Early Childhood Curriculum

Developmental Bases for Learning and Teaching

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University of Texas at San Antonio

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This fourth edition of Early Childhood Curriculum: Developmental Bases for Learning and Teaching was written for teachers of children from infancy to 8 years of age. It was prepared in response to the need of present and future teachers to understand the role of the child’s development in the curriculum. The curriculum discussed is planned for the very youngest children, whether in a child care, private preschool, or public school setting. The children from birth to age 8 who attend early childhood programs are diverse in their development. Teachers in the primary grades in elementary schools are particularly aware of the difficulty in providing successful learning experiences for children who come to them from diverse backgrounds and with a range of abilities, especially at a time when children may be expected to cover learning objectives more rapidly than in the past. In this edition, more attention is given to increased legislation and mandatory testing that affects how teachers are expected to teach young children. The impact of the No Child Left Behind Act is especially significant to today’s teachers and children. Also featured in this edition are national and state goals and standards in the language arts and mathematics with strategies for how these standards may be met with appropriate teaching strategies.

Regardless of the child’s age, the teacher needs to understand that the nature of the child’s development has implications for the kinds of experiences that are appropriate. Likewise, teachers can benefit from understanding the role of developmental theories in the practice of teaching in an early childhood program. The developmental curriculum presented is strongly based on the work of Jean Piaget and other constructivist theorists. Much emphasis is also given to the work of Lev Vygorsky, including the social dimensions of learning and the role of the teacher to scaffold and support the child’s progress. Urie Bronfenbrenner’s conceptualization of the role of the family and community in the child’s development complements the constructivist theories of Piaget and Vygorsky.

This text also covers the issues of bridging and making transitions; it offers information and suggestions for bridging theory and practice, and it includes suggestions for guiding children through transitions in developmental stages, especially as they move from preschool into the primary grades. The important transition from preliteracy into literacy and the appropriate strategies that teachers can use are examples of curriculum content presented.

Chapters 1 and 2 establish the background setting and context for the early childhood curriculum that will be described. Chapter 1, “The Changing Role of the Teacher in Developing Curriculum for Diverse Populations,” discusses the diversity of children entering early childhood programs; likewise, it describes the teacher’s changing role in developing curriculum for very young children. Chapter 2, “Historical and Theoretical Bases for Appropriate Programs in Early Childhood Settings,” reviews the historical heritage of early childhood education to include the theoretical approaches that inform early childhood curriculum. Chapter 3, “The Need for Quality Programs in Early Childhood Education,” discusses national goals and expectations for quality early childhood programs in the United States. A discussion of how classical and contemporary theories
inform quality programs is followed by examples of model programs that have international importance.

The developmental foundation of curriculum is introduced in Chapter 4, "Developmental Characteristics of Young Children from Birth to 8 Years: Implications for Learning." Continuity of development is traced in young children from birth to 8 years with indications for learning experiences to foster cognitive, physical, language, and social-emotional development. Characteristics of development are explained with regard to the sensorimotor, preoperational, and concrete operational periods.

Chapters 5 and 6 address programs for infants and toddlers. Chapter 5, "Organizing Infant–Toddler Programs," discusses how development is nurtured in physical, cognitive, language, and social development and suggests activities that can be used with very young children.

The next three chapters address the developmental needs and programming for preschool children ages 3 through 5. Chapter 7, "A Developmental Model for Preschool Programs," addresses the elements needed in a quality developmental programs for preschool children. It describes the characteristics of such a model and the way in which it is implemented. Chapter 8, "Preschool Curriculum: Ages 3 to 5: Language and Cognitive Development," describes curriculum for those developmental domains, while Chapter 9, "Preschool Curriculum: Ages 3 to 5: Social and Physical Development," presents curriculum for the social and physical domains. Each of these chapters discusses the role of play, the environment, and the teacher in development and provides examples of activities and thematic unit topics.

Chapters 10 through 13 move to programs for children from ages 5 to 8. Chapter 10, "A Model for Programs for Children Ages 5 to 8," describes how developmental changes during those 3 years have implications for the way quality curriculum and instruction are designed and implemented as children make the transition into the concrete operational period and toward literacy. The characteristics and implementation of an ungraded primary model are presented. Chapter 11, "The Transitional Curriculum: Ages 5 to 8, Language Arts"; Chapter 12, "The Transitional Curriculum: Ages 5 to 8: Mathematics and Science"; and Chapter 13, "The Transitional Curriculum: Ages 5 to 8: Social Studies and Physical Education," discuss the goals and topics that are the foundations for each of the curriculum content areas.

Finally, Chapter 14, "Teaching in the Real World," takes a final look at the world of early childhood teachers as they encounter and address problems and possibilities present in early childhood programs today. Readers are introduced to the realities of practice experienced by contemporary teachers. These teachers often struggle with making decisions within the context of many kinds of programs from different philosophical perspectives and within their own developmental stages. New teachers entering the field will find both opportunities and frustrations as they join teachers who are working to provide quality programs for the very youngest children in our society.

ACKNOWLEDGMENTS

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NOTE: Every effort has been made to provide accurate and current Internet information in this book. However, the Internet and information posted on it are constantly changing, and it is inevitable that some of the Internet addresses listed in this textbook will change.
CHAPTER ONE

The Changing Role of the Teacher in Developing Curriculum for Diverse Populations

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Understand how the early childhood years and early childhood education have acquired new importance in a new century.
2. Describe ways in which young children in early childhood programs represent diversity.
3. Explain the role of the teacher in developing curriculum for children in today's early childhood programs.
INTRODUCTION

These are significant years in a new century for programs in early childhood education. The importance of the early childhood years for the development of young children and for later success in school has been documented extensively. Likewise, ample evidence documents the effect that quality early childhood programs have for providing the types of experiences that promote successful learning in elementary school (Bowman, Donovan, & Burns, 2000; Carnegie Corporation of New York, 1994, 1996; Copple & Cavanaugh, 2005).

Policymakers are becoming aware of the significance of early childhood education and how it enhances development and learning in America’s children. As a result of concern that a large percentage of schools were still low performing in 2000 and 2001, President George W. Bush worked for legislation that would improve education for all children. In December 2001, the No Child Left Behind Act (NCLB) was passed. Another initiative, Good Start, Grow Smart, was intended to strengthen the Head Start Program. In July 2001, the White House hosted the White House Summit on Early Childhood Cognitive Development. Following the summit, the Early Childhood Head Start Task Force published a new guide, Teaching Our Youngest (Griscom, 2002). A new era in early childhood education had begun.

The NCLB and other early childhood initiatives and policies since 2001 had an immediate and lasting impact on early childhood education. The effects of legislative mandates will be addressed in later sections of this chapter and other chapters in this text.

This book was written for teachers and future teachers of children from birth to age 8. It will help teachers of young children become informed about quality educational programs. One purpose of this book is to describe how teachers can develop curriculum and learning experiences that are appropriate for the young children they teach.

The purpose of this chapter is to serve as an introduction to early childhood curriculum. To address this purpose, we need to understand the young children who attend early childhood programs. They will be described in terms of diversity. Thus, we will look at how the role of teachers is changing in terms of the differences in children who attend early childhood programs. We will also look at how such programs are diverse and how they are changing to meet the needs of children and their families in today’s world. In addition, we will discuss how the role of teachers is changing as early childhood settings become more complex.

Finally, we will look at how the role of the teacher is evolving to respond to the changing needs of children, families, and society in a new century. When developing curriculum for young children, teachers in all types of settings face new challenges to develop quality programs for all young children (Kagan & Neuman, 1997). Change in education is now the rule in contemporary schools, just as it is in other facets of society. Early childhood curriculum and instruction in today’s and tomorrow’s programs are responses to the issues that confront the community, educators, and families in a period of continuing transition.

In the following section, we will explore the types of children who attend early childhood programs. We will look at differences in these children and the types of diversity they represent. Next, we will discuss children who are “at risk” for not succeeding in school and some of the factors that cause them to be at risk.

WHO ARE THE CHILDREN SERVED IN EARLY CHILDHOOD PROGRAMS?

Is it possible to describe a “typical class” of children in an early childhood classroom today? Probably not. Prior to the 1960s a kindergarten class was likely to enroll mostly white, middle-class children with fairly similar backgrounds whose parents could pay for their children to attend. Now, early childhood programs serve all types of children from all types of families and many different types of neighborhoods. Children come from different ethnic groups, might speak different languages, and live within a variety of cultures. In other words, the children who attend today’s early childhood programs are diverse.
**Children in Early Childhood Programs Are Diverse**

What does diversity mean? Webster's Ninth Dictionary defines diversity as the condition of being different. Diversity has always been a characteristic of young children in preschool programs. In the past, some children have been considered as “different,” and different meant “less” compared with the perception of the characteristics of most of the children in the class. Thus, diversity could have negative connotations.

Today, diversity in children adds to the richness of experiences that are possible in early childhood classrooms. Difference can be a positive trait in children. David Elkind (1997) declares that we are now in a postmodern era of education when we are interested in particular children rather than typical children.

What are some of the differences that children have that represent diversity in the classroom? In the paragraphs that follow, we want to discuss cultural, ethnic, and language differences. Then we will address differences in ability, differences in family environments, and factors that can cause children to be at risk for difficulties with learning and adjustment to preschool and school experiences.

**Cultural Differences**

Every child is a member of a cultural group. The group can be as small as a family unit or as large as a nation. Subcultures exist within a culture. In the United States, there are multitudes of cultures and subcultures. For example, many citizens of the United States belong to a Hispanic culture. Because Hispanic Americans might have come from Mexico, Central America, South America, or Puerto Rico, they represent cultures unique to those areas of the world.

A person’s social group, religion, and race can contribute to his culture. When the United States was first settled, the original immigrants to America came from Europe; as a result, the United States is strongly influenced by European cultures. However, Native American cultures were present before the first settlers arrived.

Today children in early childhood classrooms represent cultures from all parts of the world. If children come from a family that has lived in the United States for many generations, they are probably more familiar with the mainstream American culture. Yet many families who have lived in this country for generations represent American culture while retaining the culture of the country of their forebears.

**Ethnic Differences**

Children can be diverse in that they represent different ethnic groups or different races. Children can have an African American, Asian, Hispanic, or European background, to name a few. Many children represent more than one ethnic or racial group, and thus they have a mixed ethnic heritage (Portnoy, 2003).

---

**Lucy Wu**

Lucy Wu is 6 years old. Her parents came to the United States from Vietnam when they were teenagers. Lucy’s mother went with her family to Houston, where they were sponsored by a Lutheran church; her father’s family also went to Houston to stay with relatives until they could get settled. Lucy’s mother and father met in a local community college. They worked in a small grocery store that her father’s family opened in a small building in an older neighborhood in eastern Houston. Recently, the store burned as a result of faulty wiring. The contents of the store were not insured; thus, Lucy’s mother is working as a housekeeper in a local motel, and her father is working at a drive-in grocery until the debts are paid and they can try to get another start in a family business. Lucy and her parents are living temporarily with her maternal grandparents in a small apartment until they can afford their own place again.

---

**Language Differences**

Although English is the dominant language spoken in the United States, many children come from homes where another language is spoken. Children in early childhood programs may be speakers of Chinese,
Japanese, and Vietnamese if they are from an Asian family. Likewise children may speak Spanish, Russian, Polish, or many other languages when they enter an early childhood classroom. While it is true that the majority of children in the United States speak English, many children either speak another language as their first language or can speak more than one language.

Children in early childhood classrooms currently represent both individual and global diversity. Teachers of these young children must understand the complexity of cultural, racial, ethnic, and language diversity when preparing curriculum and instruction for their students. Awareness of such differences has broadened in the past several decades. The flow of legal immigrants to all parts of the United States, plus undocumented workers, has changed the demographics of student populations. Regions that formerly served primarily Anglo students now have students of several ethnic groups and speakers of other languages. As new populations move into urban areas, the types of children attending schools become more diverse. For example, in one Los Angeles suburb, one teacher experienced vast changes in students in a span of 21 years. She first taught mostly middle-class, English-speaking students. As Los Angeles expanded over the years, her students were composed of recently arrived Mexican immigrant and other Spanish-speaking students from other states. In addition, African American students also joined the school's student population (Garcia, 1993). In addition, the influx of new immigrants and refugees to the United States has widened the diversity of groups entering the schools. Families have come from Cuba, Central America, the Caribbean, Indochina, Eastern Europe, the former Soviet Union, and many other regions as political crises, wars, and changes in government leadership have forced families to seek safety and economic opportunity in other countries. Children from these families entering early childhood programs bring unique cultural experiences to their new nation. Their parents range from professionals with affluent circumstances to uneducated people from underdeveloped nations. Some of these children are either under foster parent care, have been adopted by American parents, or are otherwise of a race that is different from that of the parents. Moreover, mixed-race adoptions are becoming more common in this country. Teachers of the future will need a broad understanding of the differences in nationality, culture, and life events that affect every child entering their classrooms (Okagaki & Diamond, 2002; Waxle, 2001).
Differences in Family Environments

As mentioned earlier, early childhood education prior to the 1960s, particularly in public schools, was oriented to the middle-class child (Weber, 1984). The child was assumed to come from an intact family with both parents present in the home. The typical mother did not work outside the home and devoted her time and energy to the family. In recent decades many factors have affected the makeup of the family structure. In addition to families in which a father and mother are present, there are single-parent families, steppfamilies, and blended families (which result from multiple marriages or cohabitation, where children from two or more family combinations live as a single family), and teenage parents.

Billy and Bobby

Billy and Bobby are 2-year-old twins. Their mother, Susan, is 17 and not married. They live in the family room in the basement of Susan’s parents’ home in Evansville, Indiana. Susan works at a Wal-Mart department store during the day and attends night school three evenings a week. She receives a check each month through Aid to Families with Dependent Children. Billy and Bobby stay in a family day home during the day; their grandmother takes care of them on the evenings when Susan attends school.

Susan and her mother have recently been fighting over the amount of time Susan has been out on dates each week with her new boyfriend. Susan believes she is going to have to move out. Her boyfriend is not working and does not want to get married and have the responsibility of the twins. In addition, Susan needs to get a job before her monthly checks are ended. At the moment, Billy and Bobby face an uncertain future.

Children live with a single parent for various reasons, divorce being the most common. Although dual custody is a frequent possibility when parents divorce, most children spend the majority of their lives with one parent. Fathers who are single parents are increasing in number, as are split-custody decisions where siblings are divided between the parents. Single adults are now able to adopt children as well as act as foster parents to children needing temporary homes. In addition, children may live with a grandparent when the parents are unable or unwilling to care for their children. The number of children living in single-parent homes has increased dramatically in recent decades. The Children’s Defense Fund (2001) reported that 50% of American children will live in a single-parent family at some time in their life.

Although the pre-1970 perception that the father was the breadwinner and the mother maintained the home and cared for the children was never true for many families, the percentage of mothers employed outside the home has risen dramatically since the 1970s. In 1993, 59.6% of married women with children under 6 were working outside the home (Children’s Defense Fund, 1994). By 2004, 65% of mothers with children under 6 were working outside the home. A major concern is that 63% of these mothers had children under age 5 (Education Commission of the States, 2003).

Whether the working mother is a single parent or married, the changes in family lifestyle can cause problems for family members. The majority of working women in the United States provide half or more of the family’s financial resources. Working parents are faced with time management problems, concerns for quality child care, and the matter of balancing priorities between work and home. Children from families in which both parents or the single parent are employed face adjustments that may range from attending a combination of child care and educational settings each day, to self-caring before and after school, to accepting family responsibilities (Children’s Defense Fund, 2001; O’Neil, 1991).

Working parents often find it difficult to meet with teachers for conferences or attend school meetings. They must frequently hurry their children and themselves as they seek to reconcile family and work schedules. Families are learning how to manage work and other responsibilities. Carpooling children to and from school, sharing after-school care, and developing flexible work schedules are helping families to attend to the needs of their children. Many schools now offer before- and after-school care as well as
training and support groups for parenting skills and other issues that are unique to working parents. Many employers are learning that it is in their best interest to support employees when they need to attend a school conference or meet with child care staff during the day. Early childhood centers in turn have provided extended hours and evening care for children of parents who work in the evening rather than during the day.

Raul

Raul is in the second grade and lives in a suburb outside of Orlando, Florida. Both of his parents work and commute into Orlando early each morning. When Raul started having problems in school and resisted having to go to a child care center for after-school care, his parents began to work to solve the difficulties. Fortunately, Raul's father can have flexible hours at his workplace. Now Raul's father leaves at 5:30 each morning and returns by 3:30 in the afternoon to be at home when Raul returns from school on the bus. After Raul has had time for a snack, he and his father work on his homework together. Raul's father would like not to have to leave for work so early in the morning, but Raul has benefited from the change. He is doing better in school and usually has time to play outside with some neighborhood friends before his mother arrives home and prepares dinner for the family.

Differences in Learning Needs

Children enter school as unique individuals. They bring with them their experiences from their homes and communities. They also bring their own combination of interests, styles of learning, rate of development, and personalities. They may be children who are visual learners who need to see new information in addition to hearing about it. Some children may need to have instructions given one step at a time, whereas others may benefit from receiving all the instructions at one time. Some children will be very shy or assertive. As a group they represent a range of aptitudes for learning as well as strengths and weaknesses that may be so minor that they are hidden or so extreme that they are serious impediments. Despite their differences, children are all similar in that they have hopes of being successful students. The first years in early childhood classrooms are important because it is during this time that children form perceptions of themselves and their competence as individual students and as members of groups of students.

Many children have exceptionally high aptitudes and abilities. They have a high potential for learning that allows them to learn quickly and often independently. They are self-starters and voracious in their desire to acquire information. They can accomplish by themselves much of what is to be learned. The teacher's responsibility with children having high learning potential is to keep them challenged and help them discipline themselves to work to achieve their best without being pushed unreasonably to excel.

Other children are also competent, but they are steady rather than fast-paced learners. They do consistently well in school and are a stable influence on the other children in the class. These students may have occasional difficulties but are easily redirected toward a positive outcome in their class experiences.

Some children enter school with disabilities. The disabilities can range from developmental delay and mental retardation to various types of physical disabilities. These children present many types of individual learning needs that are unique to their own conditions.

As we have seen from the information presented on differences in young children, many kinds of diversity can be present in early childhood classrooms. Although diversity is a positive characteristic in children, the teacher is challenged to address the unique needs of each child. In addition, some children are at risk for learning difficulties because of some of the conditions in their lives and development. In the next section, we will explore some of the factors that cause some children to be at risk for development and learning problems.

Early Childhood Programs and At-Risk Learners

Young children tend to be resilient. They are able to cope with positive and negative influences in their lives with a minimum of difficulty. However, other
children experience more difficulty when faced with challenges and traumatic events. These children are at risk for problems in development and learning; that is, they might have negative outcomes in personal development and school achievement because of stressors in their lives.

Children of Divorced Families

Some children of divorced families may be at risk for learning difficulties. Such children are more likely to become juvenile delinquents, have trouble in school, need psychiatric help and to experience depression, loneliness, low self-esteem, and low achievement. During the first 2 years after a divorce, children are often neglected because the parent who is to care for them is overworked, absorbed with problems of surviving, and trying to cope with meeting the increased responsibilities of single parenting (Clarke-Stewart, 1989). Some of the children will also have to adjust to a new step-parent and siblings in a stepfamily. An additional factor may be reduced family income because of the altered economic circumstances caused by the divorce.

Although the effects of experiencing a divorce may or may not be long-lasting (Wallenstein, Lewis, & Blakeslee, 2000), the classroom teacher must be sensitive to the trauma these children are experiencing. Teacher support is needed to reassure the affected students that they are valued at school and that school life will provide some consistency in their young lives. The school community can also provide support to the large numbers of young children and their parents who are affected by separation and divorce each year (Sammons & Lewis, 2003).

The Hemphill Family

Robert and Cathy Hemphill have a blended family. Four years ago, they divorced their spouses and planned to remarry. Robert's children, Kenneth and Katy, soon adjusted to the idea. Their mother remarried within a year after the divorce and was planning to have another baby. Kenneth was 6 and Katy was 4 when their parents divorced.

Cathy's three children resented their mother's divorce. Cathy's children, Matthew, Emily, and Eric were 13, 11, and 10, respectively, when their parents divorced. They had to move from a large home with a swimming pool and guesthouse to a small house with only one bathroom. Cathy and Robert decided to wait until Cathy's children had accepted the divorce and the idea of a stepfather. Unfortunately, after 3 years, Cathy's oldest son was still very angry, and Cathy decided that additional time would not make a difference.

Robert and Cathy have been married for almost 2 years. They have moved to a three-bedroom home with a large family/game room. Eric and Kenneth have become great pals. Matthew is in high school and playing football. He seems comfortable living in a blended family and enjoys his stepfather. Emily is in high school as well and is an excellent student. All five of the children participate in sports. Robert is working to build another bedroom for Kenneth and Eric to share. The boys are helping him on the weekends. Cathy's children live with her and spend some weekends with their father. Kenneth and Katy live with their mother and spend weekends with their father. Because they just live a few miles down the road, they are with Robert and Cathy frequently on weekdays as well.

Children of Teenage Parents

Children of teenage parents can also be at risk. Many of these parents are barely more than children themselves, with little in the way of parenting skills or financial resources. The teen birthrate actually dropped in the 1970s and remained stable in the 1980s. In 1991 the teen birthrate rose for the fifth year in a row to 62.1 births per 1,000 (Children's Defense Fund, 1994). Fortunately by 1998, the rate had fallen to 51.1 births per 1,000 (Children's Defense Fund, 2001).

Children born to teenage mothers are more likely to live in a one-parent home at or below the poverty level than those born to older women. Their mothers are likely to be unemployed or working at low-paying jobs. Because of the stressful circumstances for the mothers, children are likely to be at risk from
poor nutrition, inadequate housing, and inappropriate parenting. Children entering school from a home headed by a teenage parent frequently need security, nutritious meals, and positive experiences, which the parent is often unable to provide. The parent in turn may need support and assistance from the school in finding social services and in learning how to help the child.

Homeless Children
When attention first focused on the growing numbers of homeless people in the United States, those affected were described as mentally ill individuals who had been released from mental institutions with no local services to provide the assistance they needed. Others without homes were drug- or alcohol-addicted individuals or vagrants who did occasional work. Within the past few decades, the homeless population has come to include families who have lost their homes for a variety of reasons (National Coalition for the Homeless, 2002; Rafanello, 2004). By 1997, there were a total of about 850,000 homeless children nationally, 625,330 of them school age and 216,391 preschool age (U.S. Department of Education, 2001). In 1999, it was estimated that 12% of homeless children were placed in foster care, and 22% lived apart from their immediate families in foster care or with a relative. Requests for shelters for homeless families increased by 17% between 1999 and 2000 with another increase expected in 2001 (National Coalition for the Homeless, 2001).

Currently, the concept of homelessness is still changing. Chronically poor families tend to share a home in order to survive financially. It can be common for three or more families to be living together (Bellamy, 2003). Another new category of homelessness is children and adolescents who run away from home, sometimes because of an abusive situation. Homeless mothers may have one or two children with them, while others are with a relative or a friend. Factors besides poverty that result in homelessness for women are abuse by a partner, chemical dependency, illiteracy, and severe depression (Nunez, 1996; Swick, 2004).

Homeless children have poorer health, more behavior problems, and lower achievement. In addition, nearly 20% of homeless children lack access to medical care. Nearly 50% of homeless children have experienced violence or neglect in their homes (Rafanello, 2004).

Homeless children usually have to give up their toys and other items that provide security. It is difficult for them to attend school because of the transient nature of their existence. As a result, regular school attendance is impossible for many. They are frequently teased by schoolmates who do not understand their plight. If they are able to attend school, their teachers need to be aware of and sensitive to their stress (Swick, 2004). Like many other populations of at-risk children, they need nutritious meals at school, particularly because shelter meals are not usually prepared for the needs of growing children. For some, the mere availability of food may be uncertain outside of school (Rafanello, 2004).


Efforts to upgrade housing for homeless families have been implemented in many cities. Some cities have acquired apartments for homeless families and help the parents obtain job training and child care. The families are able to stay in the apartments until they can pay for more permanent housing. Organizations such as Habitat for Humanity build modest homes using volunteer labor and donated funds for low-income families. Health care has been improved through expansion of insurance coverage for low-income families through the Children's Health Insurance Program (CHIP). However, although 2 million children were enrolled in CHIP by September 1999, 6 million eligible children still had not been reached by 2001 (Children's Defense Fund, 2001).
Cassandra

Cassandra is 4 years old. She and her parents had been living in an old farmhouse 10 miles from Natchez, Mississippi. Her father worked on a nearby farm, but it was recently sold by the owner. Cassandra, her two older brothers, and her parents then moved into Natchez, where they are now staying with Cassandra's aunt. The home is large, but Cassandra's four cousins make a total of 10 people living in the home. Many of Cassandra's toys and clothes are in a storage building behind the house.

Cassandra's mother found work at a dry cleaner's, but her father is still looking for work. Her aunt heard of a vacancy in the Head Start program located near her home and is going to take Cassandra to the center to enroll her in the program. Cassandra's brothers have been enrolled in an elementary school, but they feel like strangers and make excuses not to attend classes.

Children Living in Other Stressful Situations

Many children live in stressful home environments that place them at risk for difficulties in development and learning. Some of these stress factors include parents with substance abuse problems and homes where violence, neglect, and abuse occur that affect young children.

Children who live in a home where the adults are addicted to alcohol or chemicals live in a stressful environment. Parents who are under the influence of drugs or alcohol are more likely to neglect or abuse their children than those who are not addicted (National Coalition for the Homeless, 2001).

Domestic violence occurs in every socioeconomic, racial, and ethnic group. Shelters for battered women and children are necessary in more middle and larger communities to provide a haven for victims of domestic violence. Violence in schools also affects young children. Between 1989 and 1995, the percentage of children who felt unsafe in school or when they were traveling between home and school increased. This is still true even though schools are experiencing a decline in school violence (Children's Defense Fund, 2001).

Violence also results from children having access to guns. Homicide is now a leading cause of death for children between ages 5 and 14. Moreover, more than 300 children died in accidental shootings in 1997 (Children's Defense Fund, 2000).

Schools and teachers have a particularly important responsibility when teaching children who are at risk for neglect or abuse. Children who are dressed inappropriately or who frequently attend school in dirty clothing may exhibit other symptoms of neglect. Similarly, children who have been physically, sexually, or mentally abused may show signs of their condition that may alert the teacher that the child's situation may need to be reported to the proper authorities. Children who are frequently bruised, exhibit burn marks, or have other unusual physical

TEACHING MOBILE-AT-RISK CHILDREN

Because student mobility is usually tied to other factors within a community—such as the supply of affordable housing—interest in the subject as well as studies on the topic come from a variety of sources, not just from education researchers.

For example, in 1995, Roger D. Colton of Belmont, Massachusetts, from the economics consulting group of Fisher, Sheehan, and Colton, wrote a paper that showed the link between high energy bills and frequent school moves in Missouri.

By surveying 813 low-income families in that state, Colton found that among those described as "frequently mobile," unaffordable energy bills were often listed as a very important factor in the families' most recent move. Colton concluded that making utility costs more affordable for poorer families would reduce student mobility (Jacobson, 2003).
characteristics may have been physically abused. Schools need to help children who are experiencing abuse or neglect; such children may be unable to attend to learning. Schools must take responsibility for these children because teachers may be the adults outside the family who have the most frequent and consistent contact with the children and are most likely to have an opportunity to initiate intervention. There are indications that the number of neglected and abused children will continue to rise in the immediate future. It is estimated that as many as 500,000 children are abused each year. Many more cases may go unreported. For these children, schools are a haven and possibly their only source of security (Austin, 2000; Sattrock, 2002).

