parental concerns, respecting values, and modeling behaviors that support the overall health of the child. As the child grows and is able to independently communicate, use

understanding of growth and development to interact with the child in ways that acknowledge his or her verbal and physical abilities and encourage self-reliance.

Use age-specific strategies to prepare client education plans. Infants expand their gross and fine motor skills by being encouraged to reach and grasp and move toward objects. An example of this is placing toys safely in the crib that are black and white or brightly colored to attract attention and stimulate movement. Younger children, toddlers through preschool, have language skills that require concrete examples to help them understand information. A younger child will respond well to being told, "We always wash our hands before meals." An older child will want more explanation, to which the nurse can respond by discussing that this prevents germs that can make you sick.

As the child's gross and fine motor skills develop, it is helpful to supplement explanation with objects that the child can manipulate. When teaching about how to take blood pressure, having the child hold and examine the blood pressure cuff lets them gain familiarity with the equipment and gives a sense of mastery and trust. The preschool child enjoys pretend play, which is when the child remembers past experiences and replays them (Graca, Fowler, & Rosenstock, 2009). By pretending, the child is able to share fears and concerns and can gain a sense of mastery over the environment. Use this time to clear up misconceptions that are common in this age group because of magical thinking. Older children enjoy activities that involve peers and that are repetitive and entertaining. Games, including those on the computer, are fun and create a sense of mastery. **Table 5-7** summarizes psychosocial, cognitive, language, and teaching implications.

Promote and Retain Health

The focus of promoting health is on prevention of illness, whereas the focus of retaining health is on maintaining the present health status, assuming it is satisfactory. **Table 5-8** lists suggested topics to promote and retain health that are appropriate for children at various stages of development. These suggestions are not all-inclusive and need to be adapted to the circumstances of the individual client.

Restore Health

Restoration of health for children refers to working with children who have an acute or chronic illness or disability. The purpose of health education at this time is to help clients understand the nature of their health problem, the treatment regimen, and the limitations imposed by the health problem, disability, or injury. This may involve not only working with the client, but also with family members. **Table 5-9** explains the approach used by nurses as educators when teaching different age groups. The developmental stage is taken into account, and both the parent and the child are viewed as clients.

ORIENTATION TO LEARNING

Learning in Children

Most theorists believe that learning is something that occurs as the result of certain experiences that precede changes in behavior (Olsen & Hergenhahn, 2013). The experiences that precede learning are interactions with the environment. Athey (2007) and Piaget (1963) agree that children's interactions with their environment lead to mental actions through which they construct ideas or *schema*

TABLE 5-7

Teaching Implications for Various Developmental Stages

Age	Psychosocial (Erikson)	Cognitive (Piaget)	Language	Teaching Implications
Infancy	• Trust versus mistrust • 5–6 weeks: Responsive smile to families' faces and voices • Emotionally symbiotic with main caretaker • Individual temperament emerges in earliest weeks of life • Needs balance of rest, exercise, nutrition, love, strokes • Cuddliness varies	• Sensorimotor: Basic reflex habits (i.e., sucking nipple within 2 weeks) • Higher levels later: 2–3 months • Looks for sounds • At 8–9 months develops object permanence • Thinks in pictures	• Prelanguage sounds • Inner language: Recognizes objects • Audioreceptive: Recognizes spoken words	• Teach parents and caregivers • Calibrate for their anxiety when child is very ill • Anticipatory guidance about growth and development, safety, and stimulation (talk and touch)
Early childhood 2 to 3 years	• Autonomy versus shame and doubt • No! • Frustrated by personal and external limits • Egocentric • Needs to explore safely and to succeed	• Sensorimotor: Still thinks in pictures • Starts development of object formation, representation, extension	• Single three-word sentences: Nouns, verbs, and adjectives (ball, carry, soft) • At age 3, understands time (yesterday)	• Needs safe play space, love, security • Find out routines, special words, comfort toy • Give positive, simple command • Read or make up relevant picture books • Most teaching through parent
3 to 6 years	• Initiative versus guilt • Fears: Unknown, separation, strangers, disapproval, pain, punishment, own aggression • Roles: Male, female	• Sensorimotor: Expanding imagination and concepts	• Rapid growth • By 5 years has usual speech patterns	• Encourage play to assess child and to teach • Give simple explanations (You will smell icky perfume) • See, hear, feel: Make tape and picture books, objects • Use timing: Tell child soon enough to allow processing but not to get panicky; allow only one stall • Positive commands (You hold Band-Aid)

(continues)

Teaching Implications for Various Developmental Stages (Continued)

Age	Psychosocial (Erikson)	Cognitive (Piaget)	Language	Teaching Implications
Late childhood 6 to 12 years	• Industry versus inferiority • Makes things • Peer influence is important • Developing parents and ego states	• Concrete operations • Inductive reasoning • Memory • Conscience teachable in many cultures	• Good command of language; can use it to tell stories, ask questions, argue, tease	• Assess child's reading ability • Likes mechanical explanations • Help child gain content by participating in self-care and procedures • Can pay attention to teaching • Can do own hygiene, choose good food, recognize signs of illness
Adolescence	• Identity versus role confusion • New and more mature relationships • Sexual identity • Changing body • Becoming emotionally independent from parents • Preparing for adult responsibilities, career, love • Workable value system • Social responsibilities • Mood swings and ambivalence • Fears loss of face	• Formal operations • "One's thinking takes wings" (Piaget)	• Depends on IQ, culture, socioeconomic group • Slang	• Ask for meaning of slang • Use peers to teach and persuade • Protect privacy • Expect mood swings • Be honest and straightforward • Try to read between the lines of what a teenager is trying to say or does not say

Data from Babcok, D. E., & Miller, M. A. (1994). *Client education: Theory and practice.* St. Louis, MO: Mosby.

TABLE 5-8	

Suggested Topics to Promote and Retain Health

Nursing Assessment	Health Education Topics
Infant	• Promotion of infant–parent bonding • Infant nutrition: Breastfeeding, formula feeding, introduction of solid food and weaning • Developmental milestones • Elimination patterns • Activity and exercise through stimulation and play • Sleep needs • Injury prevention • Sensory stimulation to promote cognitive and social development • Vaccinations
Toddler	• Nutritional needs and preferences • Toilet training • Appropriate toys and activities • Rituals and security objects • Need for autonomy, temper tantrums • Parental frustration • Safety issues, injury prevention • Vaccinations
Preschooler	• Nutritional needs and preferences • Dental care • Appropriate play activities and exercise • Choosing TV shows • Managing bedtime concerns • Imaginary friends and magical thinking • Vision and hearing screenings • Gender identification • Injury prevention • Health screenings
School age	• Understanding of health • Balanced nutrition, prevention of obesity • Nocturnal enuresis, encopresis, and shy bladder • Sports activities, TV, video, and computer games • Developing socialization skills • Sleep walking, sleep talking, night fears • Health screenings • Attention-deficit hyperactivity disorder (ADHD) • Questions about sex • Coping strategies • Accident prevention

(*continues*)

TABLE 5-8

Suggested Topics to Promote and Retain Health (Continued)

Nursing Assessment	Health Education Topics
Adolescent	• Physical changes: Puberty • Common health issues: Acne, scoliosis • Diet and exercise: Prevention of obesity and eating disorders • Sexual behavior, contraception • Sexually transmitted diseases • Body image issues • Substance abuse: Alcohol and drugs • Injury and violence prevention • Health screening • Vaccinations

TABLE 5-9

Teaching Approach with Different Age Groups

Age Group	Clients/Parents	Nursing Approach
Infant (0–1)	Child	• Observe the infant's physical condition: Weight and appearance • Observe child–caregiver interaction: Look for bonding behaviors
	Parent	• Establish rapport • Use good listening skills to identify parent's concerns • Address parental anxiety and stress with calm demeanor • Assess parental educational level, literacy level, cultural influences • Encourage enjoyment of infants • Discuss balance of work and home life • Share knowledge of: 　○ Community resources 　○ Developmental milestone 　○ Importance of play for development 　○ Preventive teaching 　○ Infant safety 　○ Nutrition 　○ Health screenings and vaccinations schedule
Toddler (1–2)	Child	• Assess the quality of the parent–child relationship • Observe the physical status and growth of the child • Talk to and interact with the child on his or her level to initiate a relationship

(*continues*)

| TABLE 5-9 | | |

Teaching Approach with Different Age Groups (Continued)

Age Group	*Clients/Parents*	*Nursing Approach*

	Parent	• Establish rapport
		• Listen to parental concerns and encourage questions
		• Determine parental knowledge, literacy level, cultural influences
		• Be sensitive to signs of frustration with child's behavior
		• Provide appropriate teaching tools and resources
		• Share knowledge of:
		  ○ Community resources
		  ○ Developmental milestones
		  ○ Importance of play for development
		  ○ Safety
		  ○ Techniques of discipline and limit setting
		  ○ Toilet training

Preschooler (3–4)	Child	• Talk to and interact with the child on his or her level to establish a relationship • Observe the child at play; listen to vocalizations and observe imaginary play • Observe the physical status and growth of the child • Teach children about procedures to be performed • Keep explanations simple • Allow children to express their fears

	Parent	• Establish rapport
		• Listen to parental concerns and encourage questions
		• Determine parental knowledge, literacy level, cultural influences
		• Teach parents ways to respond to their child's questions
		• Provide appropriate teaching tools and resources
		• Share knowledge of:
		  ○ Normal developmental milestones
		  ○ Child's sexual curiosity
		  ○ Imaginary play and magical thinking
		  ○ Safety

School age (5–12)	Child	• Observe the physical status and growth of the child • Develop rapport with the child by introducing yourself and asking about his or her interests and friends • Ask the child about his or her health and encourage questions • Explain procedures or teaching in clear, logical ways • Include child in the patient education process • Use appropriate tools and resources