**Children Who Have Disabilities**

Children who have physical and emotional conditions that can affect their learning are frequently described as having special needs. Physical impairments include hearing and visual disabilities as well as other physical disabilities. Hearing impairments range from slight to severe and affect speech and language development (Mayer, 1996; Moran, 1996; Patterson & Wright, 1990). Visual impairments such as nearsightedness (myopia) and farsightedness (hyperopia) can be corrected with eyeglasses. More severe visual impairments include conditions such as congenital cataracts or glaucoma and atrophy of the optic nerve, all of which can have more serious implications for hindrances to learning (Silberman, 1996).

Some students can be seriously disabled by mental retardation or emotional disturbance. Emotionally disturbed children are characterized by an inability (not related to a physical disability) to benefit from instruction. They have difficulty relating to their peers and exhibit wide variations in mood (Edwards & Simpson, 1996). Children with mental retardation have a condition that affects academic learning differently, depending on the amount of retardation. Children with mild retardation are described as educable mentally retarded, and those with moderate retardation are characterized as trainable mentally retarded. Children with severe or profound mental retardation also may have serious physical conditions that require extensive medical attention and services from time of birth (Brown & Yoshida, 1996).

Some children exhibit learning difficulties that are not associated with mental retardation. They have difficulty academically and sometimes socially and do not respond to the usual instructional methods. Children with this condition are described as learning disabled but may also be characterized as hyperactive, perceptually disabled, brain injured, dyslexic, or neurologically impaired (Graham, Harris, Reid, & Kandel, 1996). A more recent and currently popular label for hyperactivity is attention deficit disorder (ADD) (Buchoff, 1990) or attention deficit hyperactivity disorder (ADHD) (Loughnan, 2003).
Children with special needs exhibit many different types of possible interference with learning as well as variations in the seriousness of the interference. Many of the children can be served by or at least included in the regular classroom within the instructional program used with other students. Other conditions are severe enough to require the services of a special teacher or a combination of specialists to provide therapy or instruction (or both) that is planned for the students' individual needs. Children with special needs also need to interact and learn in the regular classroom as much as possible with their nondisabled peers. Different processes have been used to accomplish this goal. Mainstreaming was the first process used to introduce children to a regular classroom for a part of the school day. In reverse mainstreaming, children without disabilities were introduced to a classroom serving children with disabilities for part of the day. The current practice is to use inclusion, also known as integration, where all children are enrolled in the regular preschool or school program (Odem & Diamond, 1998; Udell, Peters, & Templeman, 1998).

An individual program is planned for each student with special needs to determine the balance needed between special services and experiences in the regular classroom (Meyen, 1996a; Wang, Reynolds, & Walberg, 1994–1995).

Marilee

Marilee is 5 years old and entering kindergarten. She was born with deformities in both her legs. She has been in special programs since she was a baby and has had physical therapy all her life. Today she walks with the aid of a walker and has a brace on one leg. Marilee is looking forward to kindergarten. She will be attending school a few blocks from her home with many of her friends who live nearby. Marilee's teacher is familiar with her special needs and has made a home visit to talk to Marilee and her parents. Marilee hardly seems to be aware that she has a disability. She can play outdoors with her friends, and finds her brace and walker to be a bit of a bother. She is not self-conscious about her condition and has a smile for everyone.

At-Risk Children May Need Intervention Programs

Children who are at risk academically need early intervention to remediate the negative factors that can affect their ability to learn. Because early intervention is most effective in eliminating or minimizing risk factors, early childhood programs—many beginning in infancy—enhance the possibilities that children can overcome the conditions in their lives that can negatively affect their learning (Children's Defense Fund, 2001; Taylor, Willits, & Lieberman, 1990).

Early childhood education is very important for children who are at risk academically or have a disability. Early intervention with any kind of risk factor or impairment is important to maximize the child's opportunity to overcome, minimize, or adapt to the disability (Niemeyer, Cassidy, Collins, & Taylor, 1999). Whether the young child is at risk because of economic, physical, or social factors, early attention to the problem is essential. If the child is experiencing more than one risk factor, the possibility of long-term damaging consequences multiplies. Early modification or elimination of risk factors is essential to prevent permanent damage to the child's outcomes.

The Child Mental Health Foundations and Agencies Network has published a list of factors that can put a child at risk for negative school outcomes. They are as follows (Peth-Pierce, 2000, p. 5):

- Low birth weight and neurodevelopmental delays
- Other medical problems
- Difficult temperament and personality (e.g., hyperactivity or aggressive behavior)
- Family composition (e.g., divorce, remarriage)
- Low level of maternal education
- Parental substance abuse
- Immigrant status
- Minority status
- Low socioeconomic status
Maltreatment
Problematic maternal relationship history
Psychophysiological markers (e.g., indicators of changes in the brain or other organs that limit the child’s cognitive and regularity capacities)
Insecure attachments in early years
Child care by someone other than the mother (e.g., child care facility)
Characteristics of kindergarten and first-grade classes (e.g., large class sizes, fewer parent-teacher meetings)

There are also factors that mediate against poor outcomes by children who are at risk (Peth-Pierce, 2000, p. 8):

- Residence with both parents or remarriage after divorce
- Higher cognitive functioning of the child
- Easier temperament of the child
- Child’s self-confidence
- Emotional support from alternative caregiver
- Higher level of maternal education
- Cooperative parental coping (maintaining positive relationships with child)
- Stable, organized, and predictable home environment
- High-quality day care at an early age (for children who have insecure attachments to a primary caregiver)
- A secure attachment in infancy and early history of positive functioning
- Larger number of classroom friends
- Social support and internal perceptions of control (for girls only)
- Warm and open relationships with kindergarten teachers

The children who attend preschool programs are diverse, as we have seen from the description of factors that cause children to be diverse and factors within diversity that can cause children to be at risk for difficulties in learning. The settings that serve preschool children are also diverse; however, they are becoming more integrated, as we will see in the next section.

THE COMPLEX NATURE OF SETTINGS FOR EARLY CHILDHOOD PROGRAMS

Early childhood education encompasses the years from birth through age 8. The teacher who is preparing to teach children of these ages can be overwhelmed by the various types of settings that serve such children. The majority of primary-age children attend school in some type of institutional setting, be it public, private, or parochial. (Home schooling, where parents conduct instruction with their own children, is a growing method of education but still accounts for only a small percentage of children.) Preschool children, on the other hand, can attend a variety of programs, including those offered by schools, parochial institutions, agencies, corporations, and hospitals.

The role of teachers varies in the programs, as does their salary. Teacher preparation requirements and licensing also can be very different. Financing for the programs ranges from publicly funded schools and projects to settings that are entirely supported by fees paid by parents. For purposes of this discussion, the programs have been categorized as public school programs, nonpublic school programs, Head Start, and child care programs.

Public School Programs
Kindergarten Programs
Public schools have served children under the age of 6 for more than a century through kindergarten classrooms. The purpose for kindergartens has evolved through the decades during which it has been associated with the public schools. Designed as a program for 5-year-olds, it was originally developed following the philosophy and methods of Friedrich Froebel in the 19th century. Not all states have kindergartens in their public schools, but as the trend toward expanding early childhood programs in public schools continues, more states are establishing kindergarten classrooms.

In the 1940s and 1950s, kindergartens were perceived as programs for middle-class children. Since
the 1960s, however, they have served all populations of children. They have been joined by preschool programs that serve children who are at risk for academic failure. These newer programs can include prekindergarten or other programs for 4-year-olds, bilingual programs, classes for children with special needs, and extended-care programs.

Prekindergarten Programs
Prekindergarten programs have been established in some states for 4-year-old children who have language or cognitive delays. Prekindergarten children are usually from low-income homes and sometimes from homes where the primary language is not English, and they attend programs that emphasize learning experiences to develop the language and concepts needed for later success in school.

Bilingual and English as a Second Language Programs
Many children who enter early childhood programs speak a language other than English. It is estimated that there are 22 million children in public elementary school whose home language is not English (Genishi, 2002). These children are served by bilingual programs or English as a second language (ESL) programs. The English programs are also referred to as English for speakers of other languages (ESOL) programs. Young speakers learning English in addition to their home language are considered English language learners (ELLs) (Lake, & Pappamihel, 2003).

Bilingual programs include instruction in both English and the child’s home language. ESL and ESOL programs focus on English in both language and other instruction. There has traditionally been disagreement as to which method is preferred or more successful (Zehr, 2004); nevertheless, bilingual programs were ended in California in 1998. In other states, bilingual programs have also been eliminated or restricted. ESL and ESOL programs are the preferred practice in many school districts that ELLs attend.

Programs for Children with Special Needs
Children who are falling behind in achievement in the elementary grades can receive supplementary instruction through a federally funded program titled Chapter I (formerly Title I) and other federal programs. Children who are not demonstrating adequate achievement in mathematics and reading receive additional instruction beyond that provided by the regular classroom teacher.

Children with special needs are also served in preschool classes. At-risk preschool children can be served in programs funded by Chapter I funds. Children are also screened and identified for early childhood special education programs for early intervention that can begin at age 3 for children with disabilities. Following the development of an Individualized Education Plan (IEP) for each child, the special education teacher and classroom teacher conduct the program with other specialists to optimize the child’s potential to learn and develop skills to compensate for the disability (Wolery, 1994).

Extended-Care Programs
Many schools are now implementing extended care before and after classes for students needing child care during out-of-school hours (Education Commission of the States, 2003). These programs can be developed and conducted by school-based personnel or by a community agency that works in a cooperative manner with the school district. Parents can enroll their child in the program; the fees they pay support the payment of program expenses.

Nonpublic School Programs
Parochial and private schools frequently have preschool programs. The starting age may be about 3 years old, and the program may have a class for 3-, 4-, and 5-year-olds for a few hours each day. Other programs are called nursery schools or mother’s-day-out programs and are not offered every day. Preschool programs can also be offered by a local college or university and be labeled as a laboratory school or child development center.
Head Start

Head Start is a publicly funded program. Developed in the 1960s for intervention with at-risk minority and low-income children, it is a comprehensive program that addresses the educational, nutritional, and social needs of such children. It can be associated with public school districts or conducted as a separate program through a community agency. The large number of children served by Head Start has increased in recent years. In 1993, 36% of at-risk children had been served. An increase of $550 million for Head Start in fiscal year 1994 enabled tens of thousands of children to be added to the Head Start program (Children’s Defense Fund, 1994). In 1999, over 800,000 children were being served by Head Start programs, representing about 50% of the children who were eligible (Children’s Defense Fund, 2000).

In 2003, the Head Start program faced new challenges when President Bush announced that in the fall of 2003, all Head Start students would be given a national standardized skills assessment. The assessment was to be used to determine which Head Start programs needed more guidance (McMaken, 2003). This policy raised immediate concerns among early childhood educators. Early childhood experts had proposed for decades that it is difficult to accurately assess very young children and that such assessments should not be used to make decisions about programs or young children (Shepard, Kagan, & Wurtz, 1998).

The new assessment system, the National Reporting System, was implemented despite a letter signed by 300 professionals who questioned the quality and developmental appropriateness of the assessment. Further, the limited nature of the assessment to assess only cognitive skills was questioned (McMaken, 2003; Meisels & Atkins-Burnett, 2004; Raver & Zigler, 2004).

Congress also worked on reauthorization of the Head Start program that would provide additional changes. Higher teacher credentials and more collaboration between Head Start and state-financed prekindergarten programs would be required (Committee on Education and the Workforce, 2003; Jacobson, 2005).
Child Care

Child care has grown to become a major industry in the United States as a result of the rising numbers of working mothers. In 1987, 52% of mothers of children under age 5 were employed, compared with only 14% in 1950. By 2004, as mentioned earlier, 65% of mothers with children under age 6 were in the labor force (Education Commission of the States, 2004). With many children needing care while their mothers work, there are various types of settings that provide child care.

Family child care is characterized by child care provided in an individual home. The provider cares for a small number of children and has adapted the home to accommodate the children who come to the home each day. In contrast, center-based child care involves a setting that serves larger numbers of children, usually divided by age-groups. The children are assigned to classrooms for their age level, and the room is equipped for the programmatic and developmental needs that are characteristic for that age.

Child care centers are established in various community contexts. Centers that are conducted as businesses may range from a single center to a chain of more than 100 centers. Child care is also provided at church settings. The church sponsors the child care program or leases the facilities to an individual or group during the week. Employer-sponsored child care is also a growing service (Magid, 1989). Large companies or corporations may build a center or negotiate with an existing center to serve the children of their employees. Another option is for a cluster of companies, such as a group located in an industrial park, to collectively sponsor a center that provides care to children of workers in the sponsoring companies (O’Neil & Foster, 2000). Hospitals frequently offer child care facilities for employees’ children but may also provide service for chronically ill children in the community.

employer-sponsored care may or may not be provided at a reduced rate for employees. Convenience of location may be the primary consideration for the parent. Federally supported child care, in contrast, funds child care for low-income parents and assists them in obtaining job training or employment that will allow them to become wage earners rather than continue as welfare recipients. In 1993, the Child Care and Development Block Grant was passed, which had a positive effect on the availability of quality child care for low-income parents (Children’s Defense Fund, 1994). Although care for infants and preschool children while parents work is the primary service provided by child care centers, educational programs are also conducted.

Continuing Complexity in Preschool Programs

It must be obvious to the reader by now that it is a difficult task to describe early childhood programs in neat categories. In reality, over time, programs have had to modify and provide additional services to adapt to the changing needs of families. Public schools are accepting preschool children and are offering child care, and child care centers are strengthening their instructional programs. Private preschools are also extending their programs to include child care. The field is becoming comprehensive, and the various components are no longer able to function as separate entities (Bowman et al., 2000). Both education and care must be adequate in all programs.

Growing numbers of children are in programs that are part of public education. An estimated 1 million prekindergarten children were enrolled in public schools in 1999 (Clifford, Early, & Hills, 1999). Forty-two states served approximately 725,000 prekindergarten children in 1998–1999 (Schulman, Blank, & Ewen, 1999). The prekindergarten programs included voluntary prekindergarten, special education prekindergarten, Head Start, Even Start, and prekindergarten programs for 260,000 at-risk children funded by Title I funds (Hinkle, 2000).

A major concern about early childhood programs is the variation in quality among program options. Many programs do not have sufficient quality because of underfinancing, inadequate teacher pay (which leads to a high turnover rate), inadequate regulation, and uncoordinated training mechanisms (Kagan &
Neuman, 1997). Major efforts are being made to improve the disparities in quality. The Quality 2000 Initiative resulted in the publication of Years of Promise: A Comprehensive Learning Strategy for America's Children (Carnegie Corporation of New York, 1996). A similar project conducted by the U.S. Department of Education resulted in the report Eager to Learn: Educating Our Preschoolers (Bowman et al., 2000). Both publications provide recommendations for program improvement that include program quality, child outcomes, curriculum, parent involvement, assessment, professional development, credentialing of teachers, program licensing, and development of program standards by individual states.

Because there are various types of early childhood settings and because early childhood programs vary within a community, between communities, and among different areas of the nation, early childhood teachers work under diverse circumstances. How teachers in early childhood programs design and implement curriculum and instruction in their own program setting depends on their unique backgrounds and experiences and the way in which their individual teaching styles fit into the particular environment where they work with young children. The early childhood teacher seeking employment will want to be aware of the different possibilities that are available in the community. In addition, the teacher entering the profession will want to be aware of the philosophy and approach being used in the early childhood setting where employment is sought to determine what type of a program is in place or being developed. Many teachers feel that they have no choice, that they must take whatever teaching opportunity is available. If this is the case and the program is not appropriate, the teacher might work toward improving the situation or seek a better position in another setting. On the other hand, the teacher might have the opportunity to join a group of teachers who are in the process of restructuring their program and curriculum to be developmentally appropriate. Moreover, there are early childhood settings in many states that have been offering developmentally appropriate quality programs for many years. The teachers hired to join this type of setting have the advantage of being able to learn from fellow teachers.

THE CHANGING ROLE OF THE TEACHER IN DEVELOPING CURRICULUM FOR EARLY CHILDHOOD PROGRAMS

It is clear that many challenges face tomorrow's teachers of young children in the early childhood years. Gone are the days when young children could be perceived as coming from similar homes and family backgrounds. Gone are the days when curriculum and instruction for young children could be designed from a commercial program prepared by a specialist in some distant city. No longer can the teacher be concerned only with the instructional program when working with a classroom of young children. The teachers of tomorrow will develop educational programs for diverse populations of students. They will acknowledge and appreciate student differences and involve their families in the program. A major challenge will be to learn how to design a curriculum that is appropriate for all young children and compatible with their development and interests as well as their unique needs. Development of high-quality programs for young children will include design of a curriculum that is dynamic, child centered, and responsive to the diverse populations that are represented in each classroom.

The Role of the Teacher in Developing Curriculum for Diverse Populations

Every classroom of small children is diverse. No matter what the background of the children, even if their circumstances seem to be similar, their individual families are different, with varied family routines, rituals, and observances. If the children come from more varied ethnic groups and cultures, the diversity will be more pronounced. These and other considerations are kept in mind when preparing learning experiences in the early childhood classroom.
BRIGHT BEGINNINGS

The Bright Beginnings Initiative is a literacy rich program that serves 2000 students in 25 locations in the Charlotte-Mecklenburg School District in North Carolina. The goal of the initiative is to ensure that 85 percent of students in the district from all racial and economic backgrounds read at or above grade level by third grade.

The Bright Beginnings Program and Double Oaks Pre-Kindergarten and Family Resource Center serves 400 children and is also an example of how different types of early childhood programs and agencies can work together to provide a high quality pre-kindergarten program for at risk children. In addition to the Bright Beginnings program, the Even Start/Family Independence Initiative and a family resource center are housed at Double Oaks. Other community groups that participate or support the Bright Beginnings Initiative include the Charlotte Speech and Hearing and United Way, Head Start, Mecklenburg County Health Department, and Smart Start. Two churches, Myers Park Methodist Church, and St. Gabriel’s Catholic Church, donate funds for the Learning Gallery at the center.

Although it is not possible to describe all of the programs and services that take place at Double Oaks, the Bright Beginnings Initiative has shown some initial positive results. The 1997–98 class performed consistently better on the kindergarten assessment conducted at the end of the school year than a similar group of children who did not participate in Bright Beginnings.

Source: U.S. Department of Education Community Update, 80, 6-7 (2000).

Multicultural Curriculum

There is now an emphasis on a multicultural curriculum in early childhood programs in recognition of the diversity of young children. One focus of a multicultural curriculum has been to study different cultures around the world; a social studies curriculum might include the study of, for instance, an African culture, the Eskimos, or the culture in a South American country. The definition of multicultural curriculum intended here is more specific to the developmental needs of young children in the early childhood years.

The multicultural curriculum reflects the cultural representation within the group of children in a particular classroom (Diaz-Scro, 1999). Topics studied incorporate the unique reflections of those topics in the child’s family. If foods are being studied, family recipes can represent the multicultural makeup of the classroom. The multicultural curriculum celebrates the contributions of the cultures of children who are learning together at a particular time in their lives (Au & Kawakami, 1991).

Curriculum for Children from Diverse Family Environments

Earlier in the chapter, the complex diversity of family environments in which children live was discussed. Children come to early childhood programs from all types of housing arrangements and family structures. Their parents represent many kinds of employment or lack thereof. Some of the children come from very secure family lifestyles, whereas others are experiencing stress that can originate from many causes. Although children from every socioeconomic group can come from stressful home environments, children living at the poverty level are more likely to be affected by multiple sources of stress. Teachers of young children need to be sensitive to how the program designed for these children demonstrates awareness of their
needs and provides continuity and support when needed. The curriculum for social development is particularly relevant when accommodating differences in family environments.

**Curriculum for Children with Special Needs**

Although public school programs are most likely to serve children with special needs within a preschool or primary-grade program, other early childhood settings also serve children with disabilities or other types of exceptionalities. The teacher of young children not only needs to be aware of the adaptations that must be made to accommodate a child with special needs in the classroom environment but also must consider how learning experiences can be prepared to include the child's special learning needs. Children with ADHD may work better in small- rather than large-group activities. Children with limited vision will need to have visual activities modified to take advantage of their best avenue for exploring the environment. Each child with special needs will have individual strengths and requirements that will be factors in how the teacher and other students can assist him or her.

**The Role of the Teacher in Involving Parents in Curriculum Development**

As discussed earlier in the chapter, various factors are causing changes in family lifestyles and structures. Many of the changes have put families under stress. Teachers in early childhood programs must be more perceptive and sensitive to the needs young children may bring to school that reflect possibly stressful family circumstances. Therefore, teachers will want to know and involve parents and families in their programs (Carnegie Corporation of New York, 1996). Changes in family lifestyles require that different types of programs be available to fit individual family requirements. Cooperation between program and family will be necessary if the unique needs of individual family circumstances are to be fulfilled (Bowman et al., 2000; Hinkle, 2000).

There are more important reasons for involving parents in the early childhood program. The extensive research conducted on intervention programs for young children in recent decades has revealed that parent involvement is an essential factor in successful programs. The majority of parents of young children are employed, and they need information on how they can help their children. They also may need help in understanding how important their role is for the child's success in development and learning (Boyer, 1989). Parents may need training in parenting skills or help in seeking assistance for themselves or their children. Supportive partnership relationships among the teachers, other early childhood program staff members, and the family are important ingredients in the development of a successful program to better serve the child (Carnegie Corporation of New York, 1996; Kagan & Neuman, 1997).

Parents can also make a very important contribution to the school. In addition to assisting the teacher or staff within possible time limitations, parents can give valuable input to the development of the school curriculum. Parents can serve as resources for learning experiences and share their interests and skills with teachers and children. They can provide needed assistance to the teacher in organizing materials and other resources for the instructional program. Parents can help teachers understand their interests and goals for their child's development and learning while serving as a source of support for the teacher in developing the best possible program for the child (McCormick, 1990).

**The Role of Teachers in Addressing Conflicts Between Theory and Practice in Curriculum Development**

Early childhood teachers face new conflicts in the 21st century. Early childhood programs today are moving toward a comprehensive overlapping system as educators seek to develop quality programs that are responsive to changing family needs. The task of developing quality programs is complex. The teacher not only must plan the program for all types of children but also must understand the contributions of research to the development of quality program models and the relationships between theory and practice in program planning.
Research on how young children develop and learn has come into conflict with legislated policies that have implications for early childhood classrooms. The NCLB passed in 2001 required states to develop standards and tests to measure by 2003 (Internet Education Exchange; U.S. Department of Education, 2001). A testing conflict occurred with the provision that each state could set its own standards and design its own tests. Thus, states could set different standards and manipulate those standards to minimize the number of low-performing schools.

The added emphasis on testing and increased testing is contrary to best practices for young children. In addition, although the NCLB does not mandate testing, the new Head Start policies and the National Reporting System test require using a standardized test with 4- and 5-year-olds (Meisels & Atkins-Burnett, 2004; Raver & Zigler, 2004). In addition, although the NCLB does not require students to be tested until third grade, curriculum in kindergarten and the primary grades is affected by the policies for an accountable education system (Hyun, 2003). Early childhood curriculum is also affected in that states and districts must set up “scientific, research-based reading programs for children in grades K–3” (Education Week on the Web, 2003). This issue will be discussed more fully in the chapters that address language arts curriculum.

Teachers of young children are groping to understand the implications of these conflicting approaches and will be working to resolve the resulting issues in the years to come. The purpose of this textbook is to help practicing and future teachers understand variables that influence the development of appropriate programs for young children. It is also intended to assist teachers and future teachers of young children in sorting out the issues and developing the knowledge and ability to develop quality instructional programs.

**SUMMARY**

We are just beginning to understand the challenges and opportunities that young children bring to early childhood programs. Because we are a nation of people whose origins are from many nations, we represent many cultures, ethnic groups, races, and languages. Children enter early childhood settings from families that also represent the full range of economic levels, from poverty to affluence. Their potential for learning is affected by their intellectual aptitude as well as other negative and positive conditions in the family. Their ability to fully participate in the program may be affected by physical handicaps. Children who have an individual or family situation that can be a deterring factor in their participation and learning in a program are said to be at risk. Some children have several risk factors in their lives that compound the possibility that they will later experience difficulty in school.

Because the early childhood years between birth and age 8 are very important in the formation of the child's potential for development and learning, early childhood programs can make a major difference in preventing or remediating a risk factor. Various early childhood programs located in public schools, private institutions, and community agencies provide services that aim to reduce risk factors for preschool and primary school children.

Growing numbers of preschool children, including infants, require weekday care while their parents are at work. Because of this growing need, various settings—ranging from family child care homes, for-profit child care centers, churches, and schools—are providing care to accommodate these young children in the preschool years. School-age children may need extended care before and after school until their parents are able to return home with them. The separation between caregiving and educational programs is diminishing as early childhood settings expand and adapt their programs to fit family requirements.

Teachers in these varied settings work with children in the same age ranges. Although the purpose for establishing their program originally may have been distinctly different from that for other programs, services and educational programs offered by early childhood settings now tend to be more similar because of the characteristics they share in meeting contemporary family needs. Teachers and caregivers in all settings will want to be perceptive to the positive and negative
factors that affect each young child and to what their roles should be in helping the child continue to develop and learn to his or her full potential.

This chapter discussed many variables that contribute to the diversity in young children. Indeed, the reader may come away with the impression that there is "something wrong" with almost every child who is in the early childhood years. That is not the case. A large percentage of children come from stable, happy homes and are in good health. Even if they have experienced divorce, economic downturn, or a health condition, they may exhibit no characteristics that indicate that they are having problems. Similarly, not all children from low-income homes exhibit limited potential as a result of the home environment. It would be equally unbalanced to give the impression that most young children in early childhood programs are similar to the precocious, well-adjusted children in family sitcoms on television. Nevertheless, it is important for those preparing for or engaged in the teaching and care of young children to be knowledgeable about and sensitive to the conditions in the young child's life to which they will respond in planning their instructional program. Teachers in early childhood programs have many challenges and opportunities when they work with the complexity of factors that affect each student.

Teachers in the future will have complex roles; moreover, they will be in partnership with the parents and other persons who may be serving and influencing the child's development and learning. They will be developing a curriculum for young children that will facilitate physical, social-emotional, and cognitive development and learning. They will be teaching the "whole child" in whichever early childhood setting they have chosen.

STUDY QUESTIONS

1. Why do teachers of young children need to get to know their students before they enter the early childhood program?

2. What kind of information can teachers obtain from the parents and their children that will help them in designing their instruction program?

3. Why do teachers of young children need to understand risk factors that can affect young children's success in elementary school?

4. What are the implications of cultural and ethnic differences in young students for planning the instructional program?

5. Family environments are changing because of social and economics factors. What are some of these changes, and how can young children be affected by them?

6. Why are young children who are born to teenage mothers likely to have more than one condition that puts them at risk during the preschool years?

7. How can it be that contemporary lifestyles are stressful in all types of families and at all income levels?

8. Why is the population of homeless children increasing? What are the effects of homelessness on young children?

9. How can inappropriate adult lifestyles negatively affect young children?

10. How are children most affected by the increasing violence in U.S. society?

11. How are early childhood programs especially helpful for children who are at risk academically or have some type of exceptionality?

12. Why are public schools expanding their programs for the preschool years?

13. Why will teachers of young children under age 8 need to continually learn about curriculum development for early childhood programs?

14. Why is ongoing communication with parents essential for teachers in early childhood programs?

15. How is the field of early childhood education both challenging and potentially exciting as we begin a new century?
CHAPTER TWO

Historical and Theoretical Bases for Appropriate Programs in Early Childhood Settings

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Describe the historical bases of different types of early childhood programs.
2. Explain six theories of development and be able to compare them.
3. Discuss how today's early childhood programs reflect their history and roots.
Chapter 1 discussed the diversity among the children who attend early childhood programs. Included was a discussion of the variety of early childhood programs available to serve the needs of the diverse population of young children. These programs of various types have a rich heritage and reflect the contributions of leaders in the field. They also represent the work of theorists who studied the course of child development and the nature of children’s learning.