TABLE 5-9

Teaching Approach with Different Age Groups (Continued)

Age Group	*Clients/Parents*	*Nursing Approach*

		• Establish rapport
		• Listen to parental concerns and encourage questions
		• Determine parental knowledge and literacy level
		• Help parents to foster child independence and praise accomplishments
		• Give parents tools for teaching
		• Share knowledge of:
		  ○ Normal developmental milestones
		  ○ School adjustment
		  ○ Enuresis, encopresis
		  ○ Sleepwalking, sleep talking
		  ○ Learning disabilities
		  ○ Obesity, nutritional teaching
		  ○ Dental health
		  ○ Safety, accidents, drowning, bicycles
		  ○ Drugs, alcohol, smoking, sexual activity
		  ○ Health screening: Vision, hearing
		  ○ Use of TV, computer, cell phones, and video games

Adolescent (13–19)	Child	• Focus on establishing rapport based on openness and trust
		• Ask about bodily changes and sexual adjustment
		• Ask about family support and facilitate the family relationship
		• Ask about peer group and social, cultural influences
		• Ask about health concerns and answer questions
		• Advocate for the adolescent client
		• Be mindful of modesty and privacy issues
		• Use empathetic understanding; no lecturing
		• Provide appropriate teaching tools and resources
		• Share knowledge about:
		  ○ Physical change in puberty
		  ○ Sexual issues and contraception
		  ○ Body image and eating disorders
		  ○ Health issues and safety
		  ○ Body piercing and tattooing
		  ○ Scoliosis, acne

	Parent	• Establish rapport • Listen to parental concerns and encourage questions • Determine parental knowledge, literacy level, cultural influences • Assist parents in understanding adolescent behavior • Encourage limit setting and fostering of adolescent independence • Help parents redefine their role in this transition phase

Data from Falvo, D. R. (2011). *Effective patient education: A guide to increased compliance*. Sudbury, MA: Jones and Bartlett.

about what they are encountering. As they come across objects, situations, people, and ideas, they adjust and structure their knowledge to try to make sense of their experiences. Using this cognitive learning process, they build a framework for thinking and learning. Children's direct experiences and interactions with things and people around them are central to their learning (David, Goouch, Powell, & Abbott, 2003).

B. F. Skinner posits that learning is a change in overt behavior that occurs in response to events or stimuli that occur in the environment (1968). Reinforcement is the key element in Skinner's theory of classical conditioning. A reinforcer is anything that strengthens the desired response. It could be a smile, verbal praise, a good grade, or a feeling of increased accomplishment. Skinner also identifies negative reinforcers, which result in the increased frequency of a response when it is withdrawn (different from adverse stimuli or punishment, which results in reduced responses). Babies generally respond well to operant conditioning, which is a process of gradually shaping the infant's behavior. An example of this is an infant who learns that smiling elicits positive parental attention, which in turn causes the infant to smile at their parents more (Skinner, 1968). Babies generally respond well to operant conditioning. Cognitive and behavioral theories are applied to teaching in **Table 5-10**.

TABLE 5-10

Application of Cognitive and Behavior Learning Theories for Children

Learning Theory	*Principles*	*Teaching Application*
Cognitive theories of learning	Jean Piaget's cognitive development theory	• Children will provide different explanations of reality at different stages of cognitive development. • Cognitive development is facilitated by providing activities or situations that engage learners and require adaptation. • Learning materials and activities should involve the appropriate level of motor or mental operations for a child of a given age; avoid asking children to perform tasks that are beyond their current cognitive capabilities. • Use teaching methods that actively involve children and present challenges.
Behavioral theory of learning	B. F. Skinner's operant conditioning theory	• Behavior that is positively reinforced will reoccur; intermittent reinforcement is particularly effective. • Information should be presented in small amounts so that responses can be reinforced (shaping). • Reinforcements will generalize across similar stimuli (stimulus generalization), producing secondary conditioning.

Data from Kearsley (2004).

Learning Styles in Children

Learning occurs as children respond to environmental, social, emotional, and physical stimuli when trying to understand new information. Learning styles are the way individual process information. Sensory-based learning styles refer to three perceptual pathways or modalities of learning: visual (sight), kinesthetic (body, sensation, motion), and auditory (sound). The visual modality occurs when information is received best through visual stimulation (reading, pictures, movies, etc.). Approximately 40% of secondary students are visual learners. The kinesthetic modality occurs when information is received best via touch and hands-on activities (computer-assisted instruction, models, field trips, etc.). Approximately 50% of secondary students are kinesthetic learners. The auditory modality occurs when information is best obtained by hearing (being read to aloud, listening to songs, puppet shows, reciting songs or poems, etc.). Approximately 10% of secondary students are auditory learners (Carbo, Dunn, & Dunn, 1986). There is no right or wrong learning style. Most children show a preference for one style, as do nurses and parents. It is not unusual for the nurse and parents to prefer learning styles different from that of the child. To work effectively with children, it is important for you to understand your own, the child's, and possibly the parents' preferred learning styles. This understanding helps to produce more efficient, productive learning opportunities for children. Including activities that use other styles can be helpful in expanding children's areas of interest and ability to learn.

The Role of Play in Learning

Jones and Reynolds state that "young children learn the most important things, not by being told but by constructing knowledge for themselves in interaction with the physical world and with other children—and the way they do this is by playing" (1992, p. 1). In *play*, children expand their understanding of themselves and others, their knowledge of the physical world, and their ability to communicate with peers and adults. Children experience play through all the developmental stages. Infants and toddlers engage in activities that stimulate their senses and develop motor skills. Preschoolers play with other children, develop and refine motor skills, and use basic academic skills such as counting, reading, and writing. School-age children play formal and informal games with their peers, such as hopscotch, jump rope, and board, card, and computer games. Through these activities they enhance their coordination and physical abilities, refine their social skills, and build concepts such as cooperation and competition. In adolescence, play is more organized and structured as the need for orderly thinking is expressed through games with rules and in organized sports.

Play is so important that its significance in children's lives is recognized by the United Nations as a specific right (United Nations, 1989). The Association for Childhood Education International (ACEI) issued a position paper outlining the following beliefs about the importance of play in children's development (Isenberg & Quisenberry, 2002):

- Play is a dynamic, active, and constructive behavior and is an essential and integral part of all children's healthy growth, development, and learning across all ages, domains, and cultures.
- Play enhances learning and development for children of all ages, cultures, and domains.
- The forms and functions of children's play must be considered in the context of our knowledge about age-related play behaviors. Knowledge about how children play at different ages should guide the practice of all adults who work with children.

- Play is a powerful, natural behavior contributing to children's learning and development, and no program of adult instruction can substitute for children's own observations, activities, and direct knowledge.

The nurse as educator uses this knowledge of the importance of play to support child learning. Graca and colleagues (2009) describe *medical play* as developmentally appropriate activities that provide insight into how the child is coping with health events and can be used as a tool in successful teaching. Medical play allows opportunities to deal with both the physical and emotional stressors of health care and act as a mechanism to increase understanding. An example of using medical play is rehearsing activities before surgery. The child can manipulate equipment, such as an oxygen mask, and rehearse what it is like to have the mask in place. The nurse as educator uses knowledge of developmental milestones to choose play strategies that fit the child's need (**Figure 5-3**).

Practices That Encourage Child Learning

As an educator you assume a big part in creating the climate and conditions that best promote children's learning. Involvement in learning is built on the confidence and trust that come from good relationships. First, build rapport with the child. It is important to promote self-esteem, confidence, and trust to create an environment conducive to learning. It is also important to involve

FIGURE 5-3

Children Explore the World Through Play

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children both physically and mentally in the learning process (David et al., 2003). Children should be encouraged to explore their world through movement, using all their senses to find out what they can do, what things are like, and what things mean. It is through this exploration that they achieve understanding and form ideas from sensory experiences. Learning strategies should include these types of activities.

Provide support to cultivate, sustain, and extend children's explorations and recognize their accomplishments. You should also be aware that part of the active learning process is to allow children to make decisions and have control and independence as part of the learning process. Allowing children to decide what and how they do things increases their engagement in the learning process (David et al., 2003). This does not mean that children are left on their own to decide what and how they will learn, but it does mean the nurse can create situations for them to make decisions and then support them as they engage in learning activities. Making decisions helps children become managers of their own learning.

Another important aspect of active learning is to personalize the learning process. This means to build on what the child is familiar with, knows, and can do. Getting to know the child and their parents helps you understand how to stimulate and sustain the child's involvement and effort in learning (David et al., 2003). The pace and character of children's learning differ from one child to another because they have different interests, skills, and knowledge built on their experiences. This means that children learn the same thing in different ways, or learn the same thing at different times in their development. The range and character of learning activities should be planned to address these kinds of differences in a way that enables all children to find something that is relevant and that will engage and sustain their interest. Some children need additional support to become fully involved in learning activities.

It is important for you to consider how learning activities are presented. The context in which children experience things has a considerable effect on their willingness to become involved and their ability to connect with the ideas that are presented (David et al., 2003). Children want to understand the situation or circumstances in which they learn, so explanations should be simple and clear. When they find things that they already know about and can latch on to, they have a base from which to explore new things. A final important factor that you should consider is the importance of maintaining good working relationships with parents. Strong parental relationships provide essential information about the child's learning at home and help to provide insight into the things with which each child is familiar.

PEDAGOGY

Pedagogy is derived from the Greek word paid, meaning "child," plus agogos, meaning "leading," and is defined as the art and science of teaching children (Hiemstra & Sisco, 1990). In the pedagogic model, the teacher has full responsibility for facilitating learning, including what will be learned, when it will be learned, and whether the material has been learned. Pedagogy is also sometimes referred to as the correct use of teaching strategies and is described as being a didactic and traditional approach to teaching children. As the educator you will use pedagogic principles when teaching young clients. One-to-one teaching with the child facilitates individual learning needs, provides for child and family interaction with the nurse, and protects confidentiality. Group teaching may

be appropriate when the child can benefit from learning with others. Discussions and demonstrations often work well in groups.