In this chapter, we will review history and explore the people, trends, and movements that have shaped the field of early childhood education as it is today. In the sections that follow, we will first survey the historical roots of early childhood education. Then we will look at the history of early childhood programs for particular populations of young children. This task is difficult because public schools, child care settings, private preschools, programs for at-risk children, and programs for children with disabilities have histories that overlap and have similar influences. The history of early childhood education can be described as a fabric with many threads that form the whole. Each of the different components has a piece in the fabric formed by some threads. The sections that follow provide the historical roots of early childhood education in an overview of the field. Then we will trace individual components that include the evolution of programs for children whose development and learning are at risk and of programs for children with disabilities within their historical contexts.

HISTORICAL ROOTS OF EARLY CHILDHOOD EDUCATION

For many years after this country was first settled, there were no schools for older elementary-age children, much less for those who were of primary age and younger. The priority for education in the colonies in the 17th century before the American Revolution was to establish colleges and then academies that would prepare young men for university work. Harvard University was established in 1636, followed by William and Mary, Princeton, and others. Later, secondary schools were established. All early educational institutions were for white male students (Snyder, 1972).

Younger children were taught in the home. Children of the poor were trained through apprenticeships for a vocation or labored in factories, in mines, or on farms. It was not until the 19th century, after the Civil War, that public school systems were developed with access to education for all populations.

Dame schools were the first educational settings available for children in the early childhood years during the colonial period. A group of parents paid an unmarried or widowed woman to teach their children in her home. The children received instruction in reading and writing. The Bible was the common source for instruction. Girls were also taught household skills, whereas boys learned skills needed for farming (Bonn, 1976).

Rural Schools

Rural schools were established to provide education as the new nation expanded across the West and in the South during the 19th century. Based on the agricultural calendar, schools frequently were in session only during the winter months when weather prevented outdoor farm work. The Northwest Ordinances of 1784, 1785, and 1787 allowed public lands to be leased to benefit public schools. Students as young as 3 years and as old as those in late adolescence were served in one-room schoolhouses. Uneducated adults and older farmworkers frequently attended school when their work and the weather permitted. The closing of one-room schools occurred at the end of the 19th century as the country became urbanized and school districts were consolidated. Children younger than age 6 were gradually excluded from attendance in the rural schools (Gulliford, 1984).

Early Childhood Education in the One-Room School

In the mid-nineteenth century, the school year was divided into two terms. The typical summer term extended over five months, from May to August or September. The winter
term varied from state to state, depending on local planting and harvesting times; it generally began after harvest in November and continued until just before spring plowing, usually around early April. After 1900 the school year was standardized into one nine-month term, beginning in September and ending in May.

The ages of the students varied considerably. Before the Civil War, children in rural areas were sent to school at the age of three or four, partly to get them out of the house and partly because parents believed that the school was an extension of the family and, therefore, the proper place for children. In Ohio between 1845 and 1864, children of three or four began learning how to spell. Older girls and boys would watch over their younger brothers and sisters. By observing the other students in the classroom, the four-year-olds learned basic skills. (Gulliford, 1984, p. 47)

The Evolution of Early Childhood Education

The history of early childhood education in this country reflects influences dating to the 18th century in Europe. In the Middle Ages, children did not have a childhood as we perceive it today. Children worked alongside their parents at a very early age to provide food and clothing needed for survival. It was not until Jean-Jacques Rousseau wrote the novel Emile (1811) that the development of the child was considered a separate stage in life. Rousseau’s belief in nature and in the child’s right to the period called childhood had a great impact on education. Rousseau believed in a natural approach to educating children that would permit growth without interference and restrictions.

Johann Pestalozzi, a Swiss educator, is considered the first early childhood teacher. Influenced by Rousseau’s perceptions of children and childhood, Pestalozzi established several schools for poor and orphaned children (Braun & Edwards, 1972).

The German educator Friedrich Froebel was in turn influenced by Pestalozzi. He visited Pestalozzi’s school in Yverdon occasionally. Although he was unable to understand clearly what Pestalozzi was trying to achieve, he was able to develop his own philosophy of how children should learn, and he used his ideas to establish the first school with an organized curriculum for preschool children. Froebel created the Kindergarten, or “child garden,” because he believed that his classes were gardens for children rather than schoolrooms. He believed that part of each day should be spent in play; the rest of the day
was spent on a teacher-directed curriculum based on what Froebel called gifts and occupations. Gifts were to be handled by the child to achieve a sense of reality, whereas occupations were used to train the eye, hand, and mind. Examples of gifts were yarn balls of bright colors. One occupation was weaving using strips of paper (Braun & Edwards, 1972).

In the United States, the kindergarten movement marked the introduction of the first program designed specifically for children younger than age 6. It was brought to this country by one of Froebel’s students, Mrs. Carl Schurz, who began a kindergarten in her own home in Watertown, Wisconsin, in 1855 (Snyder, 1972). The first kindergartens were private and organized for children whose parents could afford to pay tuition, but as the kindergarten movement became more popular, kindergartens for poor children were established in settlement houses, churches, and wherever an advocate could find a space where a kindergarten could be opened (Weber, 1969). Kindergartens soon became affiliated with public schools. In 1873, the first public school kindergarten was established in the St. Louis public schools by Superintendent William T. Harris and Susan Blow, a leader in the kindergarten movement. Gradually, as more kindergartens were absorbed into the public school system, private and philanthropic kindergartens were discontinued. The kindergarten program itself changed as students of the child-study movement clashed with traditionalists who felt that Froebel’s methods must be maintained without any change. Leaders of the new field of psychology and of the child-study movement that evolved after 1890 taught new information about child development and the purposes of education; this information influenced teachers to reconsider how young children should be taught (Braun & Edwards, 1972; Weber, 1969).

Although the history of early childhood education in the 20th century reflected the contributions of American psychologists and educators, European influences continued. Rousseau viewed the child as a competent, self-initiated learner and the teacher as a facilitator. His awareness of developmental stages and stage-related learning and views of the child informed later approaches to early childhood education.

Pestalozzi promoted the importance of the parents in the child’s learning. He saw the child’s moral, physical, and intellectual development as the purpose of his work. He trained older children to tutor young children and taught them how to use variations in teaching strategies with their younger peers. Pestalozzi himself used direct instructions, modeling, and advance organizers in his teaching strategies—strategies that have reappeared in more current theories and approaches to teaching (Williams, 1999).

In fact, many of the approaches and innovations of the 20th century were influenced by Europeans such as Pestalozzi, Froebel, Rousseau and others from the 18th and 19th centuries as well as Piaget and Vygotsky in the 20th century. Moreover, many of the values and beliefs in how young children should be treated had a permanent influence on the view of children in the United States that still affects our advocacy for children in American society.

Susan Blow and Changes in the Kindergarten Movement

The kindergarten movement was very popular in the United States and Canada. As the numbers of kindergarten teachers grew, they began meeting as a part of National Education Association conferences each year. In 1892 the International Kindergarten Union (IKU) was organized as a separate organization in Sarasota Springs, New York. The IKU was later to become the Association for Childhood Education International (ACEI). In the early years of the new organization, Froebelian methods were generally accepted by the membership. Nevertheless, advocates of the child-study movement soon began to question the traditionalists at IKU meetings. Susan Blow was one of the Froebelians who argued to retain Froebel’s methods in American kindergartens. In 1898, heated arguments were presented by conference participants for both sides. According to accounts of the meeting, Susan Blow was the most popular speaker, as reported by the press:

The breeziest greeting of the day was that given to Miss Susan E. Blow. . . . She was armed to mow down some
The Progressive Era

During the 1920s and 1930s, which were considered to be a part of the Progressive Era in education, educational leaders and psychologists used their work in child study to propose teaching methods for preschools and elementary schools. Whereas early public schools in the 19th century had stressed reading, writing, and mathematics skills with an emphasis on rote learning, new leaders such as John Dewey, Alice Temple, Patty Smith Hill, Francis Parker, and William Heard Kilpatrick proposed that schooling for young children should be more child centered and meaningful. John Dewey proposed that the classroom should be a miniature community where children could engage in purposeful learning related to the society in which they lived. The child-centered curriculum proposed by progressive educators included study through projects and preparation for life as adults. Children took responsibility for their learning, and teachers involved them in instructional planning.

Patty Smith Hill's Legacy for the Kindergarten

If Susan Blow was a staunch defender of the traditional kindergarten following Froebelian methods, Patty Smith Hill had a major role in the development of the kindergarten model that persisted from the Progressive Era until the civil rights era in the 1960s. She taught for many years at Columbia Teacher's College, where Blow was also a professor. Hill, however, was influenced by John Dewey's philosophy of education and Edward Thorndike's interest and research in measurement and learning. Throughout her tenure at Teacher's College, Hill pursued her interest in improving the kindergarten by experimenting and by studying young children in the classroom. At the same time that Teacher's College led the way in teacher training in the United States, Hill was recognized as a major leader in kindergarten education. She published extensively on kindergarten curriculum and programs, and her influence in kindergarten classrooms has a lengthy history. If Froebel was the father of kindergarten, Hill was the mother of the Progressive kindergarten in the United States (Snyder, 1972).
Readiness Test (Ilg & Ames, 1972), designed to assess individual development, was also used to determine if children were ready to enter the first grade. The test was not appropriate for use as a predictor of success in school (Shepard & Graue, 1993). More about Gesell's work is discussed later in this chapter.

### The Nature of Arnold Gesell's Norms of Development

Gesell's major scientific effort related to the establishment of norms of behavior. He wrote of the Yale Clinic, "The major research is directed toward a normative charting of behavior development," with the direct purpose of developing "norms of growth."

No one asked the important question of the nature of the population utilized for the derivation of norms. The population of children studied at the Yale Clinic was of "high average or superior intelligence" and came from homes of "good or high socio-economic status." Essentially, Gesell used children of adults in the academic community. (Weber, 1970, pp. 14–15)

### Nursery School and Child Care Movements

Other sources also influenced early childhood education in the early decades of the 19th century. The nursery school movement that originated in England with the work of the McMillan sisters was adopted in the United States; nursery schools were established in this country as part of the child-study movement. Such schools had been developed to improve health and nutrition for preschool children from families living in poverty in England; thus, they were similar to the day nurseries developed in this country for custodial care that were later to become child care programs.

The child care movement dates back to the middle of the 19th century. The early years of child care in a group setting cannot be separated from other early childhood programs because of the overlap in programs. Philanthropic, religious, and organizational groups who were concerned about immigrant, orphaned, or neglected children became known as "child savers" because they established programs to save poor children through parent training, playground development, nursery schools, and day nurseries. Often these programs resided in the same buildings as kindergartens. Frequently, children attended more than one program each day (Cremin, 1980).

By the 1930s, philanthropic schools were declining in number. Conversely, the child care movement continued to expand as poor families needed somewhere to place children during the Great Depression years. The advent of World War II saw a continuation of the need for child care as women worked in the war effort (Wortham, 2002).

### A Broader View of Child Care

The myth of the full-time American mother as the eternal model does not fit the complex realities of the past any more than it does the practices of the present, and many of the options that exist today have had previous incarnations in only slightly different form. For example, colonial apprenticeship was to a large extent male child care, part of a little-known tradition of men as nurturers. It was also an early form of foster care, particularly for poor young children whose families could not provide for them.

On the plantation, slave children too young to work in the fields were dropped off in the morning to be looked after in groups, a situation oddly suggestive of today's day care for the children of working mothers. Wealthy white children, with their legendary mummies, evoke a long legacy of shared mothering with more than one woman at the center of the picture. (Youcha, 1995, p. 13)

### The Influence of Maria Montessori

Dr. Maria Montessori, a leader in early childhood education in Italy, also influenced educators in the United States. Dr. Montessori was the first woman to earn a degree in medicine in Italy. In 1907, she was invited to start a school in a slum in Rome. Montessori believed in training of the senses. The curriculum she designed for preschool children from low-income
households included activities that were developed for the sense of touch as well as for thermal, visual, and auditory senses. Her materials were didactic and interesting as well as educational when used over and over and self-correcting. Although Montessori's approach to early education was not received well in the 1920s, when it was first introduced in the United States, her method became popular in private and parochial schools after 1950. Her sensorial materials were later adapted by special education teachers to facilitate the learning of children with disabilities (Braun & Edwards, 1972).

Urbanization of Public Schools

Urbanization of public schools after 1900 brought other changes as well. As small school districts consolidated and urban schools became larger, the graded school came into being. Although rural schools had teachers who taught whatever levels were needed by the students, consolidated schools and graded schools focused on one age or grade. With the advent of standardized, commercially produced curriculum designed for graded elementary schools, teachers were trained for grade-level teaching, with expectations of what the children should be able to accomplish in a particular grade.

Beginning with the early years when kindergartens became part of primary schools, there were differences between the philosophies and teaching approaches held by kindergarten teachers and elementary school teachers. The source of their training was different, as was their approach to the needs of their students. Although kindergarten teachers had a tradition of Froebelian training that was later influenced and modified by training in child development, primary-grade teachers were the product of teachers' colleges and normal schools, where the emphasis in teacher preparation was in teaching methodology. The differences continued until recent decades, as universities and colleges maintained separate programs for child development and public elementary school training. Kindergarten teachers have had, and continue to have, a mixed identity, as they are part of both levels of education (Granucci, 1990).

A Period of Innovation: The 1950s and 1960s

The 1950s and 1960s brought a new group of psychologists and educators whose work focused on the importance of the early years of childhood for later development and learning. Benjamin Bloom, Jean Piaget, J. McVicker Hunt, and Jerome Bruner were some of the leaders of the period who emphasized the significance of the early years in child development. Bloom (1964) found that the first 5 years were the most rapid period of development and the most significant in determining the course of further development. He believed that deprivation during the preschool years could have serious consequences for both cognitive and affective development. Jean Piaget also believed that the nature of the experiences provided a child during the early years could make a difference in the child's intellectual development. Piaget proposed that the child constructed knowledge through active interaction with the environment. The child proceeds through stages of cognitive development as an active initiator of learning, and responses to information depend on the level of understanding at that stage of development (McCarthy & Houston, 1980; Santrock, 2002). Hunt (1961) further supported Piaget's proposal of the role of experience during the early years. He questioned the notion of fixed intelligence and suggested that early experiences were important for the development of intelligence. Quality encounters with the environment during the early years make a higher adult level of intellectual capacity possible.

Bruner was also concerned with the development of cognition. Like Piaget, he believed that there were transitions in a child's intellectual development. For Bruner, the child first represented knowledge using visual imagery, or "iconic representation," to more abstract "symbolic representation." He was also influenced by Lev Vygotsky in that he believed that culture plays a central role in cognition and that school is a cultural setting for learning. He emphasized the importance of language in mediating learning, again similar to Vygotsky's view of the importance of language in cognitive development (Anglin, 1973).
In the 1960s, federal intervention programs, intended to enhance learning for children from deprived environments, brought a new emphasis to the importance of the early childhood years. Projects such as Head Start, Follow Through, and Home Start, programs funded for migrant and bilingual children, and programs for children with special needs all had research components. Projects involved experimentation into theories of learning and development of innovative approaches to curriculum and instruction. Although early evaluation reports of the Head Start program were disappointing when measuring long-term intellectual gain, longitudinal studies found positive outcomes for students who had been in Head Start compared with their peers who had not been enrolled in the program (Berrueta-Clement, Schweinhart, Barrett, Epstein, & Weikart, 1984). The instructional materials and teaching methods developed in these projects in the 1960s were used in early childhood programs, particularly public school programs, in the 1970s. Younger children were also served in public school settings when federal programs funded school districts to establish classrooms for migrant children as young as age 4. Preschool children who were at risk for inadequate achievement in the primary grades—including children with disabilities and other special needs—were served in early intervention and compensatory programs.

Developers of policy and curriculum in elementary education also reacted to the national revolution in education sparked by the Cold War and the launching of Sputnik by the Soviets. In an effort to improve public education, there was an emphasis on mathematics and science in the curriculum. At the same time, federal funding for children who were considered “disadvantaged” brought new expectations for teachers to teach according to students’ individual needs. In the 1970s, innovations in instruction, many of which were federally funded, were available to schools to explore new models and teaching strategies. The Open Classroom, Individually Guided Education, and Competency-Based Instruction were a few of the instructional innovations used in elementary schools. The Open Classroom was based on the concept of open education borrowed from the British educational system. Instruction was child centered, with the teacher serving in the role of instructional facilitator. Learning centers were used in elementary classrooms. In addition, new schools were designed without interior walls to provide large, open learning areas where teachers and students from multiple classrooms learned together.

Individually Guided Education was a process of individualized instruction that used a team of teachers to plan and implement instruction based on individually paced instruction. Teams of teachers often worked in an open environment, although it was not a requirement of the process. Competency-Based Instruction also was a form of individually paced education. It was based on specific learning objectives, and progress through the curriculum was based on mastery of the sequenced objectives.

In spite of the influx of information and curriculum methods and materials brought into the public schools from federally funded programs, differences in philosophy and methodology continued to exist between programs for children under age 6 and programs for children in the primary grades. Such differences had an impact on how problems in implementing school reform were addressed in the 1980s and 1990s.

The Evolution of Early Childhood Programs for Populations at Risk

In the preceding section that addressed the historical routes of early childhood education, information was given on how intervention programs were initiated in the 1960s and 1970s to address the special learning needs of children who were at risk for failure in public school. At-risk populations included children from poverty homes, children from homes where a language other than English was spoken, and children who had disabling conditions. Federally funded programs were implemented to provide compensatory and intervention programs for at-risk children. Compensatory programs were supplementary to the regular instruction provided in the public schools. They were intended to give children from disadvantaged environments extra help in their educational program. Intervention programs, to the contrary, were designed to serve children.
with disabilities or who were at risk for developing a disability. Intervention programs were and are intended to make a difference in the child’s developmental outcome. A series of legislative acts in the 1960s first funded these programs to address the needs of infants and young children who were at risk for learning as a result of a variety of conditions and circumstances. Some of the infant programs that resulted from this legislation are described in Chapter 5. Before the 1960s, efforts to address the needs of young children in at-risk populations were minimal and extremely limited.

Concerns for the successful education of children from at-risk populations emerged slowly. From the early years of educational efforts in this country, it was recognized that children of the poor deserved the support of those with more advantages in life. Thus, programs were established by philanthropists for urban children living in poverty who were too young to go to school. Conversely, children of the poor also labored for long hours in dangerous occupations until compulsory education laws finally were enacted and enforced and the Fair Labor Standards Act passed in 1938 ended child labor. In addition, before the 1950s and 1960s, little attention was paid to differences in school achievement between poor and minority children and their middle-class peers (Wortham, 2002).

**African American Education**

Children from minority populations were likely to be at risk for learning because of poverty, but they had the additional misfortune to attend separate and lower-quality schools than their white peers. Until segregation was abolished during the civil rights era, African American and many Hispanic children attended segregated schools.

Before the Civil War, there were schools in both the North and South for African American children, particularly before the Revolutionary War. After that war and until after the Civil War, teaching of African American children was forbidden by law (Farmer,
1976). After the Civil War, southern whites opposed the establishment of schools for African American children. In the early 1900s, segregated schools were legalized, and it was not until after World War II that these conditions of inferior schooling changed.

**Latino Education**

Children of Latino families suffered a similar fate in attending separate and inferior schools before the 1960s. Although their education was not segregated by law, they attended neighborhood schools where all of the children were Mexican American. Fewer financial resources were directed toward these schools.

**Native American Education**

Native American children also attended separate schools. Their schooling was under the jurisdiction of the U.S. government. During the 19th century, one-room schoolhouses on the reservations were run by missionaries. A system of boarding schools away from the reservations was also established by the end of the 19th century. These children were forced to leave their homes and culture and adopt different names and wear different clothing in an effort to acculturate them to mainstream American life (Scappino, 1976).

**Minority Education During the Depression and War Years**

The decades of the 1930s and 1940s were particularly difficult for minority children. During the Depression years, Native American children lived in poverty as a result of broken treaties that left Native American families with severe economic problems. More positively, the federal government changed its policy of trying to integrate Native American children into American society and focused on preserving their languages, arts, and heritage. However, Native American children still attended separate schools, and little attention was given to improving their education until the civil rights movement in the 1960s and 1970s.

During World War II, Japanese American children living on the West Coast were relocated into internment camps because of the fear that Japanese Americans would assist the Japanese effort in the war. Of the approximately 112,000 Japanese Americans relocated, more than 30,000 were children under age 15. There were no plans for schooling the children, and although schools were established by 1942, they were makeshift arrangements with no school furniture, materials, supplies, or books and few qualified teachers (Wishon & Spangler, 1990).

Hispanic families became migrant workers during the Depression and war years, traveling from one region of the United States to another to engage in the planting and harvesting of agricultural crops. Poorly educated and hampered by language difficulties, the migrant labor way of life minimized young children’s opportunities for education. Living conditions were primitive, and children worked alongside their parents in the fields. Although efforts were made after World War II to improve living conditions and education for migrant worker families, their problems continued. Mechanization of crop harvesting increasingly minimized working opportunities after the 1940s (Wortham, 2002).

**Early Childhood Programs for Children with Disabilities**

The first efforts to provide programs for children with disabilities came much earlier than those for other at-risk populations. In 1898, at the convention of the National Education Association, Alexander Graham Bell proposed that programs for students with disabilities be established in the public schools. In fact, the earliest programs were in separate institutions. Thomas Gallaudet, a teacher, established the American Asylum for the Deaf in West Hartford, Connecticut, in 1817 after visiting a school for the deaf in Paris. In 1826, the New England Asylum for the Blind in Boston was established after Dr. John D. Fisher persuaded the Massachusetts state legislature to appropriate funds for the institution. Later, in 1871, a day school for students with severe hearing impairments was also established in Boston, followed by a class for mentally retarded children in Providence, Rhode Island, in 1896. Four years later, a school for children with physical disabilities was established in Chicago.
A public school teacher, Elizabeth Farrell, initiated the first public school program for children with disabilities in New York City. She demonstrated how these children should be taught as individuals and according to their disabilities. She organized an ungraded class and later initiated classes for younger children. In 1922, she organized the Council for Exceptional Children (Gross & Gross, 1976).

The early efforts to serve children with disabilities were predominantly through residential schools. As more was learned about the potential of these children, institutional programs were found to be inadequate. A combination of raised expectations for children with disabilities and concerns about abuse and neglect in residential schools led to the conviction that children with disabilities would benefit from higher-quality education. Thus, when in the 1960s and 1970s, the segregation of minority children was seen as illegal and unequal, children with disabilities were also included in the efforts to provide equal education for all children (Cremin, 1988). The programs funded during those two decades included intervention and compensatory categories of programs.

Intervention and Compensatory Programs in the 1960s and 1970s

With the advent of the civil rights movement, many efforts were made to improve education for children at risk for difficulties in school. At the preschool level, Project Head Start began as a summer program in 1965, and it was soon expanded into a yearlong program. It included appropriate learning experiences for children, health care, meals, and parent education. It was joined by a migrant program to serve children whose parents migrated each year following the harvesting of crops across the United States, a Home Start program that extended early education and parental participation into the home, and a variety of other programs with similar purposes (McCarthy & Houston, 1980).

Kindergarten and primary-grade programs were also affected by compensatory programs such as the migrant programs. The Bilingual Education Act (1974) was funded to comply with a court-mandated ruling that school districts must establish special language programs for non-English-speaking children. The Elementary and Secondary Education Act of 1965 also provided funding to assist schools in the education of poor children.

At the same time that programs to serve children's individual needs were being funded and implemented, concerns arose about labeling children and putting them into special programs. With compensatory programs, the concern was that the supplementary instruction was replacing regular instruction rather than being used as a resource for special assistance. There was also a major concern about putting children into special education programs. Large numbers of children were being channeled into special education programs because of difficulties they were experiencing in the regular classroom rather than because of an identified disability. Biases in categorizing children as needing special education services resulted in large numbers of African American and Hispanic children being relegated to special education programs. Jane Mercer (1973) and Christine Sleeter (1986) researched and reported about poor and minority children who were trapped in special education programs, a practice that continues today (King, Chipman, & Cruz-Janzen, 1994).

The growing conviction that the separation and isolation of children with disabilities was inappropriate and that they would do better if they were educated alongside their peers led to the passage of the Education of All Handicapped Children Act of 1975 (PL 94-142). The act mandated that handicapped students be mainstreamed as much as possible with their nondisabled peers. Schools were required to screen, diagnose, and plan for the individual needs of each student (Deiner, 1993). More recently, inclusion has been initiated whereby students—with support from special education personnel—are assigned to the classroom where they would have been placed if they had not had a disability.

From these beginnings in the 1960s and 1970s, early childhood programs were established, expanded, and modified over the years to provide compensatory and intervention services to children beginning in the early childhood years. Studies of the programs
documented their effectiveness in leading to more positive developmental outcomes for young children. Guralnick (1989) reported that intervention programs within the first 3 years of life may be significantly effective, while Hanson and Lynch (1989) proposed from their research that early intervention may remediate a primary handicap or prevent the development of a secondary handicap.

Studies of Head Start and early childhood special education programs demonstrated their effectiveness. One research finding was that children who attended Head Start might have improved developmental status (Lazar & Darlington, 1982) and that children who attended preschool programs were less likely to need special education services later and were less likely to become delinquent (Barrett & Escobar, 1990; Schweinhart, Barnes, & Weikart, 1985). Today, preschool and elementary school children may attend Head Start, prekindergarten, kindergarten, early childhood special education, bilingual, and migrant programs. Continual evaluation of these programs leads to revisions in policies and practices to further improve the outcomes for young children at risk.

THEORETICAL BASES OF DEVELOPMENT

As the field of child study has advanced, psychologists and philosophers have developed different theories on the nature of development and on the influence of such theories regarding how children develop and learn. Although some of these views have been important since the 1950s, other ideas were the result of the child-study movement or coincided with the establishment of child-study efforts around 1900.

Each of the theories involves a different way of approaching child development, and the conflict among theories has led to difficulties in developing the most appropriate model of instruction for children in early childhood programs. Maturational theory focuses on physical and intellectual development, whereas psychoanalytic and psychosocial theories are concerned with social and emotional, or personality, development. Behaviorist and social learning theories focus on intellectual and personality development. Cognitive-developmental theory is concerned with intellectual development and how it affects cognitive and social growth. Each of the theories has relevance for child development and learning; nevertheless, none offers a complete explanation for all aspects of development. More important, the various theories significantly affect how parents, caregivers, and teachers understand development and learning.

Maturational Theory

The early observations of children that were made in an effort to understand their development were led by G. Stanley Hall, who wrote an article titled "The Contents of Children's Minds" (1883). Observation of children and subsequent descriptions of babies and young children were expanded by many researchers; however, Arnold Gesell, a student of G. Stanley Hall, is credited with establishing norms for the ages at which behaviors emerged in young children, as described earlier in this chapter (Gesell & Ilg, 1946). Gesell, a physician, conducted his work at the Yale Clinic of Child Development. He collected data on the effects of maturation in children and subsequently explained development and learning based on his theory of maturation. Gesell believed that skills such as walking, talking, and learning to read occurred as a result of the individual child's biological timetable. Biological readiness, rather than any influence of experience, was the predominant factor in the child's ability to learn (Weber, 1984). Gesell's norms or average ages of attainment made him very influential in the 1920s through the 1940s.

Gesell's work on developmental norms by chronological age coincided with the urbanization of elementary schools in the first decades of the 20th century. As one-room schools with multiage classes gave way to consolidated schools with several classrooms for each grade level, curriculum became more centralized. Gesell's descriptions of children's maturity levels and readiness for learning at chronological ages informed curriculum developers on how to design curriculum
for different grade levels. In addition, some of the general principles of growth developed by Gesell remain important today. For example, Gesell described that growth proceeds from the head to the tail (cephalocaudal) and from the body to the extremities, such as the hands and feet (proximodistal).