Implications for Health Education

Health education occurs in a variety of situations, including clinics, hospitals, schools, colleges or universities, and community settings. Some situations offer the opportunity for advance planning, developing learning objectives, and arranging multiple teaching sessions. More often there is no time for a formal teaching approach in the practice area. Woodring emphasizes that "economic realities require nurses to use both their time with patients and their teaching opportunities more efficiently" (2000, p. 505). Nurses are often placed in the position of needing to maximize time to teach the child and family. There is also an expectation that the child and family have learned the information that is presented and that the learning will be evidenced by positive health outcomes (Woodring, 2000).

Step 1

The first step in building a trusting nurse–client relationship is to clarify the perceptions of the client and family about the health issue by asking questions. There are six steps that nurses as educators can take to streamline the process of providing efficient yet personalized health teaching in a variety of settings. At the core of the teaching process remains the nurse–client relationship as described in the Miller-Stoeckel Client Education Model. Questions regarding client perceptions are drawn from the health belief model (see Table 1-3). For example: What is the need for care? What do you know about the problem? What is the seriousness of the condition? What impact is it having on your life? What are your goals for effective treatment? What are potential barriers to treatment? Careful attention to the answers and observations of the client as he or she responds helps establish the need for health education and begins the process of building trust. It is important to be attentive to the client's cultural background as the nurse analyzes client responses.

Step 2

A second step is consideration of the assessment factors that influence learning. It is important to assess the child's physical, psychosocial, and language development. It is also helpful to determine family support for treatment. Tools are available to assess the learning styles and literacy levels of both the child and parent (Davis, Nur, & Ruru, 1994; James & Galbraith, 1984). Assessment factors will weigh heavily when planning learning activities later. It is possible that how the child and family members learn may be discerned simply by observing their responses to activities that occur within the usual care situation, but assessment tools provide an efficient and quick way to gather this information.

Step 3

As an educator you will draw on assessment data to establish mutual learning objectives that form the basis of the client education plan as part of step 3. The learning objectives should be reviewed briefly with the child and family to answer questions and determine if all learning needs are identified. You select teaching content appropriate to achieving the learning objectives and highlight the

must-know information by separating information into small sections as part of the client education plan. It is important to consider current evidence-based practices as part of the plan.

Step 4

Selection of teaching strategies and instructional materials to carry out the client education plan is an important fourth step. Use assessment data to choose strategies and materials that accommodate learners' needs and abilities. It is important to take into account clients' cognitive stage, physical abilities, and language skills when planning activities. Reading capability and comprehension of the child and parent will help determine what instructional materials are appropriate. Learning materials should be age specific, interesting, and reflect the needs of the child. Remember that the cultural context of materials should be carefully considered as well. Brochures, pocket-sized flip charts, pamphlets, videos, and comic books depicting children of the client's race and ethnicity are suggestions for educational materials (Ebbinghaus & Bahrainwala, 2003). Samples of educational materials from pharmaceutical companies can be useful when return demonstrations are used.
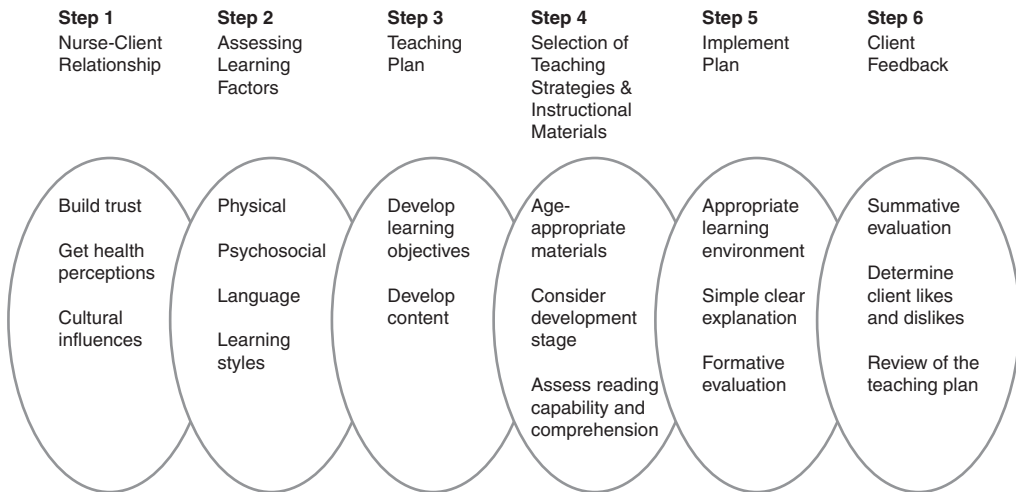
Step 5

The fifth step is the implementation of the client education plan. Select a conducive learning environment to meet the learning objectives of the client education plan. Explanations should be simple and concrete with instructional materials that enhance understanding of the content. Speak slowly and clearly without extraneous noise interference. It is particularly important that you create an atmosphere that captures the child's interest. This may entail being adaptable and willing to offer the child options during the course of the teaching session. Pay close attention to body language that indicates distraction or lack of interest. It is particularly concerning if the child or parent does not ask questions. This is a clue that changes are needed in the teaching approach (Woodring, 2000). It is important for you to focus on the ultimate goal of the teaching session, child learning, not on maintaining a stubborn insistence on following the client education plan. A good way to determine how the teaching session went is to ask the young client or parent to summarize what has been learned at the conclusion of the session so you can correct any misconceptions related to essential content. Questions such as, Tell me in your own words how you plan to . . . are helpful to evaluate understanding.

Step 6

Summative evaluation is the final step of the process. It not only evaluates content knowledge, but also allows the client to give the nurse feedback about what they liked or disliked about the whole teaching and learning experience. Client evaluation may include return demonstration, short quizzes, or checklists. Evaluation of the learning experience includes asking the child and family about factors such as the setting, teaching strategies, instructional materials, pace of learning activities, and the nurse–client interactions. Ideally you will see the child and family over time to assess long-term learning and provide reinforcement of essential content. This may involve scheduling follow-up teaching sessions, creating action plans for school use, and initiating a visiting nurse referral to provide ongoing education and support. **Figure 5-4** summarizes the steps of the health education process with children.

FIGURE 5-4

Stoeckel Health Education Process for Children

Step 1 Nurse-Client Relationship	Step 2 Assessing Learning Factors	Step 3 Teaching Plan	Step 4 Selection of Teaching Strategies & Instructional Materials	Step 5 Implement Plan	Step 6 Client Feedback
Build trust Get health perceptions Cultural influences	Physical Psychosocial Language Learning styles	Develop learning objectives Develop content	Age-appropriate materials Consider development stage Assess reading capability and comprehension	Appropriate learning environment Simple clear explanation Formative evaluation	Summative evaluation Determine client likes and dislikes Review of the teaching plan

EDUCATING CLIENTS WITH DISABILITIES

The term *developmental disabilities* applies to children who are developmentally delayed, medically fragile, intellectually challenged, or learning disabled. Within each category of disability are extensive lists of syndromes, needed assessments, knowledge, therapies, and resources to care for this population. Societal changes have empowered persons with intellectual and developmental disabilities to more fully participate in community life (Cervasio, 2016).

Nurses play an important role in caring for children with developmental disabilities in a variety of healthcare and community settings. 5% of children ages 5 to 17 have disabilities (Disabled World, 2011), and it is estimated that approximately 13% of children in the United States have some type of special need (U.S. Census Bureau, 2000). The number of children with developmental disabilities continues to grow due to the use of scientific and technological advances that save the lives of premature infants and acutely ill children.

The most common disabilities seen in pediatric practice today are cerebral palsy, autism, and epilepsy (Centers for Disease Control and Prevention [CDC], 2016). Children with developmental disabilities require individualized and coordinated extended services, support, and assistance to function. The trend in healthcare has shifted needed disability services for these children away from institutions and toward inclusive community care settings (Nehring, 2004). Children with developmental disabilities require many advocates to seek out needed medical and nursing care, therapies, education, and equipment to integrate them into all aspects of community life.

Nurses in all practice settings must be prepared to provide nursing care, education support, training, advocacy, and leadership for disabled children. Nurses as educators may be asked to modify

their approach to pediatric clients and their families to accommodate clients with disabilities. Disabled pediatric clients include those with autism; cognitive limitations; learning disabilities; visual, hearing, or physical limitations; and emotional disturbances or behavior disorders. Nurse educators and parents need to consider how children with disabilities respond to any form of stress brought on by illness or hospitalization. Children with disabilities generally have specific triggers, such as words, images, or sounds that signal danger or disruption to their feelings of safety or security. These are specific to each child but come from past experiences associated with traumas or seeing fear in adults. These cues can serve as warning signals that adults can read (National Association of School Psychologists, 2002). Examples of cues include certain facial expressions, changes in speech patterns, sweating, or becoming quiet and withdrawn. When adults observe these cues, they should provide assurance, support, and attention as quickly as possible. If cues are missed, children may escalate their behavior and lose control. If this happens, adults should remove the child to a safe place and allow them to calm down. Nurse educators and parents should work together to share information about triggers and cues.

Appropriate resources should be used that provide individual consideration for the child's developmental and emotional maturity. Activities that promote healing, such as making drawings or writing letters, may be important for children recovering from or facing illness. There are general guidelines that can be followed in preparation for teaching. They include preparing children for difficult vocabulary and concepts ahead of time. During the teaching session the nurse may give explanations in small distinct steps, provide written and oral instructions that are age appropriate, and have the child repeat directions. The nurse will have greater results by being concise with verbal information. This approach is demonstrated by wording requests in a concise way, such as "Lisa please sit" instead of "Lisa would you please sit in the chair" (Bulloch, 2013). If a child has difficulty reading, the nurse can read or have a parent read. If a child has difficulty writing, oral responses can be accepted, or the child can dictate his or her thoughts to the nurse or parent.