While Gesell made important contributions to the field of early childhood education, his data on developmental norms may not be appropriate for application to the diversity of children today. Moreover, Piaget's cognitive developmental theory in later decades better described individual cognitive development than did chronological age. The role of the environment on cognitive development also was not addressed in Gesell's maturational theory.

Nevertheless, there is a continuing influence of maturational theory reflected in the unfortunate practice of evaluating a child's "readiness" for placement in kindergarten or first grade in elementary schools. This practice follows the belief that some children are ready for school while others lack the needed maturity (National Association of Early Childhood Specialists in State Departments of Education, 2000).

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**Jolene**

Jolene is 6 years old. She is the fifth child in her family. Her mother and father both work at a vegetable canning factory. Work is not steady throughout the year, and there are times when the family must go on welfare until they are rehired. Jolene has been cared for by a neighbor who has other neighborhood children in her care. She is not licensed, and the number of children in her care changes frequently. She provides toys for the children and has a swing set outside that was purchased for her own children. The children are entertained most of the day with television.

When Jolene was enrolled in school, she was evaluated using a readiness test. In addition, a teacher talked with Jolene and engaged her in some activities. She found that Jolene does not know her alphabet and has limited ability in language. The two first-grade teachers are concerned about Jolene's placement, but they do not agree on whether she should be placed in kindergarten or first grade. One of the teachers believes that since Jolene has not attended kindergarten, that is the correct placement. She believes that Jolene is not ready for first grade. The other teacher disagrees. She pointed out that Jolene's limitations are due to a lack of experiences and not because Jolene is incapable of learning with her peers. She notes that placing Jolene in kindergarten places her a year behind her peers. Is the situation an issue of readiness or one of a lack of opportunity? Is the solution to place Jolene in kindergarten or to provide a learning environment that will facilitate her development and learning at the first-grade level?

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**Psychoanalytic Theory**

The Austrian physician Sigmund Freud was investigating social and personality development in the early part of the 20th century. Freud believed that sexual energy is the force that influences children's behavior and that children progress through a series of psychosexual stages. In his psychoanalytic theory, Freud (1923) proposed that personality development is composed of the instincts of id, ego, and superego and that these three components control the child's innate drives to release sexual energy through oral gratification, warmth, love, pleasurable body sensations, and elimination of body wastes. If the child's instincts are not under- or overgratified by parents, the child will progress normally through oral, anal, phallic, latency, and genital stages (Morrison, 1988; Santrock, 2002).

**Psychosocial Theory**

Erik Erikson, a student of Freud, developed his theory of psychosocial development based on Freud's work. Erikson (1963) proposed that the child's personality development is strongly determined by social contexts such as the family and school and that the individual's interactions with environmental influences within eight life stages create his or her personality.

Erikson believed that the individual's adaptation at each developmental stage determines personality growth. The resolution of the conflict at each stage determines the course of personality development. In
each stage it is necessary to positively resolve the life crisis at that stage if the next stage is to be resolved successfully. In the early childhood years, the child progresses through the stages of trust versus mistrust, autonomy versus shame and doubt, initiative versus guilt, and industry versus inferiority. Psychosocial theory helps parents and teachers understand young children’s emotional and social needs and how adults can support positive outcomes in the child’s development. Figure 2.1 lists Erikson’s stages of psychosocial development in the early childhood years and describes important adult behaviors that affect the child’s resolution of each stage.

Hyperactivity: ADHD or a Factor of Emotional Development?

A group of kindergarten and primary-grade teachers are discussing the children in their classrooms. It is the first month of school, and the teachers are comparing notes.

<table>
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<tr>
<th>STAGE</th>
<th>AGE</th>
<th>CHARACTERISTICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Trust versus mistrust</td>
<td>Birth to 18 months</td>
<td>If the infant’s needs are met by loving, dependable adults, trust is developed. If adults fail to meet the infant’s needs, mistrust develops.</td>
</tr>
<tr>
<td>2. Autonomy versus shame and doubt</td>
<td>18 months to 3 and a half years</td>
<td>If the child is allowed to explore and develop a sense of self as an individual, autonomy develops. If parents are rigid, severe in toilet training, and impatient, the child will develop a sense of shame and doubt.</td>
</tr>
<tr>
<td>3. Initiative versus guilt</td>
<td>3 and a half to 6 years</td>
<td>Physical and mental abilities expand. If the child is encouraged to explore and parents encourage sociodramatic play and imaginative thought, the child will develop initiative. If parents are restrictive and punitive, the child will develop a sense of guilt.</td>
</tr>
<tr>
<td>4. Industry versus inferiority</td>
<td>6 to 12 years</td>
<td>Achievement becomes important. If adults help the child find learning and achievement rewarding, the child develops a sense of industry. If the child does not experience success in achievement, a sense of inferiority develops.</td>
</tr>
</tbody>
</table>

FIGURE 2.1 Erikson’s psychological stages of development in the early childhood years.
on the numbers of children they have who are hyperactive or who have adapted poorly to school routines. One teacher comments that the school has more children each year who are ADHD and require Ritalin so that they can function in the classroom. She wonders aloud what is going on that more children each year enter school who are unable to attend in class.

Some of the other teachers point out that there are other factors that are affecting these children. Some of the children come from homes where child abuse has been documented frequently. Others have single parents or might be living with grandparents because the parents are not able to care for them. Drug use is common in the neighborhood, as is alcoholism. The emotional status of these children is in question.

The principal asks the teachers to review what they understand to be the emotional needs of young children in the preschool years. Is it possible that many of these children are exhibiting emotional needs in their inability to participate appropriately in the classroom? Is medication the answer to the restlessness and inappropriate behavior of all of these children?

Behaviorist Theory

Behaviorist theory stemmed from the work of Ivan Pavlov, the Russian physiologist who determined that animals could learn new physiological responses to the environment through stimuli. Pavlov used the process of conditioning to teach a dog to salivate at the sound of a bell by ringing the bell each time food was offered. Because the dog salivated each time the food was offered, it became conditioned to salivate each time the bell rang, even when food was no longer offered (Santrock, 2002).

Later behaviorists applied the so-called S-R (stimulus-response) theory to children and their development. For current behaviorists, the critical factors in growth and development are the environment and the opportunity to learn. Learning is continuous, results from the reward system in the environment, and is unrelated to ages and stages. The direction of behavior is shaped through control of the learning environment and the individual's experiences (Morrison, 1988).

Through B. F. Skinner's work (1953), behaviorist theory was applied to parenting and schooling. Skinner proposed that if the environment is arranged to facilitate the desired behavior and expectations are set for that behavior, then the child will be influenced to use the appropriate behavior. Adult rewards for appropriate behavior will strengthen or condition the behavior. According to Skinner, because all behavior is learned, it can be shaped or modified. Strategies for behavior modification are based on reinforcement.

When appropriate behaviors are rewarded, the behavior is reinforced, and chances that the behavior will be repeated are increased. Punishment is used to discourage the recurrence of an undesirable behavior. However, punishment affects unwanted behaviors only temporarily and should be used infrequently. Parents and teachers of young children have found the concept of positive reinforcement especially helpful in managing behavior. Praising the young child for an appropriate behavior is more effective than inadvertently reinforcing a behavior that the adult wants the child to stop using. For example, if a parent buys a toy in the grocery store to stop his two preschoolers from fighting, he may find himself faced with inappropriate behavior the next time the children are shopping with him. The children have learned that the parent will reward them for misbehaving. Likewise, the teacher who picks up and holds the toddler who is disturbing story time has reinforced the unwanted behavior by singling out the child for attention. Parents and teachers find that unwanted behavior is best ignored whenever possible and that appropriate behavior should be strengthened through positive reinforcement.

Social Learning Theory

More recently, behavioral theorists have expanded the nature of learning to include imitation and observation. Social learning theorists such as Albert Bandura (Bandura & Walters, 1963) believe that many behaviors are not learned through shaping but develop through the individual's reactions to and interpretations of situations. The same stimulus or
situation will elicit different responses depending on the individual's interpretation of the event. Verbal instruction, plus the individual's observations within a social context, affect that individual's expectations, abilities, and other inner qualities used to determine his response. Thus, a child who observes another child being punished for an inappropriate behavior can learn the appropriate response. Likewise, the child can learn a new behavior by imitating another child who is using the behavior correctly.

Terry and Julio

Terry and Julio are playing in the manipulative center in the class for 3-year-olds. Julio cannot manage to string large colored beads on a shoelace. A teacher notices Julio's difficulty and comes over to show him how to hold the string and push a bead over the end of the shoelace. Terry, who has been working on a puzzle, watches the teacher showing Julio how to string beads. He puts the puzzle away and gets another shoestring. Watching Julio intently, he attempts to put beads on the string. After losing several beads, he finally gets one on and pushes it to the end of the shoelace. He now attempts to duplicate the pattern of colored beads that Julio has placed on his shoestring.

Cognitive-Developmental Theory/Constructivism

Jean Piaget

The cognitive-developmental view of development has had a major influence on the understanding of how children acquire and use knowledge. Jean Piaget's work has extended our understanding of how cognition develops. Piaget's (1963) studies of cognition led him to propose that children have different levels of understanding at different ages. Further, and more important, according to cognitive-developmental theory, the child has an active role in development. Unlike maturation theory, which proposes that biological readiness controls the ability to learn, or behaviorist theory, which suggests that the environment shapes behavior and learning, cognitive-developmental theory holds that the child's interaction with the environment and cognitive organization of experiences result in intelligence. The emphasis of this theory is on the child's thought processes when learning is occurring. The child's knowledge is constructed gradually as continued experiences permit an expanded understanding of the information encountered.

Piaget proposed that children pass through a fixed sequence of stages in cognitive development. Within each stage, both the quantity of information and the quality of knowledge increase.

Piaget believed that knowledge is acquired and changes over time when the child takes in new information through assimilation and by incorporating or accommodating the new information into the existing knowledge structure called a scheme. The schemes are organized mental patterns that represent behaviors and actions. For infants, schemes are very concrete, whereas for older children, the schemes become more sophisticated and abstract. Through the process of assimilation and accommodation, the child not only acquires new knowledge but also reorganizes existing knowledge. The child is constructing knowledge; therefore, Piaget's theory is also called an constructivist approach to development. As the child progresses through stages of development, cognitive styles of organizing and structuring knowledge change. The child's mode or quality of thinking is different in each stage.

In the early childhood years, the child moves through the sensorimotor and preoperational stages of development. The sensorimotor stage begins at birth and continues until about 18 months. The infant acquires information by acting on the environment using physical actions and the senses. In the preoperational stage of development, a major milestone is the ability to use symbolic thinking. The child is able to use symbolism to have one object represent another. Later, the child is able to symbolize at a more abstract level. In this stage, the child is controlled by perception. For example, a young child might believe that a cloud is alive because it can move through the sky.

According to cognitive-developmental theorists, the early childhood years end when the child moves from the preoperational to the concrete operational stage of
<table>
<thead>
<tr>
<th>STAGE</th>
<th>AGE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensorimotor</td>
<td>Birth to 18 months</td>
<td>The infant acquires knowledge through physical actions. Understanding is constructed by coordinating sensory experiences and physical actions.</td>
</tr>
<tr>
<td>Preoperational</td>
<td>2 to 7 years</td>
<td>The young child acquires and represents knowledge through symbolic actions such as speaking words. The child is able to use symbolic thinking that is also intuitive. Understanding is controlled by perception.</td>
</tr>
<tr>
<td>Concrete operational</td>
<td>7 to 11 years</td>
<td>The child is able to acquire knowledge symbolically and logically. The child reasons logically about concrete events. Logical thinking replaces intuitive thought as long as the concrete objects or events are present.</td>
</tr>
</tbody>
</table>

FIGURE 2.2  Piaget's stages of cognitive development in the early childhood years.

development. In the concrete operational stage, the child is able to use logical thinking and can learn using symbols, such as in learning to read (Weber, 1984). Figure 2.2 describes the sensorimotor, preoperational, and concrete operational stages of development.

While Piaget's work was perhaps the most significant in helping us understand intellectual growth, there are questions about the specifics of his theory. Some cognitive skills emerge earlier than Piaget described; in addition, evidence has shown that the emergence of some skills is on a different timetable in some non-Western cultures. Other concerns focus on information that some individuals never achieve the stage of formal operations (Rogoff & Chavajay, 1995).

**Lev Vygotsky**

The work of Lev Vygotsky, a Russian psychologist, is called the Vygotskian approach. It is also classified as constructivist because Vygotsky, like Piaget, also believed that children construct knowledge. He died at the young age of 38 from tuberculosis but published extensively before his death. American psychologists became aware of his work when his book *Thought and Language* (1952) was translated into English in 1962.

Whereas Piaget proposed that children construct knowledge from interaction with the environment, Vygotsky believed that social interaction plays a significant role in learning. For Vygotsky, both physical and social interaction are necessary for development. The adult plays an important role as social mediator; moreover, the teacher must identify what the child actually understands. The social environment includes the child's family, school, community, culture—all the social contexts that are reached by the child. Cultural differences affect the way the child thinks, as do the structures of the individual family. Vygotsky took the importance of the child's context a step further to
include the child’s cultural and individual history. The child shares mental processes within the social context and learns by sharing experiences through interacting with others. The child learns by sharing activities with others first, followed by individual experiences (Vygotsky, 1978).

Also in contrast with Piaget, Vygotsky believed that learning leads development. While Piaget proposed that the child’s level of thought and stage of development control mental abilities, Vygotsky argued that learning must occur for development to advance. The child’s developmental level must be considered, but accumulation of learning facilitates development.

Vygotsky conceptualized the relationship between learning and development through his zone of proximal development. He believed that development is a continuum of behaviors. The development of behavior has two levels: what the child can perform independently (independent performance) and the level that the child can achieve with help (assisted performance). The zone of proximal development describes the continuum between assisted performance and independent performance. Assisted performance includes the help of the adult or peer. The teacher assists the child’s acquisition of independent behavior by helping the child directly or indirectly. As the child makes progress in achieving at the independent level, the zone of proximal development also moves higher (Bodrova & Leong, 1998). The behaviors that the teacher uses to assist the child to support learning and development are termed scaffolding. The teacher provides instruction, materials in the environment, and other experiences to support the child and enable the child to acquire competencies and continue to move to new competencies (Berk & Winsler, 1995).

**EARLY CHILDHOOD CURRICULUM PRACTICES TODAY: HISTORICAL INFLUENCES REVISITED**

The field of early childhood education reflects its history. Beginning with Rousseau and Pestalozzi through periods of later influence, early childhood education as a field has maintained and yet modified all the advances that have fashioned what it is today (Lanser & McDonnell, 1991). Although the curriculum practices at a private preschool or Montessori school may be very different from those at a public school or child care center, early childhood education encompasses all those contributions of programmatic approaches to the field. The history of early childhood education curriculum practices can be thought of as cumulative. Teachers in early childhood programs are more likely to take an eclectic approach to instruction whereby the methods and materials used reflect the many positive influences in this history of such education.

The history of public school curriculum practices can be represented as more of a pendulum. During different periods, teaching practices have reflected trends of the time, and some of those trends have been extremely different. Early public schools stressed reading, writing, and mathematics skills with an emphasis on rote learning. Later, John Dewey’s influence resulted in a more child-centered approach (Dewey, 1899). Children were to take responsibility for their learning, and teachers were to involve them in instructional planning. This trend came to be called progressive education, and it increased in popularity in the 1930s and 1940s at all levels of public education.

The 1960s and 1970s were a period of innovation and experimentation in schooling as educators attempted to improve educational achievement for diverse populations of children. The federal government funded intervention and compensatory education projects targeted at improved achievement for children who were at risk for learning.

By the 1980s, the pendulum was again moving to more traditional teaching methods. With the loss of federal funding and a downturn in national economics and Scholastic Aptitude Test (SAT) scores, a new reform movement sometimes called “back to basics” was embraced on a national level. Some states and school districts implemented any of a variety of measures—including tighter academic standards, elimination of social promotion, increased retention in grades, and an emphasis on the instruction of basic skills to be measured by standardized tests—to
solve some of the problems that were thought to be caused by lax instructional methods and a lack of rigor in the curriculum. Whole-class instruction (rather than instruction geared to the individual student) based on state-mandated curriculum objectives was the trend in some states.

In the 1980s and 1990s, an interest emerged in moving to all-day kindergartens; however, part of the movement was based on teaching basic skills to better prepare children for elementary school and required standardized tests. The purpose for expanding kindergartens and using a more formal curriculum was to accelerate academic achievement.

The reaction against this movement by early childhood education specialists was strong. Declaring that those who advocated that academic achievement could be accelerated failed to understand how cognitive development affects learning, a countermovement supporting “developmentally appropriate” curriculum emerged. The widely discussed and widely used term “developmentally appropriate practices” (DAP) was proposed in a position paper and subsequent publications by the National Association for the Education of Young Children (NAEYC) (Bredekamp, 1987).

Even as DAP gained recognition and popularity in the 1990s, it too was challenged as being too focused on white, middle-class children. As awareness of cultural and ethnic differences became more prevalent in early childhood programs, DAP was challenged as not being responsive to all children. Moreover, the issues of inclusion arising from the enrollment of children with disabilities into regular classrooms brought new conflicts concerning the use of DAP (Williams, 1999).

At the end of the 20th century, these issues evolved into new approaches to early childhood curriculum. The leaders of this movement, known as “early childhood reconceptualists,” are concerned with the role of play in the curriculum, inequities in curriculum in meeting the needs of children from diverse backgrounds and with diverse abilities, and lack of access for all children to some early childhood settings (Malory & New, 1994; Williams, 1999).

In the latter half of the 1990s, the NAEYC revised its position statement and guidelines for DAP (Bredekamp & Copple, 1997). Although the revisions did address some of the original concerns, much work remains to be done to ensure that all children receive an early childhood education that is both developmentally and individually appropriate.

The Expanding Role of Early Childhood Education

In the 21st century, early childhood education is in a period when attention is again being focused on the importance of the early years, a focus that is coming from different sources. A positive result is that the renewed emphasis is enhancing possibilities for better funding and program improvement.

The accumulating body of evidence that high-quality early childhood programs have long-term positive effects for children from poverty homes has been one factor in new interest in preschool programs. At the same time, there has been a renewed concern that many children are not achieving at an acceptable level in elementary school. Quality early childhood programs are viewed as having promise for better preparing children for formal schooling. However, the increased testing for accountability of learning in elementary schools as a result of the No Child Left Behind Act (NCLB) is also being extended into Head Start programs. In 2003, President Bush required that the quality of achievement in Head Start programs be measured by a new standardized test. The focus of the test on reading and mathematic skills underscored a new emphasis on academic learning and away from DAP and constructivist learning (Meisels & Atkin-Burnett, 2004; Raver & Zigler, 2004).

Parental Interest in Learning in the Early Childhood Years

Parents are becoming increasingly interested in their children’s opportunity for learning in the preschool years. Parents are aware that the early childhood years are important for their children’s academic achievement. More parents are buying books on parenting and child development to acquire information on what kinds of experiences they should provide for
FATHER LOVE.

The widely held cultural construction of fatherhood in America—especially prior to the 1970s—has two standards. Historically, the first strand asserted that fathers are ineffective, often incompetent, and maybe even biologically unsuited to the job of child-rearing. ... The second strand asserted that fathers’ influence on child development is unimportant, or at the very most peripheral or indirect. ... Because researchers internalized these cultural beliefs as their own personal beliefs, fathers were essentially ignored by mainstream behavioral science until late in the 20th century. The 1970s through the 1990s, however, have seen a revolution in recognizing fathers and the influence of their love on child development. ... The net effect of these influences has been to draw attention to the fact that father love sometimes explains a unique, independent portion of the variation in specific child outcomes, over and above the portion explained by mother love. In fact, a few recent studies suggest that father love is the sole significant predictor of specific outcomes, after removing the influence of mother love. (Rohner, 1998, p. 158)

As more parents are placing their children in child care during the day by necessity or by choice, parental concern extends to the educational program offered by caregiving centers (Gullo, 1990; Kagan, 1989). Although child care was once thought of as a service for the poor so that mothers could seek employment, today all types of parents seek quality caregiving programs for their babies and preschool children. Parents want choices. Parents have different needs for caregiving programs. They want child care centers to be affordable, convenient, and easy to choose, and they want them to reflect their own values and child-rearing practices.

Expansion of Child Care

Providers in the child care industry are becoming aware of the importance of quality programming as a part of caregiving. The term “day care” is rapidly being abandoned by centers as they seek to be identified as facilities with a good educational program for young children. Terms such as nurseries, school, and discovery or creative are increasingly used as part of the name of child care centers. People involved in child care are now aware that when parents look for a center, convenience is not their sole priority. They look for cleanliness, characteristics of the staff, the quality of materials available to the children, and the type of learning activities that are used with the children.

The child care industry is expanding because of the increasing numbers of children needing care. In fact, the number of children needing care is overwhelming the care that is available. By 1999, it was estimated that 13 million children under age 6 spend some time each day in the care of someone other than their parents (Children’s Defense Fund, 2000; McMullen, 1999).

In addition to availability of child care, a major concern is the quality of child care programs. Abundant research has demonstrated that quality care is very important, particularly for children from low-income homes. Studies have demonstrated that children who attend quality child care programs prior to entry in elementary school receive long-lasting benefits in school achievement. Moreover, children also
benefit from participating in quality after-school programs (Children’s Defense Fund, 2000; Frank Porter Graham Child Development Center, 1999).

Unfortunately, the reality is that the quality of a majority of settings is poor or inadequate. The quality of some settings jeopardizes children’s healthy development (Carnegie Corporation of New York, 1994; Galinsky, Howes, Kantor, & Shinn, 1994). In addition, the cost of quality child care is beyond the means of many families. Because they cannot afford to send their children to a quality program, parents of modest or moderate means have to send their children to less expensive and often lower-quality child care centers.

The federal government became more aware of the need for expanded and improved care in the early 1990s. In 1991, the Child Care and Development Block Grant was approved and funded by Congress to provide states with new money to subsidize child care for low-income families (Children’s Defense Fund, 1991). The 2000 federal budget provided for continued funding of the Child Care and Development Block Grant at $1.82 billion, while the Social Services Block Grant (Title XX), which states use to support child care, was cut from $1.9 billion to $1.775 billion (Children’s Defense Fund, 2000).

Public schools are a growing resource for children needing care before and after school. Hymes (1990) reported that in 1989, 17% of the public school districts in this country offered some form of child care or allowed child care groups to use school buildings for that purpose. In 1999, 1.7 million children were attending some type of after-school program that included public school programs, community center programs, church programs, and child care center programs.

Child care is part of the early childhood program system in this country. As caregiving institutions increase their perception that they are a part of the field of early childhood education, many will continue to improve their programming to maintain a respected position in the field. Evidence of this trend can be found in the growing numbers of child care centers seeking national accreditation through the NAEYC. The Department of Education has more global goals for improvement of programs for preschool children to include children in child care programs as reflected in the National Research Council’s report Eager To Learn: Educating Our Preschoolers (Bowman, Donovan, & Burns, 2000). The goal for all preschool programs, including child care programs, is to improve the quality of education for young children.

Expansion of Preschool Programs in Public Schools

In recent years, public schools have expanded many of their preschool early childhood intervention programs. One major expansion has been in prekindergarten programs for 4-year-old children at risk for low achievement in the elementary grades. In 1979, only 7 states had appropriated funds for preschool programs, but by 1989, 31 states had appropriated funds for state-initiated programs. In 1999, only 9 states had no state-initiated prekindergarten initiatives, while the remaining 41 states had a total of 38 preschool programs (Children’s Defense Fund, 2000).

Federal funding has broadened support for early childhood and early intervention programs. The Elementary and Secondary School Improvement Act of 1988 reauthorizing Chapter I funds created Even Start, a joint parent–child education program. The purposes of Even Start were to improve adult literacy and offer early childhood education to children between 1 and 7 years of age. In addition, Chapter I funding expanded the migrant program to include 3- and 4-year-olds.

The services to children with disabilities and special needs that were initiated with PL 94-142 in the 1970s were joined in the 1980s by extended services mandated by PL 99-457 to infants and toddlers and their families (Kagan, 1989). PL 94-142, the Individuals with Disabilities Act, guaranteed all children with disabilities the right to an appropriate education in a free public school and placement in the least restrictive learning environment. Because this law required that preschool programs be provided for children under the age of 6, both public schools and Head Start programs initiated revised preschool programs to include children with disabilities.
Preschool programs for children with disabilities were further expanded under PL 99-457 that authorized two new programs: the Federal Preschool Program and the Early Intervention Program. Under this new law, states had to prove that they are meeting the needs of all children with disabilities if they wish to receive federal funds. The Federal Preschool Program also extends the rights of children with disabilities to children between the ages of 3 and 5. Although children could be served in various types of settings under these laws, school districts provide many of the services in preschool classrooms.

The Americans with Disabilities Act (ADA) passed in 1990 (Stein, 1993), and the amendments to PL 94-142 have had an additional impact on the education of young children with disabilities. Under the ADA, all early childhood programs must be prepared to serve children with special needs. Facilities and accommodations for young children, including outdoor play environments, must be designed, constructed, and altered appropriately to meet the needs of young children with disabilities. The cumulative effect of these laws has advanced the civil rights of children with disabilities and resulted in the inclusion of young children in preschool and school-age programs. As a result, early childhood programs must use inclusion, whereby all children learn together with the goal that the individual needs of all children will be met (Wolery & Wilbers, 1994).

As the field of early childhood education continues to extend and expand, programs for young children are beginning to overlap and merge. It is becoming obvious that the tradition of labeling types of early childhood programs is outdated. A new conceptualization of a comprehensive field of early childhood education that encompasses all types of programs is emerging (Kagan & Rivers, 1991). The NCLB has reinforced this trend with the requirement that Head Start programs must be coordinated with K–12 programs in public schools (Committee on Education and the Workforce, 2003; Jacobson, 2003). Before early childhood programs can address membership in an extended range of education, they must resolve problems within their own programs, particularly the programs serving children between the ages of 4 and 8. These age-groups, especially in public schools, are the subject of much concern because of current practices in instruction and policies of promotion and retention that are adversely affecting students. In the next chapter, we will study these issues and how they affect students, teachers, and parents.

**SUMMARY**

Early childhood education has a rich and varied history. Today's early childhood programs are equally varied and have historical ties with one another. Early childhood classrooms in each historical period have been affected by the social, economic, and political trends of the time. In addition, educational trends at the elementary and secondary levels have had an effect on early childhood programs as well.

Each historical period has had thinkers and leaders that have led the way. The roots of early childhood education can be traced back to Europe to Rousseau, Pestalozzi, and Froebel. Their influence traveled to this country, which had yet to establish its own leadership in the colonial period and early years of the new nation. As this country was settled and populations moved west, all levels of education had influences that were distinctly American. As public schools were established and improved, kindergartens and, later, preschool classes became part of public education. At the same time, child care became a field in early childhood education. Education for young children with disabilities was initiated before the turn of the 20th century. Programs for children who are at risk for difficulties in learning did not begin until the civil rights movement after World War II.

Early childhood education has not always been of the same quality for all young children. Children of African American and Latino parents attended schools that were separate from their Anglo peers until the 1960s. Children of Native Americans were educated within a separate system run by missionaries and the U.S. government until after World War II.
Historical and Theoretical Bases for Appropriate Programs in Early Childhood Settings

Early childhood education has evolved through cycles and trends. These periods have responded to the work of psychologists, results of child study research, and governmental legislation. Federal funding had an influence on nursery schools during the Great Depression in the 1930s, child care for mothers working in the war effort in the 1940s, and federal compensatory and intervention programs established to help children at risk because of disabilities or environmental factors in the 1960s and 1970s. Most recently, a back-to-basics movement resulted in a return to an academic approach to instruction that has been countered in early childhood education with a concern about programs that are more appropriate for the development of young children.