All children benefit from concrete information presented at the proper level of understanding and maturity. The nurse educator and parents must consider how children with disabilities respond to teaching and anticipate their reactions. Strategies that have been effective with disabled clients in the past are the best strategies to implement, but understand that the steps might need to be more concrete and immediate. The nurse as educator should consider triggers and cues and anticipate rather than react to them. The nurse educator should expect some regression and deal with inappropriate behaviors calmly and consistently. Children need to know that despite changes and disruptions, they have a constant caring support system. Nurses must attain a core set of competencies to address the needs of disabled children. These competencies include:

■ Communication skills including working with supportive communication devices, such as communication boards, basic sign language, and body movement.
■ Critical thinking skills to promote comfort and safety.
■ Working knowledge of wheelchair adaptations, walkers, seats, braces, and standing devices.
■ Participating in activities of daily living require accessibility of adaptations for eating, grooming, and toileting.
■ Education in schools necessitates individual accommodations for teaching and learning as well as collaboration with school nurses.
■ Ability to develop sensory integration plans.
■ Behavior recognition and modifications skills and approaches to address behavioral problems.

- ■ Professional interpersonal skills for the socialization of children.
- ■ Safety and cultural awareness to enhance quality of life.
- ■ Incorporation of family-centered collaboration with parents and primary caregivers. (Cervasio, 2016)

EDUCATING FAMILIES

Families have considerable influence on children's health practices and the success of health education. As an educator you must consider the family as part of the unit of care when addressing the health education needs of children. Preparing client education plans for child clients without considering the family may result in less than adequate adherence to the treatment recommendations.

A *family* is a "group of individuals with a continuing legal, genetic, and/or emotional relationship. Society relies on the family group to provide for the economic and protective needs of individuals, especially children and the elderly" (American Academy of Family Physicians, 2003). Society's definition of family is rapidly expanding and has come to include single parents, biracial couples, blended families, unrelated individuals living cooperatively, and homosexual couples, among others.

It is important to determine who the immediate members of the family are, what roles they play within the structure of the family, their expectations about health care, and the nature of the relationships among family members. Not all families function the same way, so the nurse should assess this information by talking with clients and observing family interactions. A tool called the Family APGAR was adapted and introduced in the previous chapter to gain subjective information from clients to determine the level of support when learning new behaviors (Smilkstein, 1978). The tool addresses five aspects of family functioning; adaptive abilities, partnership, growth, affection, and resolve. This can give insight into family functioning when there is concern about family support. Child health issues disrupt family functioning. The extent of disruption is dependent on the seriousness of the illness, the family's level of functioning before the illness, socioeconomic considerations, and the extent to which the illness disrupts family functioning.

When you are aware of how the family operates, you can work to address their health education needs. The most effective client education is that which is compatible with the family's frame of reference and with which the client or family feels most comfortable. The nurse should assess the family's response to health teaching because the group's reaction can have a significant influence on the child's and parents' motivation to continue and cooperate with recommended treatment.

Kelo, Martikainen, and Eriksson (2013) describe patient education as a key intervention for promoting family health and empowerment of families. The concept of empowerment implies that client education provides knowledge and skills and increases self-awareness so that clients and family members can increase self-awareness and act in their own self-interest. Nurses facilitate empowerment of families by stating the objectives together with the child and the family, implementing child- and family-centered interactive methods, and using various evaluation methods.

EDUCATING GROUPS AND COMMUNITIES

Nurses serve many different roles within the community. Public health nurses and school nurses assist children and families to take action to improve their health status. Often this takes the form of teaching parents and children about healthy lifestyle choices. Public health nurses assist people

in incorporating improved health behavior in their everyday lives. Ensuring children's health is critical not only for reducing child morbidity and mortality but also for increasing the likelihood of a healthier adult life. The primary goal of child health education in the community is to prevent major causes of disease, illness, and death during childhood. Health prevention teaching covers the topics of accidental injuries, infections, learning problems, and behavioral problems. The nurse may also work within school settings to develop action plans to support learning objectives.

Public health nurses educate clients concerning issues such as environmental risks, problems related to low family income, and psychological stress. Early detection and treatment of disease and disability require screening, counseling, and interventions for high-risk populations. For children from birth to age 10 years, screening includes measurement of height and weight, blood pressure, hearing, and vision. Counseling, or anticipatory guidance, relates to injury prevention, diet and exercise, substance use, and dental health. The nurse explains the importance of immunizations for children, which include diphtheria, tetanus, pertussis (DTaP); oral poliovirus; measles, mumps, rubella (MMR); *H. influenza* type B; hepatitis B; and varicella. For children older than age 10 years, additional screening recommendations include Pap smear and chlamydia screening for sexually active females and assessment of problem drinking for adolescents. Counseling with this age group covers sexual behaviors, smoking, drinking, and other drug use. Immunizations for this age group include tetanus–diphtheria booster for those aged 11 to 16 years. Hepatitis B and varicella vaccines should be given to those who did not receive them at earlier ages. High-risk populations include those who engage in high-risk sexual behavior or drug use and those with certain medical conditions.