Today's early childhood programs reflect current trends and influences. Child care is an ever-growing field as more mothers enter the workplace. Public schools offer a variety of programs for children under age 6 to meet the needs of young children with different cultural and language backgrounds, different abilities, and different conceptual and language development levels. Attempts are being made to provide classrooms that will enhance the development and learning of young children to better prepare them for success in elementary and secondary education.

As was true in earlier periods, today's early childhood settings are influenced by an eclectic combination of theories and educational leaders. The wave of psychological theories that blossomed in the 1950s produced trends that inform today's settings. The names of Piaget, Bloom, Skinner, Erikson, Hunt, and Vygotsky—along with many others—are familiar to the early childhood educator. The theories that have been put into practice in each early childhood setting depend on the purpose of the program, the needs of the young children being served, and the instructional approach that is desired.

An overriding concern for all the programs is to provide quality experiences. A current concern is whether programs are appropriate for the child's developmental levels. Indicators of quality programs that are developmentally appropriate have been widely embraced in the field of early childhood education. The history of this source of influence and issues surrounding implementation of programs that are appropriate for young children are discussed in Chapter 3.

STUDY QUESTIONS

1. Children younger than 3 years of age were included in settings that served young children prior to 1900. Trace these settings and describe how the very young were included and served.
2. What types of educational programs were provided for one-room schools? What instructional approaches predominated?
3. Why did one-room schoolhouses close? What types of curricula and instruction were developed as the country urbanized and schooling became more centralized?
4. Who were the educational leaders who influenced early childhood education prior to 1900? What were their contributions?
5. Why did kindergartens become part of the public schools? What issues affected kindergarten programs as kindergarten teachers interacted with primary-grade teachers?
6. The child-study movement and progressive education movement gave direction to educational reform between 1900 and 1930. How did these two movements influence early childhood education?
7. When and how did group care of preschool children begin? Why has it continued to expand in recent decades?
8. Explain the difference between intervention and compensatory programs. What is the purpose of each, and who is served in each type of program?
9. How did the Head Start movement use the work of theorists? How have early childhood programs benefited from Head Start models?
10. Why were the decades of the 1960s and 1970s considered a period of innovation in
11. Who are the children considered to be at risk for delayed development and learning? Describe programs that serve at-risk children in the early childhood years.

12. How does the history of the education of minority children help us understand why the civil rights movement included reform in elementary education? How do programs implemented during the civil rights movement affect early childhood programs today?

13. What are some contributions that we gained from Arnold Gesell? What are some limitations of his maturational theory?

14. Why do teachers need to give as much importance to the emotional development of young children as to their cognitive development? What theorists inform our understanding of these domains of development?

15. How do Piaget and Vygotsky contribute to the constructivist approach to learning? How are they alike and different in their perception of how young children develop and learn?
CHAPTER THREE

The Need for Quality Programs in Early Childhood Education

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Discuss why it is difficult for all types of programs to achieve the same level of quality.
2. Describe why teacher preparation is an important factor in conducting quality programs.
3. Explain five principal characteristics of quality programs.
4. Understand how theories of learning and development inform quality programs.
5. Discuss and compare at least three examples of quality programs.
INTRODUCTION

In Chapter 2 a major topic was the many types of early childhood programs that are available for children. Also discussed was the growing trend for these many types of programs to overlap. For example, many Head Start programs are now housed in public schools, and it is becoming more common for public schools to offer before-school and after-school care to help working parents. The purpose of this chapter is to further explore the concept of early childhood education as one comprehensive program where all types of settings that serve young children are interrelated and share commonalities in quality of program. However, there are currently some challenges to establishing quality in all programs. Until these challenges are resolved, the issue of program quality cannot be satisfactorily addressed. We will also explore characteristics of quality programs and some current models that exhibit these characteristics.

Challenges to Quality in Early Childhood Programs

Differences in Training and Preparation

There are significant variations in requirements for teacher preparation among types of early childhood programs. Public school early childhood programs require teachers to have a college degree and some type of licensure as a minimum requirement for teaching. At the other extreme, some privately funded preschools and child care programs require nothing beyond a high school diploma to become a teacher. Now, with the emphasis on education as well as care, all teachers of preschool children need to have more preparation and training if quality is to be available in all types of early childhood settings. This is especially important now that all types of programs enroll children from diverse backgrounds and those who have disabilities or other special needs.

Differences in Sources and Levels of Funding

The types of funding available to early childhood settings is as varied as the settings themselves. Child care centers are funded primarily by parents. However, child care settings sponsored by religious institutions or corporations frequently subsidize fees paid by parents. In addition, there is now federal funding disseminated by the states to provide support for centers that serve low-income families.

Public schools receive funding from the local, state, and federal level, depending on the types of programs offered in the early childhood programs. Schools that have early childhood intervention programs, such as bilingual programs or prekindergarten programs for children with limited language and concept development or children with special needs, receive funding beyond the state level.

Head Start programs are entirely funded by the federal government. If they are associated with a public school, then the funding comes from the federal government, but the district might match federal funds by providing classroom and other in-kind resources for the program.

These differences in funding sources directly affect what resources are available to the programs. Child care centers that serve affluent parents can charge higher fees and are likely to have the highest-quality programs. Middle- and low-income families are less able to pay for care for their children. The resources available to centers who serve these children will be at a lower level. These centers are less likely to have the materials and equipment that are available at centers with more resources.

Differences in Teacher Salaries

The level of income the teacher earns in an early childhood program has a direct effect on the quality of the program. Programs that hire people with lower levels of education and pay minimum wages experience high rates of turnover in staff. The training provided to teachers who are poorly paid is not likely to be enough for them to remain at the center and gain the experience needed to become a knowledgeable teacher.

Settings such as public schools require the highest educational level to become a teacher. Moreover, they are likely to pay the highest salary for early childhood teachers. The result is that the programs with the highest expectation for teacher
preparation are likely to provide the most adequate level of income. This in turn means that the teachers are more likely to continue in their position and improve their teaching competencies.

Is the assumption to be made, then, that all public school programs are of a high quality and other types of settings are of a lower quality? Not at all. There are programs of high and low quality in all types of early childhood settings; nevertheless, these challenges in resources, training, and pay can have a major effect on whether the programs can provide the best kinds of experiences for young children. In the next part of this chapter we will look at what it means to have a program of high quality. We will explore some of the characteristics of a quality program that all early childhood settings should reflect in the 21st century and how theories of development contribute to quality in curriculum and instruction for young children. Finally, we will learn about some models of quality programs that we can draw from in developing a quality curriculum for young children.

**GOALS FOR QUALITY EARLY CHILDHOOD PROGRAMS**

As we begin a new century, we have many sources of information about quality programs for young children. The goals that we set for early childhood education are ambitious and will take time to achieve. Experts in the field have described many of the characteristics of a quality program. They have collaborated in several efforts to establish how quality programs can be characterized. The descriptions include components such as curriculum, teacher preparation and training, assessment and accountability, relationships with students and parents, knowledge of child development, access to adequate funding, and provisions for licensing of teachers and governance. In the following sections we will first discuss goals for funding, licensing, and governance. The different components of a quality program will follow.

**Staff Training, Licensing, and Funding**

**Licensing and Training**

An approach to bridging the differences in teacher training among early childhood programs is to establish different levels of training and licensing. Kagan and Neuman (1997) reported on the proposed types of training and licensing as developed in the Quality 2000 Initiative. In discussing early childhood caregiving settings, it was proposed that there be an associate educator license, educator license, and administrator license. The associate level would require at least a child development associate (CDA) credential with a practicum with children and certification in pediatric first aid. The educator's license would require an associate's or bachelor's degree in early childhood education or child development plus the practicum, certification in pediatric first aid, and demonstration of competency in working with children and families. The administrator's license would require at least a bachelor's or master's degree to include at least 15 hours in early childhood administration as well as the competencies required for the lower levels of credentialing.

The goal for improving program licensing would include national licensing guidelines that do not currently exist. In addition, licensing at the state level could be improved by eliminating the exemptions from regulations and enforcing the requirements for licensing. Another recommendation is to streamline the licensing of facilities (Kagan & Neuman, 1997).

If staff training and preparation are to be improved, it will be necessary for state licensing boards, colleges and community organizations, and other institutions that share in training to collaborate in redesigning curriculum to address early childhood content and pedagogy needed by all early childhood professionals.

**Program Funding**

If adequate funding is to be provided for all early childhood settings, new ideas for acquiring funding will have to be generated. Kagan and Neuman (1997) suggest that funding requirements to conduct quality programs will have to be established. Then options to increase funding at the federal and state level should be explored to include individual and
corporate income taxes, new sales and excise taxes, using school aid formulas such as those currently used for elementary education, and other strategies to raise funds. Public assistance for low-income families would be part of the mix.

Characteristics of Quality Programs

The features of a quality program stem from several components that include principles of child development; a balanced curriculum; relationships between parents, teachers, children, and the community; assessment and accountability; and consideration for diversity in children, families, and communities. These characteristics of quality programs will be discussed in this part of the chapter.

Principles of Child Development

One piece of a framework for a quality program is the understanding and application of how young children develop and learn. Curriculum and learning experiences should be based on principles of child development. Not only do teachers use knowledge of maturation and cognitive changes in young children, but continuously research, such as findings from brain research, should inform program planning (Bowman, 1999).

An understanding of child development also includes individual, cultural, and environmental differences in development. Children vary in the rate of development; moreover, personality differences and cultural expectations affect a child's developmental style. Quality programs attend to variations in development and make sure that learning opportunities are available for individual needs.

When Eduardo engages in social conversation with his peers and talks with his teacher, he uses English.

Mr. Sanchez, Eduardo's teacher, is perplexed as to how to help Eduardo. Is he having difficulty because he was mislabeled as a Spanish speaker in kindergarten? Did the preschool program fail to meet his needs? Another alternative is that Eduardo has delayed development in language and cognition and should be receiving special services. What should be the nature of curriculum designed for Eduardo?

Balanced Curriculum

A quality program includes experiences in all developmental domains. Curriculum addresses the whole child. To achieve balance, learning experiences include content in reading, mathematics, and science as well as physical activities, music, art, and drama. The balance in curriculum extends to the inclusion of skills in addition to expanding the child's understanding of the world. The child needs the opportunity to construct knowledge and apply knowledge in meaningful ways. The Committee on Early Childhood Pedagogy in preparing Eager to Learn (Bowman, Donovan, & Burns, 2000, p. 8) suggest the following elements for curriculum development:

- Teaching and learning will be most effective if they engage and build on children's existing understandings.
- Key concepts involved in each domain of preschool learning (e.g., representational systems in early literacy, difference between count numbers and fractions, causation in the physical world) must go hand in hand with information and skill acquisition.
- Metacognitive skill development allows children to learn more deliberatively. Curriculum that encourages children to reflect, predict, question, and hypothesize (Examples: How many there will be after two more are added? What happens next in the story? Will it sink or float?) set them on course for effective, engaged learning.

All types of teaching strategies are used within a balanced curriculum. There are opportunities for children

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Eduardo

Eduardo is in a second-grade classroom. He cannot read and has a very limited speaking vocabulary. When Eduardo entered kindergarten, he was administered a language test that suggested that his dominant language was Spanish. He was placed in a bilingual classroom where Spanish was the language of instruction. Eduardo made very little progress in kindergarten and first grade.
to initiate activities as well as teacher-initiated and directed activities. Children are also given opportunities to learn from each other and the environment.

**Parent, Teacher, and Child Relationships**

Quality programs initiate and support relationships with parents, their children, and the community. Parents can be effective partners in the child's education if there is regular communication and interaction between the school or center and the home. Programs can support parents and help them do a good job with their children; conversely, parents can provide valuable information and assistance to the early childhood program. The center can be a welcoming place for parents with resources and learning opportunities. The parents and community should be considered as equal participants in the program and engage in program governance (Bowman, 1999; Kagan & Neuman, 1997).

**Assessment and Accountability**

Quality programs use assessments carefully with young children. It is important for programs to be able to measure successful outcomes for both children and the program as a whole. How to achieve such assessment can be problematic. Program planners need to establish clear goals and desired results for both evaluation and accountability purposes as well as for program planning for groups and individual children. However, successful strategies that are appropriate for young children are difficult to develop.

Because children under age 6 are in a rapid, sporadic, and uneven course of development, assessment results, particularly those used with standardized tests, can misrepresent a child's learning. Moreover, the general dissatisfaction with standardized tests and the unclear quality of emerging performance assessments pose a challenge for early childhood programs. Quality programs use a variety of assessment approaches with preschool children to include teacher-designed assessments, observation, and judicious selection of standardized tests for specific purposes that will benefit the children and improve program planning (Bowman et al., 2000; Kagan & Neuman, 1997; Wortham, 2005a).

**Diversity in Children and Families**

A quality program provides opportunities for children and families to express their own cultural values and practices but also to learn about other cultures. The program helps children understand cultural similarities and differences. Children will need to use what they bring from their own cultures to become active learners in acquiring information in new cultures. This is particularly important when children and families need to become a part of a more mainstream culture at the center or school and the community at
large. They need to use what they already know to acquire new knowledge and skills (Bowman, 1999; Kagan & Neuman, 1997).

Ethics and Teacher Relationships

A quality program has educators who understand and use ethical conduct in their interactions with children, families, colleagues, and the community. Many of the daily decisions made by early childhood teachers require deliberations that are of a moral and ethical dilemma (Kidd, 1995). When making decisions about these problems, teachers must consider ethics in the solutions they use.

Teachers have ethical responsibilities to children. When issues arise concerning children in the classroom, the teacher must explore the circumstances, the children who are involved, and the best resolution for both individual children and all the children in the group (Freeman & Brown, 1996).

Teachers have ethical responsibilities to the families represented in their group of children. One ethical responsibility is to establish collaboration between the home and school to enhance the child’s welfare. Family issues should be addressed with impartiality, confidentiality, and professionalism (Freeman & Brown, 1996; Rodd & Clyde, 1991).

Teachers in quality programs show respect for the relationships with their colleagues. Care is used when issues about professional conduct arise (Feeney & Sysko, 1986). The ethical teacher who is also concerned with confidentiality does not discuss personal information about colleagues or private information about children and families.

Finally, the quality early childhood program extends ethics into responsibilities and relationships in the community. Violations of public policies, concerns about reporting possibilities of child neglect and abuse to public agencies, or inaction by community organizations to issues that are damaging to children are all part of ethical decisions made by early childhood educators (Feeney & Sysko, 1986; Rodd & Clyde, 1991).

Local early childhood settings, public school systems, and other educational programs may have a code of ethics. State educational agencies may require acceptance of a state code of ethics before a teacher can become certified. In early childhood education, the National Association for the Education of Young Children (NAEYC) has a Code of Ethical Conduct and Statement of Commitment (Feeney & Kipnis, 1998). The guidelines described in the code are based on core values.

The book Ethics and the Early Childhood Educator (Feeney & Freeman, 1995), published by the NAEYC, provides common issues and scenarios faced by early childhood educators and suggests processes educators can use to address problems ethically and fairly.

In 2003, the NAEYC proposed an addendum to its code of ethical conduct. The addendum focused on issues in grading, balancing multiple responsibilities, gaining access to the profession, insuring program quality, overseeing preschool settings, and ensuring workforce diversity (Freeman, Feeney, & Moravcik, 2003).

Core Values

Standards of ethical behavior in early childhood care and education are based on commitment to core values that are deeply rooted in the history of our field. We have committed ourselves to:

- Appreciating childhood as a unique and valuable stage of the human life cycle
- Basing our work with children on knowledge of child development
- Appreciating and supporting the close ties between the child and family
- Recognizing that children are best understood and supported in the context of family, culture, community, and society
- Respecting the dignity, worth, and uniqueness of each individual (child, family member, and colleague)
- Helping children and adults achieve their full potential in the context of relationships that are based on trust, respect, and positive regard (Feeney & Kipnis, 1998, xvii)
HOW CLASSICAL AND CONTEMPORARY THEORIES INFORM QUALITY EARLY CHILDHOOD PROGRAMS

We have just described some characteristics of a quality early childhood program. Now we will turn to the role of theories of development in organizing quality programs. To accomplish this, we need to design a comprehensive theory of development that includes both classical and contemporary theories. What, then, should be our theoretical basis for designing quality programs for young children? How shall we establish a theoretical foundation that includes variations in development that young children bring to early childhood programs? First, we will review the role of the classical theories of development discussed in Chapter 2. Then we will consider how other models of development can add to our quest for a more inclusive or comprehensive approach to understanding young children’s development and learning. We want to understand development in an expanded form that incorporates differences in development beyond the typical American perceptions.

Applying Classical Theories

Maturational Theory

This text is based on the development of young children; therefore, consideration of Arnold Gesell’s maturational theory and norms for development is important. Chapter 2 discussed the significance of the emergence of developmental behaviors on a chronological timetable and how Gesell described average ages for the child’s attainment of these behaviors. Educators need to understand the nature of chronological development (Gesell & Ilg, 1946). Nevertheless, Gesell’s norms are based on a very select population of children. Further, cultural and socioeconomic factors affect the developmental process or developmental expectations of young children. For example, study of preschool children enrolled in Reggio Emilia schools in Italy demonstrated that young children can engage in long-term projects with intense intellectual attention, contrary to the American notion that preschool children have short attention spans and must have frequent changes in activities. Likewise, in Japanese preschool classrooms, purposefully limited supplies and materials are used as strategies for cooperative behavior. This is in contrast to the Western view that young children’s egocentrism limits their ability to consider the interest of others and to work and play cooperatively (New, 1993, 1994).

Cognitive-Developmental Theory

Piaget’s notions of development and learning can be used to modify Gesell’s biological theory of development, which does not account for the effects of early experiences on the child’s development. For Piaget, cognition is not merely based on chronological ages but is focused on the child’s active attempts to make meaning of his or her world. From Piaget we also understand that the style of the child’s thinking changes as the child matures and develops individually through cognitive stages. The child’s active engagement in interaction with the world is responsible for his or her ability to construct knowledge. The perception of development gained from Piaget’s theory is centered in the child and the nature of the experiences that are available to the child. Hence, in descriptions of the learning process using Piaget’s cognitive-developmental theory, this process is frequently referred to as child centered.

Piaget’s cognitive-developmental theory did not address the cultural contexts of development or the influence of the child’s social environment. Vygotsky believed that the child’s construction of knowledge is influenced by past and present social interactions; it is socially mediated. He further proposed that some knowledge is spontaneously learned by the child, while other knowledge must be taught within the context of the school experience. Further, knowledge acquired at school depends on the teaching roles used by the teacher. The teacher uses a range of strategies to facilitate the child’s construction of knowledge (Bodrova & Leong, 1996).

Psychosocial Theory

An inclusive model of development includes the child’s emotional development. Through Erikson’s psychosocial theory of development, the child’s stages of socio-emotional development can be understood. And, through Erikson’s position that the child resolves those
stages positively or negatively, we can comprehend how some children vary in social and emotional development. Children's extreme variations in emotional development that are present in early childhood classrooms can be partially explained through Erikson's work.

**Behaviorist Theory**

How does our inclusive model of development recognize the developmental diversity of children with disabilities? How do we apply existing theories to children who have extremes of development outside the norms established by Gesell or the stages of development described by Piaget? For example, children with mental delay do not naturally acquire concepts and skills. They learn through teacher instruction and repeated practice and reinforcement. Likewise, children who have mobility impairments may not be able to explore their physical environment. They may not have the opportunity to experience how their body fits into space or to develop the physical skills described as norms for their chronological age. They may require environmental adaptations or planned activities to experience knowledge that other children can discover for themselves. For example, a toddler with mobility impairment does not explore a room from different perspectives like more mobile peers. Experiences of being under a table or climbing onto a sofa are not possible. Therefore, if the child is to learn perceptions of space, then caregivers must plan for those experiences.

Children with developmental limitations cannot always initiate their own learning. However, they too need a child-centered curriculum that the teacher or caregiver must plan to provide. The adult must have a directive role in planning and carrying out the activities that will enable the child to acquire skills and concepts.

It can be seen from the preceding examples that there is a role for the behaviorist approach within a more inclusive approach to development. Furthermore, aspects of the child-centered classroom for children without disabilities may be addressed by behaviorist strategies. Although teachers of young children desire that appropriate behavior should be an intrinsic motivation, in reality, behaviorist strategies for behavior management are a useful starting point for establishing appropriate classroom behaviors.

**Theory and Cultural Relevance: Ecological Theory**

An inclusive theory of development must include cultural influences on the development of young children. Our concept of the influence of the child's environment on development and learning must be broadened to understand how the environments that young children live in can be very different. The environment experienced by each child depends on many factors. Our outmoded perceptions of children's development and reconstruction of knowledge must expand to include diversity of environment. What is more important, our definition of quality programs for young children must focus on diversity of cultural environment when planning for a child-centered curriculum.

Advocates of developmentally appropriate practices promote the concept of curriculum that is age and individually appropriate. More important is the cultural relevance of learning. Vygotsky's premise that the social context in which the child learns is a significant factor moves beyond the common assumptions about what is appropriate for young children. The child's social context can include the following (Bedrova & Leong, 1996, p. 9):

1. The immediate interactive level, that is, the individual(s) the child is interacting with at the moment
2. The structural level, which includes the social structures that influence the child, such as the family and school
3. The general cultural or social level, which includes features of society at large, such as language, numerical systems, and the use of technology

Bronfenbrenner's (1979, 1986) ecological theory of development has a more complex explanation of the role of culture and environment. His sociocultural view of development includes five environmental systems: the microsystem, the mesosystem, the exosystem, the macrosystem, and the chronosystem. The child resides at the center of the systems (Figure 3.1). Interaction with the systems expands as the child develops and moves increasingly into the environment.
FIGURE 3.1 Bronfenbrenner's ecological theory of development.

Gardner's Theory of Intelligence

Yet another dimension can be added to a more inclusive theory of development. Howard Gardner (1983) has described intelligence in terms of seven types: verbal skills, mathematical skills, ability to spatially analyze the world, movement skills, insightful skills for analyzing others, skills for understanding oneself, and musical skills. More recently, he has added an eighth intelligence, naturalistic intelligence (Checkley, 1997). Gardner believes that children may have different strengths in intelligence. He also believes that environmental factors can affect the development of the intelligences. Each of the eight types of intelligence can be destroyed by brain damage, and musical intelligence, especially, can be developed at an early age in a musically inclined child. He also believes that parents play an important role in the early years in whether a child will develop the potential for a form of intelligence.

Gardner proposes that it is very important for teachers to take the individual differences in children very seriously. Teachers can guide children in using their minds well. Understanding of the intelligences should be linked with a curriculum focused on understanding where children are able to apply what they have learned in new situations. Gardner's description of the eight intelligences is shown in Figure 3.2.

Gardner's theory also reminds us that we are educating the whole child. Young children in early childhood programs should have experiences in the fine arts as well as in cognitive, motor, and social development if all their capabilities are to be developed. In the next part of this chapter, we will learn about some approaches and models to early childhood programs that incorporate the components of quality in addition to applying classical and contemporary theories.

MODELS OF QUALITY EARLY CHILDHOOD PROGRAMS

How have classical and contemporary theories of development and learning informed some examples of quality programs today? How have the developers of these models conceptualized programs of high quality for young children? In this section, four high-quality early childhood programs will be described. Some of the programs originated in the United States: High/Scope, the Project Approach, and the NAEYC model for developmentally appropriate practices (DAP). The Reggio Emilia approach originated in Reggio Emilia, Italy, and is being adapted in the United States and other countries. The Montessori Approach, another early model developed in Italy, was first used with children in Italian slums. High/Scope was first developed for intervention with impoverished children in the 1960s and has a longitudinal research record that supports its success with at-risk children. Reggio Emilia, the Project Approach, and DAP were developed for all populations of young children. Reggio Emilia settings serve preschool children, and High/Scope, the Project Approach, and DAP models serve preschool and primary-grade children. We will begin with the Montessori Approach, the earliest model addressed in this chapter.

The Montessori Approach

The Montessori model of early childhood education emerged early in the 20th century. Dr. Maria Montessori was the first woman to receive a medical degree from the University of Rome. She established Montessori schools as Casas dei Bambini for both children from poverty homes and children with disabilities. She was influenced by Rousseau, Locke, and Ixart and Seguin. She agreed with Rousseau that freedom was important
The Intelligences, in Gardner's Words

- Linguistic intelligence is the capacity to use language, your native language, and perhaps other languages, to express what's on your mind and to understand other people. Poets really specialize in linguistic intelligence, but any kind of writer, orator, speaker, lawyer, or a person for whom language is an important stock in trade highlights linguistic intelligence.

- People with a highly developed logical-mathematical intelligence understand the underlying principles of some kind of a causal system, the way a scientist or a logician does; or can manipulate numbers, quantities, and operations, the way a mathematician does.

- Spatial intelligence refers to the ability to represent the spatial world internally in your mind—the way a sailor or airplane pilot navigates the large spatial world, or the way a chess player or sculptor represents a more circumscribed spatial world. Spatial intelligence can be used in the arts or in the sciences. If you are spatially intelligent and oriented toward the arts, you are more likely to become a painter or a sculptor or an architect than, say, a musician or a writer. Similarly, certain sciences like anatomy or topology emphasize spatial intelligence.

- Bodily kinesthetic intelligence is the capacity to use your whole body or parts of your body—your hand, your fingers, your arms—to solve a problem, make something, or put on some kind of a production. The most evident examples are people in athletics or the performing arts, particularly dance or acting.

- Musical intelligence is the capacity to think in music, to be able to hear patterns, recognize them, remember them, and perhaps manipulate them. People who have a strong musical intelligence don't just remember music easily—they can get it out of their minds, it's so omnipresent. Now, some people will say, "Yes, music is important, but it's a talent, not an intelligence." And I say, "Fine, let's call it a talent." But, then we have to leave the word intelligent out of all discussions of human abilities. You know, Mozart was damned smart!

- Interpersonal intelligence is understanding other people. It's an ability we all need, but is at a premium if you are a teacher, clinician, salesperson, or politician. Anybody who deals with other people has to be skilled in the interpersonal sphere.

- Intrapersonal intelligence refers to having an understanding of yourself, of knowing who you are, what you can do, what you want to do, how you react to things, which things to avoid, and which things to gravitate toward. We are drawn to people who have a good understanding of themselves because those people tend not to screw up. They tend to know what they can do. They tend to know what they can't do. And they tend to know where to go if they need help.

- Naturalist intelligence designates the human ability to discriminate among living things (plants, animals) as well as sensitivity to other features of the natural world (clouds, rock configurations). This ability was clearly of value in our evolutionary past as hunters, gatherers, and farmers; it continues to be central in such roles as botanist or chef. I also speculate that much of our consumer society exploits the naturalist intelligences, which can be mobilized in the discrimination among cars, sneakers, kinds of makeup, and the like. The kind of pattern recognition valued in certain of the sciences may also draw upon naturalist intelligence.

FIGURE 3.2 Howard Gardner's multiple intelligences.
Source: From "The first seven... And the eighth. A conversation with Howard Gardner," by K. Checkley, 1997, Educational Leadership, 55, p. 12. Reprinted with permission from ASCD. All rights reserved.
for the child and the concept of the classroom as a community. She learned the importance of early experiences, order, and learning of the senses from Ixand and Sequin. Ixand and Sequin were early pioneers in the assessment of young children, especially children with special needs. Montessori developed sensory materials for learning that reflected the concrete activities that Sequin and Ixand used for assessment. Like Piaget, Montessori's theory of development was constructivist. She described stages of development or sensitive periods for learning. Like Piaget and Vygotsky, Montessori believed in the active nature of learning where the teacher serves as a guide to the child's development (Chattin-McNichols, 1992).