Often the nurse will inform families about services available to them. The nurse needs to be knowledgeable about community programs, which include programs such as health services for low-income families, supplemental nutritional programs, child-care services, safe houses for domestic violence, pediatric vaccine programs, and health education classes. One such nutrition program is the Women, Infants, and Children (WIC) program. WIC provides federal grants to states for supplemental foods, healthcare referrals, and nutrition education for low-income pregnant, breastfeeding, and nonbreastfeeding postpartum women. It also provides help for infants and children up to age 5 years who are found to be at nutritional risk. Another government service is Medicaid, which provides medical assistance for low-income families, mainly women and children. State Children's Health Insurance Program (SCHIP) is insurance that is available for children who are not covered under Medicaid. A child must be younger than 19 years and be a member of a family whose income is 200% below the poverty level. It is important for you to become familiar with services that can support health education and evaluate funding requirements for which the family might be eligible.

EDUCATING HEALTH TEAM MEMBERS

The nurse as educator works with multidisciplinary health team members in many settings. Each member of the team brings skills that contribute to the overall health of the child. Ideally the team collaborates to develop individualized and comprehensive treatment plans that serve as the foundation for health education. Team members should include the child, family, primary care physician, specialty physicians if necessary, the nurse (nurse practitioner, home care nurse), and other healthcare professionals, depending on the need. Other team members could include a social worker, patient care coordinator, pharmacist, dietitian, respiratory therapist, occupational

therapist, physical therapist, speech pathologist, radiologist, psychiatrist or psychologist, school teacher, and school nurse. It is important to view the child and family as an equal partner in the process of developing client education plans. This type of client education is a family-centered and community-based approach.

SUMMARY

This chapter reviewed the biologic characteristics, psychosocial stages, and developmental tasks of infants, toddlers, preschool children, school-age children, and adolescents. Implications for health education were given for each age group. Orientation to learning in children involves how children learn, learning styles in children, and the role of play in learning. Specific teaching practices are used to promote child learning. Pedagogic concepts assist you as the educator in preparing client education plans. Working with clients with disabilities, families, groups, communities, and health team members brings together the importance of a multidisciplinary, holistic, community-based approach to health education for children.

EXERCISES

Exercise I: Deepen Sensitivity to Child Clients and Their Families

Purpose: Practice application of child learning theory.
Directions: Visit a preschool and gather a group of 6 to 10 preschoolers to complete the following tasks:

1. You are teaching a health education class to a group of preschoolers. Compose a health promotion song with gestures, using the tune of a popular nursery song or popular song—for example, "Safety the Snowman" (to the tune of "Frosty the Snowman").
2. Use props you have on hand to enhance the meaning of the song (e.g., bicycle helmets, street signs, etc.).
3. Share the songs with members of the class.
4. Discuss how you think the children learned the information.

Exercise II: Pretend Play

Purpose: Practice applying theory, discussed in this chapter, with children.
Directions: Role-play a baby doll clinic. Involve a nurse, children, and their dolls in a preschool setting to complete the following tasks:

1. Have the "mothers" come and see the nurse by walking into the pretend clinic or making an appointment on the pretend phone.
2. Have the nurse notice concern for the doll's health and ask what the mother wants (doll checkup or illness).
3. Have the nurse perform an examination, treatment, or give advice.
4. Ask a health or safety question about the doll.
5. Use real equipment or pretend you are using equipment.
6. With your peers, discuss what you learned by doing this exercise.

Exercise III: Helping Children with Chronic Illness

Purpose: Use your knowledge of child development and learning strategies.
Directions: Complete the following tasks in small groups:

1. Describe an adolescent with a long-term chronic illness. Include information such as age, developmental needs, amount of regression, and how the illness interferes with normal developmental tasks.
2. Design substitute experiences that would enhance the child's chances of meeting appropriate developmental needs.

Exercise IV: Group Teaching with Children

Purpose: Apply child learning theory to working in groups.
Directions: Role-play the following teaching and learning scenario with school-age children:

1. You are working with a group of fifth or sixth graders, discussing a topic of your choice.
2. Choose topics such as peer pressure, drugs, sex, abuse, eating disorders, or bullying.
3. Lead the children in role-playing and discussing a difficult situation.
4. Offer suggestions to address the problems that the children present—for example, how to develop drug-refusal skills or how to seek help for bullying.
5. With your peers, discuss what you have learned by doing this exercise.

Exercise V: Evidence-Based Nursing Practice

Purpose: Apply evidence-based nursing research to client education.
Directions:

1. Search the literature for nursing research applicable to health education for the child learner.
2. Describe how the findings could be applied to your practice in educating clients.

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