The History of the Montessori Approach

Dr. Montessori established her first experimental school in the poor neighborhood of the San Lorenzo district of Rome in 1907. Soon after the first school opened, two other schools were established. A steady stream of visitors from many countries soon followed. The establishment of Montessori schools in Italy coincided with the interest in child development and preschool programs in the United States and the establishment of kindergartens and nursery schools. Early articles published in the United States during that period compared the differences between kindergartens and Montessori classrooms. In October 1911, the first Montessori school was opened in Tarrentown, New York. Unlike the schools in Italy, this school served children from disadvantaged families. From the beginning of the Montessori movement in the United States, the American schools served middle and upper classes and put more emphasis on the academic focus of the program. Montessori's ideas were implemented in a variety of ways rather than accepting Montessori as a complete system (Chattin-McNichols, 1992; Orem, 1966).

The first Montessori movement in the United States failed by 1925. Leaders in early childhood education in the United States rejected some principles of the Montessori Approach because they were in conflict with trends in early childhood education in the United States at that time. However, in the 1950s, there was a second interest in Montessori schools. Private programs, particularly Catholic schools, developed an interest in using the model in their early childhood classrooms. During the initial phase of the Head Start movement, the Montessori Approach was one of many models developed to determine how to establish quality models for disadvantaged preschool children.

Today there are Montessori classrooms in public schools as well as in private settings. As was true in the first schools in the early 1900s, there are a variety of adaptations of the original Montessori approach. Because there are no regulations on Montessori programs, the quality and variety of types of programs varies. There are also various associations of Montessori schools, many of which follow the American Montessori movement. Others adhere to the original European model, while still others show little resemblance to Dr. Montessori's ideas and practices. On the positive side, many Montessori classrooms include computer activities and other more contemporary techniques alongside Montessori's traditional materials designed to stimulate and challenge the child's desire to learn.

Understanding the Montessori Approach

Montessori recognized the importance of such elements as programmed preparation, practice, imitation, and repetition in the young child's learning. She believed that he needs to be in touch with reality through much manual activity involving the manipulation of interesting didactic materials. Her experimentally developed materials, carefully regulated in terms of their quantity and qualities, contain built-in "control of error" making self-correction possible and enabling the user to work much of the time independently at his own pace. Moreover, the teacher is freed to give individual lessons as needed. (Orem, 1966, p. 14)

The Montessori curriculum is divided into motor education, sensory education, and language or intellectual education. The classroom is described as a prepared environment with carefully sequenced and structured materials for the child to be introduced to by the teacher followed by opportunities to self-select materials in independent work.
Motor Education. The Montessori classroom is organized with the intent that children are free to move about during the day. Fine motor skills are developed through the many sensorial materials as well as work in the area of practical life. All the curriculum components—sensorial, mathematics, language, and practical life—are focused on concrete objects and activities that use fine motor skills and a sense of order. In the practical life curriculum, children learn such tasks as washing tables, pouring materials, sweeping, and polishing shoes, which involve both large and fine motor skills. Montessori included the primary movements of everyday life, self-care, management of the household, manual work, gymnastic exercises, and rhythmic movements as categories of the motor education.

Sensory Education. Manipulative or didactic materials are used for sensory education. The sensorial curriculum includes a large number of sets of materials that promote seriation, classification, and conservation activities in a variety of media. The materials are sequenced according to difficulty with control of error being a primary objective. In addition to a set of cylinders that vary in dimension and height, sensorial materials include the cube tower, broad stair, long rods, color tablets, binomial and trinomial cubes, and constructive triangles (Chapman-McNichols, 1992).

Language or Intellectual Education. The sensorial materials are part of intellectual education and vice versa. The teacher engages in careful pronunciation of words as he or she talks to the children. Likewise, when giving lessons in the use of concepts or materials, the teacher consistently uses words for physical dimensions, such as large, small, thick, or thin, when introducing and conducting further lessons using didactic materials. The three-part lesson also exemplifies how the teacher uses language in a consistent manner to guide the child. In a three-part lesson, the teacher first shows and names a concept or material. In the second part, the teacher asks the child to "show me" or "give me" the material being learned. Finally, in the third part of the lesson, the child is asked to name the material being learned. For example, when learning the concepts of large and small, the teacher would first say, "This is the small ball." Next, the teacher would say, "Show me the small ball." Finally, the teacher would ask the child to name the object (small ball).

Writing and reading activities and materials are also carefully sequenced by difficulty. Preparation for writing includes exercises to develop fine motor skills in preparation for learning to write. At the same time, exercises to establish visual-motor understanding of alphabet letters and how to form them are introduced. Finally, exercises for the composition of words to include sounding out letters in a word and writing the words are introduced. Materials used for reading and writing include sandpaper alphabet letters, movable alphabets for spelling, and writing materials, such as papers and pencils. After the child is familiar with the alphabet and can spell and write words independently, reading and writing are expanded to writing sentences and reading simple books (Oren, 1966).

The Montessori Controversy
From the beginning of the first Montessori movement early in the 20th century, there has been disagreement about Montessori methods. Whereas Dr. Montessori wanted the child to be a self-directed learner who could work independently, critics argue that children in Montessori programs cannot interact successfully in groups and follow teacher directions appropriately. There has also been concern about the emphasis on structured materials to the detriment of creativity in children; nevertheless, the careful structure and manipulative nature of the materials has proven to be especially effective for children who have mental retardation or other disabilities that result in delayed development and learning. The Montessori approach also is beneficial for children who are in early periods of Piaget's stages of development. Many contemporary Montessori schools incorporate creative art and music activities as well as more group activities. Early educators who study Montessori's approach can trace many influences that Montessori has had on more recent models of early childhood education that follow in this chapter. Likewise, Montessori offers methods that promote
self-discipline in children who need structure and predictability in the classroom as well as success in completing tasks.

Developmentally Appropriate Practices
The DAP model is a framework for appropriate practices that should be used with young children in early childhood programs, rather than a specific curriculum. The DAP approach evolved as a response to the negative effect of the school reform movement in the 1970s and 1980s.

The History of DAP
In the late 1970s and during the 1980s, a period of educational reform swept the United States. The major concern was that American students did not achieve as well as their counterparts in Japan and European countries.

Efforts to reform the public school systems began with the secondary schools. Increased credits for graduation, tightened standards for grading, and competency testing were some policies carried out by individual states to increase achievement and raise the level of learning. As the reform movement continued to expand, similar policies were passed for elementary schools. State departments of education established curriculum standards to be followed by all schools; such standards included the instructional objectives that were to be used at every grade level. Accountability for student learning was measured by standardized tests, and school districts within a state were compared for levels of student achievement. Standards for achievement were raised, and teachers were required to teach more curriculum content that was more difficult than in the past in an effort to increase achievement results.

When academic reform policies reached early childhood classrooms, the developmental nature of young children’s learning conflicted with practices that were being initiated as part of educational reform. There was a consistent escalation of academic demand on both kindergartners and first graders (Shepard & Smith, 1988). This practice was referred to as a “push-down” curriculum (Day, 1988). As states set a high priority on test scores, curriculum and instruction were further modified to ensure that students would do well on test scores (Bredekamp & Shepard, 1989).

The increased amount of curriculum content and testing had a negative effect on young children. As the percentage of children who did not do well in first grade increased, measures were taken to solve the problem. Children were placed in transitional classrooms, denied school entry, or retained in kindergarten. Instead of teaching children using strategies that were appropriate for their level of development, schools were holding children responsible for failing (Bredekamp & Shepard, 1989). These practices became labeled as “inappropriate practices” (Bredekamp & Rosegrant, 1992; Nason, 1991; Shepard & Smith, 1990).

The Initial Development of DAP
The effects of the back-to-basics movement on early childhood programs did not continue unchallenged. The NAEYC began to address the issue of developmentally appropriate teaching and testing practices in the mid-1980s. A series of position papers describing developmentally appropriate teaching and testing practices was issued by the organization. Relevant articles were published frequently in the organizational journal Young Children. In 1987, Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth Through Age 8 (Bredekamp, 1987) was published. It provided indicators of appropriate practice for all ages from birth through age 8 and was supported by the National Council of Teachers of Mathematics, the National Association of Elementary School Principals, and the National Association of State Boards of Education. Subsequently, a position statement regarding guidelines for appropriate curriculum content and assessment (NAEYC & National Association of Early Childhood Specialists in State Departments of Education [NAECCSSDE], 1991) was endorsed or supported by 10 national or regional organizations. The Association for Childhood Education International published Developmental Continuity Across Preschool and Primary Grades (Scully, Seefeldt, & Barbour, 2003), which provides teachers in both preschool and primary
Guidelines for DAP. The Guidelines for Appropriate Curriculum Content and Assessment in Programs Serving Children Ages 3 Through 8 (NAEYC & NAECSSE, 1991) were developed in response to the widespread school reform movement in the 1980s. Although major national organizations issued position papers and calls for a change in curriculum, the two organizations issuing the guidelines proposed that these efforts were not achieving real change in curriculum and assessment practices in primary grades in the elementary school. The earlier publication, Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth Through Age 8 (Bredekamp, 1987), was intended to provide clear guidance on how to teach children in the early childhood years, whereas the guidelines were intended to provide assistance on what to teach and how to assess young children’s development and learning.

The theoretical underpinnings for the guidelines were based primarily on the theories of Piaget (1965), Erikson (1963), and Vygotsky (1978). Piaget described knowledge as physical, logical-mathematical, and social-conventional. Logical-mathematical knowledge is mentally constructed within the child, while physical knowledge is observable reality. Social-conventional knowledge is related to conventions of society.

Vygotsky differentiated between spontaneous concepts and school-learned concepts. Spontaneous concepts are those learned by the child through direct experience, similar to how Piaget described acquisition of knowledge. Conversely, school-learned concepts require instruction and assistance from the teacher. Moreover, the social context of learning with peers plays a role in the child’s learning (Bodrova & Leong, 1996). The guidelines propose, then, that children construct their learning from the environment as well as from adults. Learning is interactive between children and adults. Both teacher and children inform the other. The theoretical underpinnings of the guidelines for DAP resulted in the following assumptions about interactive learning and teaching:

1. Children learn best when their physical needs are met and they feel psychologically safe.
2. Children construct knowledge.
3. Children learn through social interaction with adults and other children.
4. Children’s learning reflects a recurring cycle that begins in awareness and moves to exploration, to inquiry and, finally, to utilization.
5. Children learn through play.
6. Children’s interests and “need to know” motivate learning.

In 1992, the NAEYC published Reaching Potentials: Appropriate Curriculum and Assessment for Young Children, Volume 1 (Bredekamp & Rosegrant, 1992), followed by Reaching Potentials: Transforming Early Childhood Curriculum and Assessment, Volume 2 (Bredekamp & Rosegrant, 1995). Volume 1 further describes appropriate curriculum and assessment, with descriptions of a transformational curriculum. Included in the volume are chapters on the needs of children who are diverse in ability, culture, and language. Volume 2 further describes the transformational curriculum in terms of content areas. Through these publications, the NAEYC further explained and clarified questions about DAP. The two additional publications now standing, concerns and questions about DAP continued to mount.

Although there appeared to be widespread acceptance of DAP in the field of early childhood education, there were questions as to how well DAP was being carried out, even among those who said they believed in the model and were using it. Others questioned the applicability of DAP with all young children, especially those with disabilities and those from different cultures. There were criticisms of some of the statements made by the developers of DAP, as reported in the publications related to understanding and using DAP. The NAEYC authors responded to the concerns and criticisms and have revised their discussions of DAP in more recent publications.
Arlene Penneybaker

Arlene Penneybaker is a kindergarten teacher in a large suburban school serving middle-class families. She has been teaching for 15 years and prides herself on keeping up with trends in early childhood education. She attends local workshops and conferences and looks for teaching ideas in magazines that come to her school.

Arlene talks about DAP. She is concerned that first- and second-grade teachers are too academic and do not understand the developmental needs of their students. When Arlene was asked to have a university student complete an internship in her classroom, she readily agreed. The principal had recommended Arlene because she uses DAP. Therefore, the university supervisor was perplexed when her student complained about Arlene’s academic expectations for her students. When observing in Arlene’s class, the supervisor noted that children spent most of the morning working on writing worksheets where they copied letters or filling in mathematics workbooks. The teacher proudly pointed out that her learning centers were nicely equipped and well organized. However, they were used principally as a reward for children who completed their work in a timely manner. The supervisor made plans to have discussions with Arlene to determine her understanding of DAP.

Revisions in DAP. There are strong indications that the developers of DAP are sensitive to the concerns and issues that have been raised about its limitations. In Reaching Potentials: Appropriate Curriculum and Assessment for Young Children (Bredekamp & Rosegrant, 1992), various authors began to address issues related to the applicability of DAP guidelines for all young children. Bowman (1992) discussed the characteristics of minority children and how programs for them needed to be both developmentally and culturally appropriate. Derman-Sparks (1992) built on Bowman’s understandings about the needs of minority children and described how an antibias, multicultural curriculum could be designed to meet the needs of minority children. Hills (1992) discussed assessment strategies that are viable for young children and how authentic and performance assessments can be useful for children who are diverse in language, culture, and abilities. Wolfe (1992) addressed how bilingual education could help young children with language differences achieve their potential.

Early childhood teachers and early childhood special education teachers are working collaboratively in many settings to include children with disabilities with their nondisabled peers. Through inclusion, teachers of both populations of children are merging their approaches to serving children within the classroom. The adjustments that must be made to adapt to changing roles and responsibilities indicate that advocates for DAP must continue to refine and expand how the model is carried out in classrooms that serve children from diverse backgrounds. A recent effort to meet the challenge is through the Guidelines for Preparation of Early Childhood Professionals developed by the NAECY, the Division for Early Childhood of the Council for Exceptional Children, and the National Board for Professional Teaching Standards (NAECY, 1996). A chapter of the Guidelines is devoted to the preparation of early childhood special education teachers; however, the qualifications needed to reach children who are culturally and linguistically diverse are not addressed.

Finally, the NAECY has published a revision of the original 1987 volume on DAP, now titled Developmentally Appropriate Practice in Early Childhood Programs (Bredekamp & Copple, 1997). In this new edition, many of the concerns and issues discussed earlier have been addressed. The current context of programs that serve children who present diversity that is complex and extensive is incorporated into the content of the book. A multiple approach to appropriate practices is based on broader perspectives of how young children can be served appropriately. More emphasis is placed on individual than on chronological needs. Similarly, more attention is given to professional decision making by teachers rather than advocating what is appropriate or inappropriate in every classroom.

Now, in the 21st century, the NAECY continues to address the evolution of DAP. However, developers of
The Need for Quality Programs in Early Childhood Education

DAP and other model early childhood programs face the same issues that caused the development of DAP in the 1970s and 1980s. The school reform movement of that period has been replaced by new measures to raise achievement and accountability. The No Child Left Behind Act (NCLB) of 2001 includes requirements for increased standardized testing of increased expectations for achievement. How to maintain appropriate practices for young children and comply with NCLB is now a major focus.

Understanding the DAP Approach

Many factors influence the quality of an early childhood program, including (but not limited to) the extent to which knowledge about how children develop and learn is applied in program practices. DAP results from the process of professionals making decisions about the well-being and education of children based on at least three important kinds of information or knowledge:

1. What is known about child development and learning—knowledge of age-related human characteristics that permits general predictions within an age range about what activities, materials, interactions, or experiences will be safe, healthy, interesting, achievable, and also challenging to children;

2. What is known about the strengths, interests, and needs of each individual child in the group to be able to adapt for and be responsive to inevitable individual variation; and

3. Knowledge of the social and cultural contexts in which children live to ensure that learning experiences are meaningful, relevant, and respectful for the participating children and their families.

(Bredenkamp & Copple, 1997, pp. 8–9).

This excerpt from the 1997 revised position statement in Developmentally Appropriate Practice in Early Childhood Programs reflects the broadened approach taken by the NAEYC in redefining how appropriate practice includes serving the developmental needs of all young children. This approach includes a leadership role for teachers who make the decisions about planning a curriculum for young children that is appropriate to their individual development. The process is a synergetic interaction between teacher roles and the child's encounter with meaningful curriculum.

As defined in this approach (Bredekamp & Rosegrant, 1992, p. 32), meaningful curriculum

- is based on how children learn and addresses the entire learning cycle;
- reclaims the whole child and redefines child centered;
- provides depth of understanding and promotes conceptual development through integrating experiences;
- is individually appropriate, based on children's needs and interests;
- derives from the knowledge base of the disciplines and has intellectual integrity; and
- results from interactive teaching.

The curriculum is based on a learning cycle whereby children become aware, explore and inquire, and then utilize new information. It is a process of learning that begins at a simple discovery level and continues in more depth and complexity until the child is able to use and apply information. Figure 3.3 illustrates the continuing process in the learning cycle.

Meaningful learning occurs within an integrated curriculum based on the integrated nature of development described by the developers as transformational curriculum. Integrated curriculum includes skills development as well as opportunities for child-initiated interests and activities. The role of the teacher is to plan for children's individual needs and interests using a range or continuum of roles. The continuum ranges from nondirective teacher behaviors through supporting or mediating behaviors to directive activities whereby the teacher engages in teacher-directed roles, such as demonstrating and direct instruction. In keeping with the intent of the DAP approach, teaching is interactive whereby the teacher coordinates, orchestrates, and facilitates learning with active participation on the part of the children (Bredekamp & Copple, 1997). Figure 3.4 illustrates the continuum of teacher roles.

The new 1997 guidelines stress that the NAEYC is not attempting to describe a particular curriculum but is providing a framework for appropriate curriculum development within the guidelines. The
new guidelines were informed with input from many leaders in early childhood curriculum models to include the developers of High/Scope, Reggio Emilia, and the Project Approach. We will now turn to a description of each of these models.

**High/Scope Curriculum**

**History of High/Scope**

The High/Scope model began as the Cognitively Oriented Curriculum (Weikart, Rogers, Adcock, & McClelland, 1971). The original purpose of the model was to serve at-risk children from poor neighborhoods in Ypsilanti, Michigan, in 1962. David Weikart, the developer of the model, became concerned with the failure rate of high school students from poor neighborhoods in the Ypsilanti Public Schools. One of Weikart's conclusions as to the causes of low achievement was attendance at elementary schools in poor neighborhoods.

Although the Ypsilanti Public Schools did not pursue establishing a program to address the problem, Weikart and colleagues decided to establish an intervention program to prepare 3- and 4-year-olds for elementary schools. This initial project was called the Perry Preschool Project. From the beginning of the intervention model, Weikart developed a research project to compare the progress of children in the project with that of children from the same neighborhoods who did not attend the project.
In 1967, a second research effort, the Preschool Curriculum Demonstration Project, was initiated. This research project compared three different curriculum models that were part of the evolving Head Start movement: the Cognitively Oriented Curriculum (the High/Scope model), the Language Training Curriculum (the Direct Instruction model), and the Unit-Based Curriculum (the Nursery School model) (Schweinhart, Weikart, & Larner, 1986; Weikart, Epstein, Schweinhart, & Bond, 1978). In 1970, this study found that children in all three models performed well on both IQ tests and later school achievement tests.

In 1970, Weikart left the Ypsilanti Public Schools and established the High/Scope Educational Research Foundation. Through this foundation, the model has continued to develop from the 1970s to the present. Over the years, three major publications described the evolving High/Scope preschool educational approach: The Cognitively Oriented Curriculum: A Framework for Preschool Educators (1971), by David Weikart, Linda Rogers, Carolyn Adcock, and Donna McClelland; Young Children in Action (1979), by Mary Hohmann, Bernard Banet, and David Weikart; and Active Learning Practices for Preschool and Childcare Programs (1995), by Mary Hohmann and David Weikart. The High/Scope Research Foundation has also produced films, videocassettes, booklets, and other supportive materials. In addition, the work of the Foundation has addressed how the model can be applied in elementary schools and how families are an integral part of the model.

The purpose for the High/Scope project has expanded over the years. As the title of the 1993 publication states, the model is now intended for children from diverse backgrounds and cultures. High/Scope programs serve children with special needs and children from all socioeconomic levels. In addition, the model has been adapted for use in Latin America, Australia, and Europe (Hohmann et al., 1979).

Results of longitudinal research of the model spanning the 1960s through the 1990s have documented the benefits for children and their families (Schweinhart, Barnes, & Weikart, 1993). The latest study of 27-year-olds who participated in the preschool program found that fewer participants had been arrested, and more had higher earnings and owned their own homes. More participants owned second cars, and more graduated from high school or received General Education Development Certificates compared with peers who did not participate in the preschool program (Hohmann & Weikart, 1995).

Christopher

It was the day before Halloween in Christopher's multi-age classroom. The classroom serves children who are 5, 6, and 7 years old. Christopher is 6 and has Down syndrome. Christopher is included in a classroom that uses the High/Scope approach with the support of a para professional educator who is assigned to him.

On this day before Halloween, the teacher read a story about a witch who hated Halloween that was part of a class project on holidays. Christopher sat on the floor in front of the teacher and listened attentively as she gazed at the pictures when the teacher displayed them during the story. After the story was over, the teacher explained the activity to follow that would give the children the opportunity to describe the beginning, middle, and end of the story using writing or art materials. Children were paired to complete the assignment. Christopher and a classmate were given pictures photocopied from the book to put into order. They were to dictate the parts of the story to the para professional educator who would record their statements. It soon became apparent that Christopher and his partner were the only students using pictures; nevertheless, none of the children seemed to be aware of any difference in their activity. Christopher's partner only gave assistance and demonstrated complete acceptance of her role in working with him.

Development of the High/Scope Curriculum

When the developers of the High/Scope model began their plans for curriculum development, they established three criteria (Hohmann & Weikart, 1995, p. 4):

1. A coherent theory about teaching and learning must guide the curriculum development process.
2. Curriculum theory and practice must support each child's capacity to develop individual talents and abilities through ongoing opportunities for active learning.

3. The teachers, researchers, and administrators must work as partners in all aspects of curriculum development to ensure that theory and practice receive equal consideration.

The primary theory used was that of Piaget and also many theorists who interpreted and translated Piaget's work. J. McVicker Hunt's (1961) research was a primary focus in the original stages of development. As the original framework of the curriculum model evolved, principles of the curriculum were defined with the following components (Johnson & Weikart, 1995, pp. 4-5):

- **Active learning**—Through active learning—having direct and immediate experiences and deriving meaning from them through reflection—children construct knowledge that helps them make sense of their world.

- **Key experiences**—Creative, ongoing interactions with people, materials, and ideas that promote children's mental, emotional, social, and physical growth.

- **Plan-do-review process**—Teachers in the Percy Preschool Project provided time for the children to plan their play activities, carry them out, and reflect on what they had done.

- **Parent component**—Through home visits, teachers offered ideas about learning and child development to parents without directly "teaching" either the children or the parents.

Using these basic elements, the curriculum has evolved over four decades to the model that is used today. In the following section we will examine the High/Scope model in more detail.

**Understanding the High/Scope Model**

Active learning and key experiences form the core of the High/Scope model. In addition, there are four elements that support active learning: adult-child interaction, learning environment, daily routines, and assessment.

**Adult-Child Interaction.** Adults play a supportive role in the High/Scope preschool program. Adults use positive interaction strategies such as sharing control with children, supporting children's play, focusing on children's strengths, and forming authentic relationships with children. In addition, they use encouragement and a problem-solving approach to deal with everyday situations in the classroom.

**Learning Environment.** The environment also plays a major role in the model. The environment is arranged into interest areas to support the interests of the students. Activities that are provided in the environment include pretend and role play, sand and water play, language arts experiences, math activities such as counting and sorting, and physical activities that include building, climbing, and dancing. Teachers have the responsibility to select appropriate materials, make those materials accessible to the children in an organized manner, and provide storage for the materials. Materials that are provided include found, natural, commercial, and homemade materials.

**Daily Routines.** The daily routine also supports active learning. Model planners believe that a consistent routine is important. The plan-do-review process described earlier forms the structure for the routine whereby children plan what they want to do before they select and engage in activities. At the conclusion of their work period, they review what they have accomplished. Adults engage in group experiences with children through small-group and large-group activities based on children's experiences and key experiences that structure the curriculum. Large-group time is used for music and movement, projects, story reenactments, and group discussions.

**Assessment.** Over the years of implementation, the High/Scope Research Foundation has developed an assessment model that focuses on observation as the major tool for understanding children's development and learning. Assessment includes keeping daily
anecdotal notes and daily planning sessions using a team approach to interacting with and observing children. The High/Scope Child Observation Record (COR) (High/Scope Educational Foundation, 2003) is used to document and report children's progress.

The High/Scope model has been described within a wheel of learning. Active learning is at the center of the wheel with the four components of the model supporting the center. Figure 3.5 shows the visual representation of the High/Scope model.

**Reggio Emilia**

Whereas the High/Scope model is based on "active learning," Reggio Emilia schools reflect "active education." Both of these approaches support Piaget’s perception of cognitive development "as a process of ongoing adaptation to one's environment (Staley, 1998, p. 21). And, although the Reggio Emilia schools evolved in Italy, their constructivist approach is consistent with theories that also influence contemporary American models.

**History of Reggio Emilia**

The Reggio system can be described succinctly as follows: It is a collection of schools for young children in which each child's intellectual, emotional, social, and moral potentials are carefully cultivated and guided. The principal educational vehicle involves youngsters in long-term engaging projects, which are carried out in a beautiful, healthy, love-filled setting. (Gardner, 1996, p. x)
Early childhood care and education in Italy has a long history that began as charitable and religious centers for infants and preschool children in the 19th century. After 1867, Froebel's kindergartens began to have an influence followed by progressive educators at the beginning of the 20th century. During the first half of the 20th century, preschool education was controlled by the Catholic Church. It was not until the end of World War II that parent-run schools within municipal systems were established (Edwards, Gandini, & Forman, 1996).

During the 1950s, Italian educators were influenced by progressive educators John Dewey and Celestin Freinet from France. In Bologna, Bruno Ciari was invited to direct their city school system. The progressive education system Ciari established in Bologna provided leadership for the building early childhood programs in Italy. Ciari believed “that education should liberate childhood energy and capacities and promote the harmonious development of the whole child in all areas—communicative, social, affective, and with respect to critical and scientific thinking” (Edwards et al., 1996, p. 16).

The evolution of the Reggio Emilia preschool model was initiated in the days immediately after the end of the World War II in 1945. In the following months, Lois Malaguzzi and local parents established the first school in a war-torn country without resources. Bricks were salvaged from bombed houses, and the first buildings were constructed by the parents. From these first tentative efforts, the system of Reggio Emilia schools was established. In the first years, educators and parents worked to develop the program based on projects designed by the teachers. After Malaguzzi visited the Rousseau Institute in Geneva, Switzerland, the schools began to reflect Piaget's theory and perceptions of children's cognitive development.

Despite ongoing struggles for many years with the Catholic Church over how schools would be administered, in 1967 all the parent-run schools came under the administration of the municipality of Reggio Emilia, and in 1972 the rules and regulations developed to govern the parent-run schools of Reggio Emilia were passed by the city council. This milestone marked acknowledgment of the Reggio Emilia approach after 10 years of development. Nevertheless, the Catholic establishment continued to challenge the city-run schools. After 5 months of public debate and interchanges within the schools, the issue of direction and control of the preschools in Reggio Emilia was resolved (Malaguzzi, 1996).

In the past 30 years, the schools of Reggio Emilia have continued to evolve and develop. The model has been influenced by the work of contemporary theorists and writers that include Urie Bronfenbrenner, Lev Vygotsky, Erik Erikson, Howard Gardner, and Jerome Bruner. The model has gained international recognition, and visitors have traveled from all over the world to experience and understand this model for early childhood education.

Development of the Reggio Emilia Model

The Reggio Emilia model was first conceptualized using Piaget’s theory of cognitive development. The child's development in quality of thinking helped in designing the school in which children are active learners. However, as Reggio Emilia educators continued to study Piaget's perception of constructivism, they had some concerns about his approach. They felt that Piaget's theory isolates the child and undervalues the adult's role in promoting cognitive development. They were also concerned about social interaction and that cognitive, affective, and moral judgment were described as parallel tracks. Therefore, in addition to understanding and incorporating Piaget's theory, model developers incorporated Vygotsky's work. They were particularly interested in Vygotsky's theory in how thought and language work together when the child is forming ideas and making a plan of action. Further, they were interested in Vygotsky's zone of proximal development, the distance between the child's current capacities and the child level of potential development. The contributions of these two thinkers and others mentioned earlier guided the evolution of the Reggio Emilia model (Malaguzzi, 1996).

The theoretical bases of the Reggio Emilia Model are focused on how the young child learns. Reggio Emilia schools used the term “active education” using
Piaget's description of cognitive development as a process of ongoing adaptation to the environment. The schools are considered by Malaguzzi as "amiably" because they encourage movement, interdependence, and interaction. Emphasis is placed on the relationships between teachers, parents, and children in the active process of learning (Staley, 1998).

Understanding the Reggio Emilia Approach

The Reggio Emilia Model can be described in terms of eight principles (Cadwell, 1997, pp. 5–6):

- **The child as protagonist.** Children are strong and capable. All children have preparedness, potential, curiosity, and interest in constructing their learning, negotiating with everything their environment brings to them. Children, teachers, and parents are considered three central protagonists in the educational process (Gandini, 1996).

- **The child as collaborator.** Education must focus on each child in relation to other children, the family, the teacher, and the community, rather than on each child in isolation (Gandini, 1993). There is an emphasis on work in small groups. This practice is based on the social constructivist model that supports the idea that we form ourselves through our interaction with peers, adults, things in the world, and symbols (Lewin, 1995).

- **The child as communicator.** This approach fosters children's intellectual development through a systematic focus on symbolic representation, including words, movement, drawing, painting, building, sculpture, shadow play, collage, dramatic play, and music, which leads children to surprising levels of communication, symbolic skills, and creativity (Edwards et al., 1996). Children have the right to use many materials in order to discover and communicate what they know, understand, wonder about, question, feel, and imagine. In this way, they make their thinking visible through their many natural "languages." A studio teacher, trained in the visual arts, works closely with children and teachers in each school to enable children to explore many materials and to use a great number of languages to make their learning visible.

- **The environment as third teacher.** The design and use of space encourage encounters, communication, and relationships (Gandini, 1993). There is an underlying order and beauty in the design and organization of all the space in a school and the equipment and materials within it (Lewin, 1995). Every corner of every space has an identity and a purpose, is rich in potential to engage and to communicate, and is valued and cared for by children and adults.

- **The teacher as partner, supporter, and guide.** Teachers facilitate children's exploration of themes, work on short- and long-term projects, and guide experiences of joint, open-ended discovery and problem solving (Edwards et al., 1996). To know how to plan and proceed with their work, teachers listen and observe children closely. Teachers ask questions; discover children's ideas, hypotheses, and theories; and provide occasions for discovery and learning (Gandini, 1993).

- **The teacher as researcher.** Teachers work in pairs and maintain strong, collegial relationships with all other teachers and staff; they engage in continuous discussion and interpretation of their work and the work of children. These exchanges provide ongoing training and theoretical enrichment. Teachers see themselves as researchers preparing documentation of their work with children, whom they also consider researchers. The team is further supported by a pedagogista (pedagogical coordinator) who serves a group of schools (Gandini, 1993).

- **The documentation as communication.** Careful consideration and attention are given to the presentation of the thinking of the children and the adults who work with them. Teachers' commentary on the purposes of the study and the children's learning process, transcriptions of children's verbal language (i.e., words and dialogue), photographs of their activity, and
representations of their thinking in many media are composed in carefully designed panels or books to present the process of learning in the schools. The documentation serves many purposes. It makes parents aware of their children's experience. It allows teachers to better understand children, to evaluate their own work, and to exchange ideas with other educators. Documentation also traces the history of the school and the pleasure in the process of learning experiences by many children and their teachers (Gandini, 1993).

- The parent as partner. Parent participation is considered essential and takes many forms. Parents play an active part in their children's learning experience and help ensure the welfare of all the children in the school. The ideas and skills that the families bring to the school and, even more important, the exchange of ideas between parents and teachers favor the development of a new way of educating, which helps teachers to view the participation of families not as a threat but as an intrinsic element of collegiality and as the integration of different wisdoms (Spaggiari, 1996).

In keeping with these principles, the Reggio Emilia model will be discussed in terms of the environment, the role of teachers, the role of parents, the role of the child, the curriculum, and assessment.

The Environment. Reggio Emilia schools are designed to encourage social and cognitive development. The physical environment is planned to facilitate interactions between children as well as between teachers and parents.

Gandini (1996) uses the Diana School as an example of the design of Reggio Emilia schools. A main common space, a piazza, is surrounded by areas used for different purposes that open to the piazza. An important space is the atelier, described as a workshop or studio, which is used to work on projects and to explore new and familiar materials and tools. In addition, each age-group has a large classroom with a mini-atelier attached.

Glass is used extensively to connect interior spaces as well as create a continuity between the indoor and outdoor environments. There are also spaces where children can spend time alone. The arrangement is designed to facilitate constructive exploration of materials and for work on projects and themes. A major purpose of the space is to display and document the children's work.

The Role of the Teaching Staff. There are three adult roles in Reggio Emilia: the atelierista, the pedagogisti, and teachers. Adults in each of these roles interact with the children, parents and community, and each other.

The atelierista uses a background in art to work with children in the atelier as they engage in painting, drawing, working with clay, and using other techniques and materials. The atelierista helps children communicate and represent what they are learning in their project work. The atelierista also talks daily with pedagogisti and teachers to help them understand the children's artwork and how they learn (Vecchi, 1996).

The pedagogisti have multiple responsibilities. They are important in coordinating communications with parents and visitors as well as engaging teachers in new advances in theory and practice. The pedagogisti serve as facilitators for the exchange of ideas between teachers both within a school and among different schools. Work with teachers includes identifying new themes and activities for professional development. Most important, the pedagogisti work to develop relationships with parents and to set up meetings so that parents can be involved in planning and creating curriculum projects (Filippini, 1996).

The teacher's role is to work with the children. Teachers focus on children's work rather than as instructors to the children. Teachers and children are equally involved in the progress of work, materials and techniques being used, and the ideas being explored. Classroom teachers work with the atelierista as partners in facilitating children's work. They work as partners in the exchange of ideas of how to further children's work with materials and discussions (Cadwell, 1997).

The Role of the Child. A major portion of children's time is spent on project work. They use art
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materials to represent what they understand and how they are using creativity to reconstruct knowledge. These representations and communications have been described as the languages of children. Katz (1996) believes that preschool children in Reggio Emilia schools are able to use visual representation to communicate ideas, understandings, feelings, and observations much earlier than American children.

In addition to project work, children engage in all types of spontaneous play, blocks, acting out plays, and outdoor play. Some children also engage in art activities during free play periods. Children spend much of the day interacting and socializing with classmates and adults (Katz, 1996).

The Curriculum. The curriculum of Reggio Emilia is described as emergent. That is, the teachers do not plan objectives and learning activities in advance. Rather, they first study the characteristics of the children as well as their aptitudes, needs, and interests. In addition, the staff meets weekly to continue sharing knowledge of the children in their planning (Katz, 1996).

In planning the curriculum, teachers lay out general educational objectives. They formulate hypotheses of what could happen based on their knowledge of the children. The relationships between children, parents, the community, and culture are also considered. Based on children's backgrounds and interests, curriculum themes or projects are initiated. Thereafter, the processes of interactions with children and adults, observation, and documentation of children's work and discussions among all the participants to include staff members, parents, and children are used for ongoing planning and implementation of the curriculum. Children are equal participants in planning the curriculum and evaluating the progress of the work. Each project can start from a suggestion, a child's idea, or a significant event (Rinaldi, 1996).

Assessment. Much has already been said about documentation, the record of children's work. Products of projects or themes are reflected in the children's artwork. In addition, ongoing discussions between staff members and with the children provide continuous assessment of the curriculum and children's progress. Teachers and atelieristas keep daily anecdotal records of what the children are doing and the steps that will be taken in guiding the children through further efforts. The display of children's work on the walls of the school plus discussions and written information form the assessment of children's progress as well as self-evaluation by children and teachers.

The Reggio Emilia model has been of interest to educators from many countries. The approach has been implemented in the United States for over a decade. Lacking the longitudinal experience of Italian education in the evolution of the approach, American projects have had to implement the process slowly and carefully with attention to differences in a new setting (Cadwell, 1997; Forman, Lee, Winters, & Langley, 1996; Gillespie, 2000; LeeKeenan & Nimmer, 1996; New, 1996; Stacey, 1998).

The Project Approach

The Project Approach has many similarities to the Reggio Emilia model in that both use projects as a focus for children's learning and use children's participation in curriculum. However, the Project Approach was developed separately from Reggio Emilia. The developers of the Project Approach acknowledge the influence of Reggio Emilia in recent years and have included Reggio Emilia ideas on documentation of children's work.

History of the Project Approach

The developers of the Project Approach base their approach in their work with young children in England and the United States plus their interactions with colleagues in other countries. Their model has its roots in the original project work advocated by Dewey and Kilpatrick during the Progressive Era of education in the United States (Stewart, 1986). They also refer to Isaacs's descriptions of children's work in England (Isaacs, 1966).

Another influence on the model is open education which was popular in the 1970s and 1980s as well as
the work in British Infant Schools (Helm & Katz, 2001; Katz & Chard, 1989).

The developers, Lillian Katz and Silvia Chard, state that a motivation for designing their model stemmed from the dominance of mindless activities in the early years of schooling. They perceived the Project Approach to be a context that would encourage the child’s mind to be “engaged, challenged, and enriched” (Katz & Chard, 1989, p. xi). They believed that the use of projects could be incorporated as part of a total curriculum based on the preferences of individual schools.

The first publication to explain the approach was Engaging Children’s Minds: The Project Approach (Katz & Chard, 1989). As the original authors engaged in work with teachers in classrooms, their ideas about the uses of the Project Approach continued to evolve. In 1992, Sylvia Chard developed a guide to help teachers learn how to implement the approach. This guide, The Project Approach: A Practical Guide for Teachers (Chard, 1992), was followed by a teacher’s course, The Project Approach: A Practical Course for Teachers (Chard, 1994a), and, more recently, The Project Approach: A Second Practical Guide for Teachers (Chard, 1994b).

In response to concerns by teachers and administrators that at-risk children with less readiness for school need formal academic exercises rather than project work, additional publications were produced to address the issue. Young Investigators: The Project Approach in the Early Years (Helm & Katz, 2001) and Engaging Children’s Minds: The Project Approach (2nd ed.) (Katz & Chard, 2000) addressed more recent issues and incorporated ideas gained from Reggio Emilia.

Development of the Project Approach

Katz and Chard took a similar approach to that of the NAEYC when explaining DAR. Like the NAEYC, Katz and Chard countered many of the practices used with young children that they considered detrimental. They examined practices that asked children to engage in activities that were not in the best interests of young children, such as rituals using the calendar and workbooks with paper-and-pencil tasks. They contrasted acquisition of knowledge or contents of mind with dispositions or habits of mind.

One concern is with formal instruction as opposed to learning through exploration and direct experience. An advantage of this approach is that learning experiences help children develop social and communicative competence. Most important, preferred dispositions, or enduring habits of mind such as humor, generosity, and helpfulness are desired rather than negative dispositions such as quarrelsomeness, callousness, and avarice (Katz & Chard, 1989). Katz and Chard cite research (Dweck, 1986) that dispositions to learn can be put at risk by “too much emphasis on skilled performance in academically oriented curricula” (Katz & Chard, 1989, p. 38). Likewise, they propose that academically oriented curricula do not permit all children to be successful.

Rather than directly basing their approach on theorists, the authors have looked to curriculum research. Using this research, they base their model on several aspects of children’s development and learning: the role of interaction in learning, the value of informality, and a variety of teaching methods.

The Role of Interaction. Social interaction facilitates learning and promotes the development of social competence, which implies that young children should be engaged in active, expressive learning processes with other children. Mind-engaging activities should occur whereby young children interact with new concepts and ideas. Such interactions should be based on their own experiences and the real environment.

The Value of Informality. The belief is that the more informal the learning environment, the more children can express their understandings and teachers can access these understandings. The informality should be balanced so that children can make appropriate progress in learning. This would include the ability of children to evaluate their own work and better understand their own progress. The informal approach to curriculum would include spontaneous play and project work (Katz & Chard, 1989).
Variety of Teaching Methods. The authors propose that if children are to develop a disposition for learning, then a variety of teaching methods should be used. Their thinking is that different teaching strategies will promote successful learning with diverse children. Further, they propose that the younger the child, the greater the variety of strategies that should be used by the teacher.

Katz and Chard believe the Project Approach promotes the positive qualities of development and learning that they described. They summarized the advantages of the Project Approach as follows (Katz & Chard, 1989, p. 49):

Project work takes into account the acquisition of knowledge, skills, dispositions, and feelings. It can provide learning situations in which context and content-riched interactions and conversations can occur about matters familiar to the children. Project work can provide activities in which children of many different ability levels can contribute to the ongoing life and work of the group. Working together on projects also provides situations and events in which social skills are functional and can be strengthened. Because project topics are drawn from children's interest and familiar environments, the knowledge acquired can have real cultural relevance for them. Last but not least, we advocate the project approach because it provides continuous challenges for teachers and thus can contribute to making the teachers' work interesting and professionally satisfying.

Understanding the Project Approach
A project is an in-depth investigation of a topic worth learning more about. The investigation is usually undertaken by a small group of children within a class, sometimes by a whole class, and occasionally by an individual child. The key feature of a project is that a research effort deliberatively focuses on finding answers to questions about a topic posed either by the children, the teacher, or the teacher working with the children. (Katz, 1994, p. 1)

On the surface, the projects just described sound very much like the projects engaged in by teachers and children in Reggio Emilia schools. A major difference is that the classroom teacher generally has the major responsibility in the Project Approach versus a staff collaboration strategy used in Reggio Emilia schools. A second difference is the more obvious organization of projects in the Project Approach. This organizational structure can be discussed in terms of three phases of projects (Chard, 1994b; Helm & Katz, 2001).

The Curriculum: Three Phases of Projects. The first phase of a project has as its purpose to select a project. Once a topic has been identified by a teacher, child, or teacher and children together, planning for the project commences. Teachers conduct preliminary planning by developing a teacher planning web to think about ways the project might develop. Sometimes this process includes a topic web or curriculum web. This process permits the teacher to evaluate whether the topic of the study has merit and identify resources that might be used in developing a topic. If it is determined that the topic is viable, the teacher works with the children to find out what they currently understand about the topic and what new information they would like to learn about the topic. This process can also include a webbing process.
The second phase is initiated after the room has been prepared to investigate the topic. As part of the beginning of the second phase, the webs are reviewed, a field site is selected for the investigation of the topic, and planning with site personnel and other adults who will help with the investigation is conducted. If particular skills are needed for the investigation, they are introduced and practiced before the investigation begins.

The investigation begins with a field site visit. Children are encouraged to observe and ask questions as they interact with site personnel. They engage in sketching and drawing on-site as part of their investigation. Children can also use counting and writing to document data they have found at the site. After the field site visit, the children discuss the trip or are debriefed about the site visit. Materials and sources of data, such as photographs or videos, can be viewed as part of the discussion. The investigation continues with children engaging in various types of activities as part of their project work. The children represent what they have learned through writing, drawing, construction, dancing, and dramatic play. At this point, the children and teachers might review the webs or develop a re-web to evaluate their progress on the project and identify new questions or directions for the project.

The third phase has as its purpose to end the project. A culminating event is planned to share the results of the project. Student work is displayed, and parents, students from other classrooms, and teachers participate in the culminating event. Documentation of the achievements of the projects that include student portfolios, project products, teacher observations, student self-reflections, and written narratives are used to document the project topic (Helm & Katz, 2001). Child (1994a) describes five features of the three phases to include group discussions, fieldwork, representation, investigation, and display, which are similar to the three phases used to trace the progress of development of a project.

Assessment. Beyond culminating events to finalize work on a project, documentation is recommended as the approach to assessment of children, teachers, and the curriculum. The documentation used is more specific and varied than the documentation used with Reggio Emilia. Five strategies are used to document children’s progress: portfolios, individual or group products, observations, children’s self-reflections, and narratives of learning experiences. Each of these types of assessment contributes to understanding children’s progress and interests, ongoing assessment of the progress of the project and changes that might be made, and evidence of children’s work that can be shared with parents and others.

Helm and Katz (2001) suggest reasons that documentation is appropriate for the project approach. First, they believe that documentation is most valuable as a guide for teachers in the progress of the project. Documentation can also provide evidence of all domains of development as well as provide a framework for teachers to organize observations and recording children’s developmental progress. Documentation demonstrates how children learn from active engagement in activities and materials that are relevant; moreover, they show how learning is an interactive process between adults and children. Finally, documentation can show how integrated learning experiences within project work provide insights into children’s learning.

SUMMARY

This chapter began with the idea that the need for quality programs is extremely important if children are to be successful learners. In this current decade of a new century, efforts are being made to describe how these quality programs can be actualized. In trying to achieve this quality, one requirement proposed is that there be improved standards for training and licensing of teachers. This goal can be difficult to achieve because requirements for education and training vary widely among types of early childhood programs and among states.

Several characteristics have been proposed to describe quality programs. Inclusion of principles of child development is basic to quality, as is a balanced curriculum that addresses all domains of development. Parent relationships with the school are significant, as
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is a healthy interaction between parents, teachers, and children. A quality program has a clear plan for assessment and accountability. This evaluation would include children's progress, assessment of teacher planning and interaction with children, and ongoing evaluation of the program. Understanding and addressing the diversity of children and families are also significant if a program is to demonstrate quality. Programs should be developed based on the needs, interests, and backgrounds of the children present in the class. These diversity factors can include ethnicity, culture, language, and family values.

Classical and contemporary theories inform quality programs today. The views of how children develop and learn as posited by Arnold Gesell’s maturation theory, Piaget’s cognitive-developmental theory, Erikson’s psychosocial theory, and Skinner’s behaviorist theory have informed early childhood programs for many decades. A more comprehensive view of development and learning has been due to the influence of Lev Vygotsky’s approach to constructivism and the role of culture in learning as well as Urie Bronfenbrenner’s work on the influence of the child’s family, community, and other factors in the larger environment. Most recently, Howard Gardner’s position that there are different types of intelligences has resulted in a closer look at individual differences in children and their interests, aptitudes, and abilities.

We have more than a few models of early childhood programs that represent the characteristics of quality discussed in this chapter. All these models have commonalities in how they have incorporated theory into practice with constructivism as a key feature. The models have different origins but have also influenced each other.

DAP provides guidelines for good practice with young children but does not advocate a particular curriculum. This program originated in the United States as a response to the increasing emphasis on academics in early childhood classrooms. The Project Approach had a similar purpose for its development but reflects equal influence from England and the United States.

The HighScope curriculum has a longer history in that it was first conceptualized in the 1960s. Over the decades it has continued to be refined and expanded. The curriculum model developed within this approach reflects the work of Piaget and constructivism. It has expanded to both infancy and toddler levels as well as into the elementary school. The model is used in many countries and has continued to provide guidance to educators seeking to incorporate child-initiated learning into their program.

The Reggio Emilia model had its origins in Italy in the community of Reggio Emilia. The program dates back to the end of World War II, when parent-run schools were established in the postwar years of the 1940s. Heavily influenced by Piaget, Vygotsky, Bronfenbrenner, and others, Reggio Emilia schools use projects, extensive work using art media, and development of curriculum following children’s interests. Reggio Emilia is limited to the preschool years, with strong involvement and support by parents. It has captured the interest of educators from all over the world who travel to Italy each year to visit the schools and take ideas home to their own programs.

In Chapter 4 we will look at the course of development in young children from birth through the primary-grade years. After reviewing how children develop within the cognitive, social-emotional, and physical domains, curriculum models for the levels of development in the early childhood years will be presented in subsequent chapters in the text. These examples of how teachers can implement quality programs will reflect the influence of both the theories and the models that have been presented in this chapter.

**STUDY QUESTIONS**

1. **Why is there a difference in quality among different types of early childhood programs?**
   - Describe causes of these differences.

2. **How important are differences in money resources to developing quality in programs? Explain.**

3. **How can quality in early childhood programs be determined?**
   - Describe some characteristics of quality.

4. **How important are parents in today's early childhood programs?**
   - How do you believe parents should participate in early childhood programs?
5. What is meant by diversity in children? Explain some types of diversity that children can bring to the classroom.

6. How do theories influence program development in early childhood classrooms? Can theories with a different view of development and learning all have some influence on a classroom? Explain how this can happen.

7. Explain what is meant by developmentally appropriate practices (DAP). Why was DAP developed in the United States?

8. Why has DAP been revised in the past 10 years? Discuss at least three issues that led to revision.

9. Why was the High/Scope curriculum developed?

10. Describe four principles of the High/Scope curriculum.

11. How are "active learning" in the High/Scope curriculum and "active education" in the Reggio Emilia model similar?

12. When and why were Reggio Emilia schools developed?

13. Explain the importance of the child's role in Reggio Emilia as described in the eight principles of the model.

14. What is documentation in Reggio Emilia? How is documentation used?

15. Compare and contrast the nature of curriculum in Reggio Emilia and the Project Approach.

16. Why is understanding the nature of projects key to implementation of the Project Approach?
CHAPTER FOUR

Developmental Characteristics of Young Children from Birth to 8 Years: Implications for Learning

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Describe the characteristics and competencies of infants and toddlers.
2. Describe the characteristics and competencies of children from ages 2 to 5 years.
3. Describe the transitional nature of development in children from ages 5 to 8 years.
4. Discuss how the characteristics of competencies of each age level have implications for learning and instruction.
The 20th century was a period of research concerned with how infants and young children develop and learn. The child study movement established at the turn of the century involved researchers interested in developing information about the physical, social, emotional, cognitive, and language development of children. Investigators at various institutions of higher education in the United States accumulated extensive information on child development. This type of information continues to be gathered in the 21st century, with brain research a notable example. The interest in child development and the factors that affect such development and growth has not waned. Instead, research efforts build on earlier data collection. Changing conditions create a demand for investigative studies on how sociological and economic factors affect young children in the early childhood years.

This chapter contains a description of the child's development from birth to age 8; it also describes how the developmental stages affect the way in which the child learns. The work of developmental theorists, as described in earlier chapters, applies to explanations of development in this chapter. Developmental characteristics of children who are developing normally are different from those of young children with diverse abilities and disabilities. Remember also that development can vary because of socioeconomic status.

**BIRTH TO 2 YEARS: THE SENSORIMOTOR STAGE**

This section provides information on development during the first 2 years. Development is discussed under the categories of cognitive, physical, language, and social-emotional development.

**Cognitive Development**

Piaget (1965) described the first stage of cognitive development as the sensorimotor stage because infants come to know and understand their world by using their senses and physical actions. That is, infants construct understanding by using sensorimotor schemes, by using innate reflexive actions such as sucking. Sensorimotor schemes in turn help infants acquire new ways of interaction. As the infant continually engages in reflexive action, behavior becomes more complex and predictable.

During the sensorimotor stage, the infant moves through six substages of development, beginning with the reflexive stage. Reflexive actions in the first stage are gradually replaced by voluntary actions in the second stage, named the primary circular reactions stage. In the third stage, secondary circular reactions, the infant increases responses to people and objects, initiates activities, and develops object permanency. In the fourth stage, which involves coordination of secondary circular reactions, the infant actively searches for hidden objects and comprehends the meaning of simple words.

At the beginning of the second year, the fifth stage, tertiary circular reactions, commences. The toddler spends time experimenting with objects and begins to understand space, time, and causality. During the last stage, symbolic representation occurs. The toddler now can mentally represent objects within symbolic imitative behavior (Berk, 2001). The sensorimotor substages might be described as follows:

- Reflexive (birth to 1 month): The neonate primarily uses reflexes for learning.
- Primary circular reactions (1 to 4 months): The infant repeats pleasurable behaviors and coordinates reflexes.
- Secondary circular reactions (4 to 10 months): The infant discovers new capabilities by chance and repeats them (e.g., accidentally hits crib mobile; repeats the action intentionally). Cause and effect are learned.
- Coordination of secondary circular reactions (10 to 12 months): The child is able to apply schemes or learned behavior to new situations; retains object permanence (i.e., knows that objects exist even when they cannot be seen).
- Tertiary circular reactions (12 to 18 months): The child experiments with cause and effect; repeats behaviors to achieve variety (e.g., repeatedly drops toy from high chair).
• Symbolic representation (18 to 24 months): The child begins to think before acting; can use imagery to represent objects and action (e.g., pretends to drink from cup).

The infant at first uses reflex actions such as suck- ing and grasping. When the reflexes can be coordi- nated, the infant can intentionally grasp and pick up objects. After object permanence is achieved, the infant can remember actions and locate objects. The infant learns that he or she can cause events to happen and can retain a mental image of events and objects that have been experienced (Berk, 2001; Lawton, 1988; Seullly, Seefeldt, & Barbour, 2003).

Physical Development
In their first 2 years, infants and toddlers achieve more physical growth and development than in any other period of their childhood. By their first birthday, they triple their birth weight and acquire mobility skills that include crawling, standing, and walking. During the second year, they practice and refine mobility skills. Motor development proceeds in proximodistal development (from the center of the body out to the fingers). Cephalocaudal development emerges (from the top of the body down to the legs). By the age of 3 months, they can reach and grasp a toy. Fine and gross motor development are controlled through biological maturation and stimulation and opportunities for physical activities.

Teething begins at about 7 months and is completed at 3 years, when the full set of “baby” teeth has erupted. Bladder and bowel control are not achieved until age 2½ or 3 years. Boys are more likely to achieve control at a later age than girls (Santrock, 2002).

Language Development
In the first 2 years, infants and toddlers move from prelinguistic utterances to the use of primitive sentences. Crying and cooing during the first few months evolve to babbling at about 5 or 6 months. Babbling includes the intonation patterns of the language by about 10 months, with the first real word occurring soon thereafter. Use of single words or holophasic speech for many types of meaningful communication is gradually extended at about 18 months to combinations of two- and three-word utterances. With what is called telegraphic speech, toddlers express more complex thoughts through intonation and various combinations of the words they are rapidly adding to their vocabulary (Meynink, 1969).

Social-Emotional Development
In infancy, the emotional tie between infant and parent or caregiver is called attachment. A positive attachment is crucial in the social and emotional development of the infant and toddler. Parental behavior, as well as the child’s temperament, can affect development. Inappropriate parental behavior can cause anxious/avoidant or anxious/ambivalent patterns of attachment (Connell & Goldsmith, 1982). Anxious/ambivalent children are wary of strangers and new situations and have difficulty separating from the mother. Anxious/avoidant children, to the contrary, have no difficulty in separating from the mother; moreover, they show little preference for the parent over a stranger and may ignore the mother. For example, a toddler who was abused as an infant or whose needs were neglected shows anxious attachment in a child care setting by fussing frequently. He or she might become fearful if routines or caregivers are changed. Neglected infants experience unresponsiveness on the part of parents, whereas abused babies experience harsh and negative care by parents (George & Main, 1979; Wallach & Caulfield, 1998). Children with anxious attachment histories are at a higher risk for developing later emotional difficulties, including emotional dependency, aggression, inattention, or hyperactivity. During the preschool years, children who were anxiously attached as infants are at increased risk for becoming bullies or victims of bullies (Troy & Sroufe, 1987).

Temperament refers to differences in emotional development that lead to personality over a period of time. At birth, infants have temperament that is only a pattern of moods and responsiveness. Three basic types of temperament can be described. Easy children have predominately positive moods and are
calm and predictable. *Difficult* children, on the contrary, show a lot of negative emotion, are easily distracted, and are unpredictable. *Slow-to-warm-up* children respond negatively to new events initially but adapt over time. They do not exhibit the negative intensity of difficult children but take longer to adapt than do easy children (Chess & Thomas, 1977).

Social development during the first 2 years includes the development of social signals among peers. Social style in toddlers is related to attachment history; toddlers with secure attachment histories relate more positively toward peers. Prosocial behavior, or empathy, the understanding of another person's feelings, begins to emerge at about 12 months, when babies respond to the distress of others. At 12 months they show distress themselves, and by 18 months they can try to comfort a distressed peer. Children of parents who have been nurturing and responsive are more likely to respond to the distress of another person (Berk, 2001).

The sensorimotor period is one of rapid development in physical, language, and social development. The pages that follow discuss infant and toddler development, followed by checklists that list some major milestones and behavioral characteristics for each age period. The sections on characteristics and competencies describe the attributes that children in each age-group have in common; in addition, the lists also describe individual differences in children. These sections are included to help readers who may not have had extended experience with young children acquire a realistic picture of what children are like at each age. In addition, readers can become familiar with what can be expected in behaviors and abilities. It is also important to remember that the description for any age-group is general. Each child is unique and develops on an individual timetable.

Characteristics of age levels from birth through 5 years are discussed in the sections that follow; also included are the Worthing Developmental Check-list for Infants and Toddlers and the Frost-Worthing
Developmental Checklists for the Preschool Years. The lists are for caregivers, parents, and teachers to use to further understand the normal characteristics in physical, social-emotional, and cognitive development for various age-groups. The checklists may be consulted to determine if the child is achieving the listed behaviors during the normal age ranges. Similarly, parents, teachers, and caregivers can refer to the lists for suggestions about appropriate activities that can be conducted with the child. The checklists can be used in early childhood settings or by parents to record achievement of developmental milestones or mastery of listed competencies in the preschool years. Checklists have boxes in which the child's developmental progress can be tracked. The information to be recorded may vary depending on the context in which the checklists are used; therefore, the labels for recording progress may be changed to reflect the characteristics the user wishes to document. For example, the infant and toddler checklists might have boxes for dates of mastery rather than dates of observation. Preschool checklists might have boxes to indicate when relevant activities or lessons were conducted.

The checklists may also be adapted for use with children with special needs. PL 99-457 extends the guarantee of a free appropriate education for young children, beginning in infancy. Intervention for infants and toddlers with disabilities is funded through the Infants and Toddlers Program. Intervention plans for children with special needs can include checklists of characteristics adapted for the Individualized Education Plan (IEP) for that child. Children with mental delay will progress through the categories of cognitive development much later than will children with normal intelligence; nevertheless, teachers of children with mental delay can also use the checklists to determine the developmental needs of children whose chronological age is different from their mental age. Children with physical disabilities may also be working on motor skills that are typical of younger children with normal development; teachers can adapt the checklist to include the physical characteristics that the child has the potential to develop. They can then use it for record keeping and reporting progress to parents. Because each child with special needs is different, teachers and specialists will need to determine potential abilities and use developmental checklists to fit the profile of the individual student.

CHARACTERISTICS AND COMPETENCIES: BIRTH TO 6 MONTHS

The newborn baby is often described as being helpless. In many ways, he or she is. For the first few weeks of life, the baby seemingly sleeps, eats, and cries only. The mother or other adult must take care of the infant's needs. However, in spite of physical helplessness, newborn babies can develop a relationship with the family members and others in their life. They can see faces and hear voices. The baby responds to voices by turning his head or quieting to listen.

The new infant communicates his needs by crying and using facial expressions and body movements. Later, smiling, cooing, and gurgling are used to attract and hold the attention of significant people. The baby signals the need to withdraw from an interaction by turning his head away, yawning, crying, or fussing.

 Babies come with all kinds of temperaments. From the beginning weeks of life, babies have unique personalities. Some enjoy being held or cuddled, whereas others do not respond to these activities. Each has his own style of being. Infant temperament has been classified into three types: the easy child, the slow-to-warm-up child, and the difficult child (Thomas, Chess, & Birch, 1970). Each type of infant has different personality and temperament characteristics that affect his moods, responsiveness, and activity levels. An infant's personality can affect adult interaction. Adults react positively and negatively to infant personalities, which in turn can cause difficulties for the infant. Parents and caregivers can have a positive effect on the infant's and toddler's emerging personalities by recognizing personality differences and modifying their responses positively and appropriately. This is especially true with the child who is classified as difficult (Soderman, 1983).
## AGE: BIRTH TO 6 MONTHS

<table>
<thead>
<tr>
<th>Physical-Cognitive Development</th>
<th>Date</th>
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<tbody>
<tr>
<td>1. Lifts head when held at shoulder</td>
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<td>2. When on stomach lifts or turns head</td>
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<td>3. Follows a moving person or object with eyes</td>
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<td>4. Looks at suspended object</td>
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<td>5. Grasps and holds a person or object for several seconds</td>
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<td>6. Moves arms and legs actively</td>
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<td>7. Sits in lap with support</td>
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<td>8. Closes hand on dangling toy</td>
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<tr>
<td>9. Rolls over</td>
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<td>10. Looks at objects and realistic pictures</td>
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<tr>
<td>11. Uses eye-hand coordination in reaching</td>
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<tr>
<td>12. Turns head to sound of bell or rattle</td>
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<tr>
<td>13. Plays with hands and feet</td>
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<tr>
<td>14. Brings object to mouth</td>
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<tr>
<th>Social-Emotional Development</th>
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<tbody>
<tr>
<td>1. Looks attentively at an adult</td>
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<tr>
<td>2. Adjusts body to the way the adult holds him or her</td>
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<td>3. Responds to talking, smiling, touching</td>
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<tr>
<td>4. Quiets when picked up</td>
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<tr>
<td>5. Stops crying when someone plays with him or her</td>
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<tr>
<td>6. Vocalizes in association with pleasure, displeasure, eagerness, and satisfaction</td>
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<td>7. Cries to get a bottle, to get attention, or to be held</td>
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<tr>
<td>8. Knows familiar people or things by sight or voice</td>
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<tr>
<td>9. Chuckles and laughs</td>
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**FIGURE 4.1** Wortham developmental checklist: Infants and toddlers, birth to 6 months.
Figure 4.1 provides a checklist for the developmental characteristics in the newborn child until about 6 months of age. Because no two infants develop at the same rate, the time line will differ for individual babies.

**Hunter**

Hunter is 9 months old. He can be characterized as having a slow-to-warm-up temperament. When he was a very young infant, Hunter was very serious. He did not smile easily, and he studied other people in his environment. Both of Hunter’s parents are professionals. Hunter’s father manages real estate, and his mother is an accountant. Hunter stays with a nanny during the day. Now that he is approaching his first birthday, Hunter is physically very active, eager to explore, and obviously larger than average.

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**CHARACTERISTICS AND COMPETENCIES: 6 TO 12 MONTHS**

During the second 6 months of life, the baby experiences one of the most significant periods of growth and development in the entire life cycle. In physical development, the infant learns to sit, crawl, stand, and perhaps walk. Fine motor development allows the child to explore and manipulate toys and other objects by putting them in the mouth and performing other actions that permit learning the physical properties. The baby is very interested in his or her body while practicing motor skills such as rocking on hands and knees or clapping. The child may begin to feed him- or herself and imitates the physical actions of other family members.

The baby enjoys increasing social interactions with others. Babbling, smiling, and making gestures such as waving are used to initiate and respond to social encounters. The baby also uses gestures and tone of voice to communicate wants and needs. In addition, the baby is gaining an understanding of the language and intonation used by others and can respond to simple commands, particularly “No.” As the first birthday approaches, he or she may be able to use a few simple words.

A significant stage in social-emotional development is based on the attainment of memory. The baby begins to recognize and react negatively to the presence of strangers. The baby also develops a new awareness of separation from the mother and other family members and fusses and cries when separation occurs. For a period of time, the infant may be more selective about social interactions and be wary of entering new situations.

Figure 4.2 is a checklist for infants 6 to 12 months old; it lists the new competencies the baby acquires in physical, cognitive, and social-emotional development during the second half of life.

**CHARACTERISTICS AND COMPETENCIES: 12 TO 18 MONTHS**

The months after the first birthday are an exciting period of development for the toddler. New abilities enable the child not only to get around without assistance but also to communicate using language. Freed from the dependence of infancy, the toddler literally blooms as he practices and masters emerging competencies.

Learning to walk affords the toddler true mobility. By 18 months, he not only will leave tentative steps behind and walk well but also will learn to climb stairs and throw a ball. Fine motor development enables the toddler to become more proficient at feeding himself and to learn a few skills in putting on and removing clothing.

Although gestures are still used to communicate wants, emerging language permits the child to use words to interact verbally with others. The baby understands more language than he can speak; nevertheless, the baby can name things in the environment and use words to initiate and respond to adult language.

Motor skills help the child to carry out new abilities in cognitive development. The toddler uses mobility
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<tr>
<th>AGE: 6 TO 12 MONTHS</th>
<th>Date</th>
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<tbody>
<tr>
<td>PHYSICAL-COGNITIVE DEVELOPMENT</td>
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<tr>
<td>1. Sits alone</td>
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<tr>
<td>2. Transfers object from one hand to another</td>
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<tr>
<td>3. Drinks from a cup</td>
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<tr>
<td>4. Picks up small things with thumb and forefinger</td>
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<tr>
<td>5. Uncovers hidden toy</td>
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<tr>
<td>6. Looks at picture book</td>
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<tr>
<td>7. Holds two toys</td>
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<tr>
<td>8. Imitates speech sounds</td>
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<tr>
<td>9. Creeps or gets from one place to another</td>
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<tr>
<td>10. Attains sitting position independently</td>
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<tr>
<td>11. Stands holding on</td>
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<td>12. Walks holding on</td>
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<tr>
<td>13. Drops or places objects into a container</td>
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<tr>
<td>14. Manipulates objects</td>
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<tr>
<td>15. Says single words such as &quot;mama&quot; and &quot;dada&quot;</td>
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<tr>
<td>16. Imitates actions</td>
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<tr>
<td>17. Attempts self-feeding with a cup and spoon or fingers</td>
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<tr>
<td>SOCIAL-EMOTIONAL DEVELOPMENT</td>
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<tr>
<td>1. Shows likes or dislikes of people, objects, places</td>
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<tr>
<td>2. Plays with image in mirror</td>
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<tr>
<td>3. Understands &quot;No&quot;</td>
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<tr>
<td>4. Responds to presence of a new person</td>
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<tr>
<td>5. Squeals with joy or pleasure</td>
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<tr>
<td>6. Demonstrates anxiety over departure of parents</td>
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<tr>
<td>7. Enjoys and plays games with others (e.g., &quot;pat-a-cake&quot;)</td>
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<tr>
<td>8. Uses motions or gestures to communicate (holds out arms to be picked up)</td>
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</table>

**FIGURE 4.2** Wortham developmental checklist: Infants and toddlers, 6 to 12 months.
and dexterity to expand exploration and manipulation of things in the environment. Through active play with toys and independent movement, the toddler enlarges his understanding of the world and the things that are available for play activities. Language and motor skills enhance the child's social and emotional development. The toddler exchanges words for crying when he needs or wants something. The toddler initiates social interactions with others more freely and can control the length of the interactions with others by advancing or withdrawing physically.

The characteristics listed in Figure 4.3 describe the toddler's development during the first 6 months of the second year. As the characteristics of development become more complex, the descriptions of development can be put into categories. Thus, physical-cognitive development now is divided into motor development, language development, and cognitive development.

Katilynn

Sixteen-month-old Katilynn looks like a little angel but behaves just the opposite. Even before she could move around, she wiggled and squirmed. She was not interested

<table>
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<tr>
<th>AGE: 12 TO 18 MONTHS</th>
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<tbody>
<tr>
<td>PHYSICAL-COGNITIVE DEVELOPMENT</td>
</tr>
<tr>
<td><strong>Motor Development</strong></td>
</tr>
<tr>
<td>1. Throws ball</td>
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<tr>
<td>2. Builds two-block tower</td>
</tr>
<tr>
<td>3. Walks well</td>
</tr>
<tr>
<td>4. Walks backward</td>
</tr>
<tr>
<td>5. Walks upstairs (with difficulty)</td>
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<tr>
<td>6. Removes clothing (with difficulty)</td>
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<tr>
<td>7. Takes off shoes and socks</td>
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<tr>
<td>8. Uses spoon with little help</td>
</tr>
<tr>
<td>9. Turns pages in a book</td>
</tr>
<tr>
<td>10. Drinks from cup or glass unassisted with some spilling</td>
</tr>
<tr>
<td>11. Scribbles</td>
</tr>
<tr>
<td><strong>Language Development</strong></td>
</tr>
<tr>
<td>1. Says single words (may add two and three words)</td>
</tr>
<tr>
<td>2. Points to a body part on request</td>
</tr>
<tr>
<td>3. Imitates words</td>
</tr>
<tr>
<td>Date</td>
</tr>
</tbody>
</table>

**FIGURE 4.3** Wortham developmental checklist: Infants and toddlers, 12 to 18 months.
Language Development
4. Responds to a single request
5. Says the names of at least five things

Cognitive Development
1. Pursues and retrieves a toy that is out of sight
2. Puts objects in and out of container
3. Role plays with familiar objects
4. Recognizes and responds to self in mirror
5. Solves simple puzzles or constructions

SOCIAL-EMOTIONAL DEVELOPMENT
1. Cooperates in games with caregivers
2. Offers objects to another person
3. Plays independently or in parallel play
4. Helps with simple tasks
5. Maintains interest in activities for longer periods
6. Looks at speaker who is talking
7. Carries, hugs toys

FIGURE 4.3 (continued)

in infant toys and was only briefly interested in anything else. Now that Katelyn can walk and climb, nothing is safe. She is into everything she can reach. She is a happy toddler but a source of exasperation for her parents. Katelyn is definitely on the go, but her parents are reluctant to take her to restaurants and other public places that will restrict her activities. She defies confinement. She will not sit in a high chair and stubbornly ignores all attempts to curb her behavior. Her attention span is still very brief, and constant activity fills her busy day.

CHARACTERISTICS AND COMPETENCIES: 18 TO 24 MONTHS

During the second half of the second year, the toddler seems to have an inexhaustible source of energy. Development of new abilities seems to be constant and rapid. A few weeks brings many changes in motor development, language, cognitive learning, and social development. The child develops
Developmental Characteristics of Young Children from Birth to 8 Years

simultaneously in more than one area as he tries out new competencies.

The older toddler is physical, or "on the go." He can now run, climb, and accomplish some self-help skills in dressing and washing. The child is proficient in feeding himself and engages in all physical activities with enthusiasm.

Language development is accelerating. The child can make himself understood by using words and is expanding the number of words he can string together when talking. Role playing or pretending now includes talking as the toddler begins to verbalize what he is doing while playing. More words are used correctly, although the toddler uses the same vocabulary to express many different thoughts.

Toys and problem-solving activities are appealing to the competent toddler as he is able to apply past experiences to new learning situations. The toddler is learning to work simple puzzles and is developing an awareness of concepts such as color, shape, and number.

Social awareness allows the toddler to enjoy group activities. Although the toddler is just beginning to interact in play activities with other children, he is aware of others and is expanding interactions with peers and adults.

The toddler is eager, interested, challenging, quick, busy, full of energy, and, for adults, exhausting. Toddlers require constant supervision as they explore and experiment with their new abilities. This is the age with the highest potential for toddler accidents, as they move through one of the peak periods of growth and learning. Figure 4.4 lists characteristics of the child during the second half of the second year and describes the toddler's continuing development.

INFANT AND TODDLER DEVELOPMENT: IMPLICATIONS FOR LEARNING

Adults who are responsible for children during the first 2 years of life have the opportunity to facilitate growth and development within an exciting time of beginnings. Whereas infants used to be considered helpless human beings, they are now described as capable and competent. Weiss (1987) stated, "This new baby is capable of selecting stimuli to which to respond or ignore, to physically withdraw from an external cause of pain, or to react with total body movement to internal distress" (p. 22). White and Watts (1973) wrote, "The 10- to 18-month period of life is in effect a critical period for the development of the foundations of competence" (p. 245).

Parents, teachers, and caregivers can best serve as facilitators of competence and learning if they understand how the child grows and develops during the first years. Although young infants cry and need to be fed, changed, and burped, they can also coo, attract the adult's attention, use their body to express themselves, and enjoy social interactions with others. Toddlers are busy and active. They are noisy and interested in everything.

During physical development, motor and perceptual skills need to be encouraged. Motor skills include running, jumping, using alternate feet on stairs, and manipulating construction toys. Adults need to provide opportunities and activities to encourage the use of both large and fine motor skills. The baby uses the five senses of hearing, tasting, seeing, smelling, and touching to learn about the world. Activities and opportunities to explore using the senses should be included in daily experiences.

The child learns concepts through exploration and exposure to new experiences in cognitive and language growth. Through the development of language, the child becomes able to communicate and express him- or herself. Adults need to plan for opportunities to explore toys, nature, and home and school environment, books, and other items that can enrich children's understanding of their world and expand their receptive and expressive vocabulary.

Social growth includes the development of emotions, the management of fears, and the development of a sense of self. Because babies are in a stage of trust versus mistrust, adults can enhance a positive outlook and confidence by providing a dependable, consistent environment in which they can flourish. Babies need to experience continuity and security in their daily lives that will allow them to become explorers and
### AGE: 18 TO 24 MONTHS

<table>
<thead>
<tr>
<th>PHYSICAL-COGNITIVE DEVELOPMENT</th>
<th>Date</th>
<th>Date</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Motor Development</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Washes and dries hands</td>
<td></td>
<td></td>
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<tr>
<td>2. Builds tower of three or four cubes</td>
<td></td>
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<tr>
<td>3. Kicks ball forward</td>
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<tr>
<td>4. Throws ball overhand</td>
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<td></td>
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<tr>
<td>5. Walks up steps</td>
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<td></td>
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<tr>
<td>6. Runs</td>
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<td></td>
<td></td>
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<tr>
<td>7. Pounds and rolls clay</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>8. Jumps</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Removes clothing</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Drinks from cup or glass</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Uses spoon</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Climbs furniture, play equipment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Language Development</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Combines two to three different words</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Follows two or three directions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Names pictures</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Imitates adult speech without prompting</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FIGURE 4.4**  Wortham developmental checklist: Infants and toddlers, 18 to 24 months.

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Koby, Katelynn’s brother, is 4 years old. He fits in the category of the easy child. He has always been agreeable and able to adjust to changes in routines, caregivers, and playmates. He has his own ideas about his choices of activities and clothes. He has preferred to dress like his dad since he was a toddler and usually sports a hat.

Koby recently had his first experience on a soccer team. He finally learned not to lie down on the field during the second half of the game at the end of the season. As the first grandchild on both sides of the family, he usually had extended family representation at the soccer games. Koby now attends a preschool program at a local elementary school. ■
**Language Development**

5. Engages in make-believe telephone conversation

6. Uses at least 15 different words correctly

**Cognitive Development**

1. Demonstrates perception of correct function of toy

2. Solves a two- or three-piece puzzle

3. Places correct shape in shape box

4. Uses housekeeping toys

5. Recognizes self in photograph

6. Matches familiar objects by color

7. Matches familiar objects by shape

8. Understands “one more”

9. Returns toy to correct place

**SOCIAL-EMOTIONAL DEVELOPMENT**

1. Uses words to make wants known or express feelings

2. Puts away toys on request

3. Engages in affectionate interchanges with adults and children

4. Sings with adults or other children

5. Shows interest in exploring new places

---

**FIGURE 4.4 (continued)**

**AGES 2 TO 5: THE PREOPERATIONAL STAGE**

Between the ages of 18 months and 2 years, the toddler enters the preoperational stage. The older toddler, between the ages of 2 and 3, is making a transition from babyhood into the preschool years. By age 2½, the toddler is developmentally closer to the preschool 3-year-old than to the younger 2-year-old toddler. Because 2-year-olds are typically preoperational in their thinking, their development is included with that of preschoolers 3 to 5 years of age. Similarly, children between the ages of 6 and 7 are making a transition into the concrete operational stage. Although they are progressing through the latter stages of preoperational thinking, their development is discussed with primary school-aged children (Sternberg, 2002).
Cognitive Development

Children who have reached the preoperational stage have entered a new period of thought; that is, they can use symbolism, or pretending. They are able to represent objects and events mentally. However, they are controlled by their perceptions. They focus on appearances. They are also limited in that they center on one characteristic at a time and see things from their own egocentric point of view.

Within the preoperational stage is the symbolic function substage. This substage occurs between the ages of 2 and 4. Symbolic thought allows the child to mentally picture things that are not present. Young children who have achieved symbolic function can use art experiences, especially scribbling, to represent things in their environment, such as houses, trees, flowers, and people. Symbolism also allows them to engage in pretend play.

Egocentrism in this substage results in the child's inability to distinguish between his own perspective and the perspective of another child or adult. In play, the child assumes that other children share his feelings and thoughts. The child may have difficulty relating to another child's ideas or emotions that are different from his own.

Children in the symbolic function substage also believe that inanimate objects are alive and capable of action. Thus, they are likely to think, for example, that clouds are propelling themselves in the sky. They might also believe, for instance, that a rock or tree can take action or cause something to happen.

Between the ages of 4 and 7, the preoperational child enters the intuitive thought substage, when primitive reasoning begins. The child's thought process is changing from one of symbolic thinking to intuitive, or inner, thinking. The child can organize objects into primitive collections but is unable to use categories of classification in a consistent manner. As a result, the child might start organizing an array of objects by a color, then change to another color or move to arranging by shape or size. This primitive system of organization is caused by shape or size. This primitive system of organization is caused by shape or size. The child tends to center, or focus, on one characteristic or attribute. Two attributes cannot be considered at one time. As a result, the child may change from one attribute to another when trying to organize a group of objects. Once the child is able to move beyond centering, levels of thought characteristic of the concrete operational stage—such as classification and seriation—can emerge (Berk, 2001; Santrock, 2002).

John Flavell has studied cognitive development for many years (Flavell, 2000). He is particularly interested in preschoolers' understanding of mental experiences. Flavell has found that preschoolers have limited understanding about thinking and introspection. For example, 4-year-olds believe that the mind is capable of using thought in many directions at once. Likewise, they might be unaware of their own ongoing thought activities (Flavell & Hartman, 2004; Lillard & Curren, 1999). Although preschoolers have acquired some basic knowledge about mental experiences, there is much more for them to learn.

Children between the ages of 2 and 5 need opportunities to explore. Parents and caregivers can provide experiences for cognitive development through excursions in the nearby environment as well as trips of longer distances. Children also benefit from experiences with books, pictures, and concrete materials related to concepts in their world. Activities with materials combined with conversations facilitate their process of sorting out and internalizing information and ideas.

Physical Development

As children move from toddlerhood to the preschool years, they begin to lose their chubby appearance. Their bodies become more proportional as they get taller and thinner. In a slower rate of growing, they gain about 3 pounds a year and grow approximately 2½ inches.

Children at this stage become agile at climbing, running, and jumping. Later, they can master hopping, skipping, and galloping as they achieve more coordination and control. They acquire some mastery of throwing and catching a ball and move from marked-time climbing of stairs to using alternate feet when both ascending and descending.

Preschoolers gain more fine motor control over hands and fingers and use this control to develop
skills in drawing, cutting, coloring, and pasting. They can put on and remove some clothing items, and they enjoy using their developing fine motor skills to become independent.

Indoor and outdoor play environments can provide opportunities for practice of motor skills. Three-year-olds can build block towers and work simple puzzles. They are constantly on the move outdoors as they ride tricycles, move up and down play structures, learn to pump a swing, and run in the playground while pretend playing. Rough-and-tumble play occurs, particularly in boys (DiPierro, 1981), whereas girls are more likely to enjoy using fine motor skills in, for example, scribbling or playing with puzzles. When playing outdoors, boys are more active than girls and use more space in their play. Girls are more likely to prefer indoor play using fine motor skills in manipulative or art activities (Frost, 1992; Johnson, Christie, & Yawkey, 1999; Wortham, 2005d).

Adults facilitate physical development by providing daily opportunities for gross motor play both indoors and outdoors. In addition to providing space and equipment for gross motor exercise, adults can engage in games and activities that will extend preschoolers' interests and attempts to try new skills. Many manipulative toys attract preschoolers to engage in fine motor activities. Adults need to provide a selection of puzzles, small construction toys, and art media that will entice young children to work with fine motor skills. Because fine attempts with scissors and crayons may prove difficult, adults provide support and encouragement through activities that permit the child to enjoy the process.

**Language Development**

After the age of 2, young children move beyond telegraphic speech in that they are able to use longer and more complete sentences. They are learning morphological rules. This is evidenced by their use of plural and possessive forms of nouns and verb endings. They make errors in the use of rules, such as overgeneralizations (e.g., they might apply inappropriate verb endings when using the past tense).

In syntax or sentence construction, children learn the proper word order for asking questions. Their sentences become more complex as they expand their vocabulary and expressive speech. They are gradually able to use negative sentences (Brown, 1973).

At about 3 years of age, young children begin to understand and use rules of conversation. They are able to talk about things that are not present; consequently, they can use language as they engage in pretend play or talk about imaginary people and things. As prosocial awareness develops, 4-year-olds are able to understand others' feelings or needs expressed in conversations. Four-year-olds can also vary their speech style when talking to different audiences, such as younger children, peers, or adults (Gleason, 1988).

Word meanings develop continuously. Young preschoolers use environmental contexts to understand the meaning of new words. Locative expressions such as "on" and "under" emerge between ages 2 and 3, but others, such as "beside" and "between," take longer to understand and use. Santrock (2002) reported that between the ages of 1 and 5, the child learns an average of five words per day. After age 5, the rate of acquisition of new word meanings accelerates.

Development in writing and reading, or literacy, is also an important area between the ages of 2 and 5. Literacy is important in the infant and toddler years and is encouraged when parents and other caregivers share books, stories, and pictures with babies. When parents point out labels on a food product, indicate why they are making a grocery list, or explain how they can find a telephone number in the directory, they are helping develop the child's understanding of the functions of reading and writing (Presley, 2001).

Building on oral language development with books and environmental print, preschool children develop strategies for becoming literate. When parents and teachers talk with children about things the children are interested in and take them on outings that will expose them to new experiences and information, they are helping the child build conceptual foundations and language that is later used in reading and writing (Morrow, 2000). As a result of their experiences,
children gradually come to understand that print, not just pictures, gives meaning to books. They come to recognize print and gain knowledge of the spacing between words and that individual letters are used to form words (Fields & Spangler, 2000).

Social-Emotional Development

Between the ages of 2 and 5, young children gradually learn how to become part of a social group. A major task during these years is socialization. This process of socialization is affected by parenting styles, relationships with siblings and peers, and family and environmental conditions. To become successful members of social groups, young children must learn appropriate behaviors. They must learn what behaviors their parents desire them to use, how to interact with their siblings, and how to successfully play with friends. One major accomplishment is the acquisition of prosocial behaviors when the young child uses cooperating, sharing, and helping behaviors (Duescher & Sugawara, 1989). Another desired behavior is the development of respect for others. Despite the contrary influences of society and television, adults in young children's environment help them acquire appropriate social behaviors that demonstrate respect by modeling and reinforcing concern for others (O'Brien, 1991).

Parenting styles will affect how the child learns self-control and meets parental expectations. Parents may be authoritarian, authoritative, or permissive (Baumrind, 1971). Authoritarian parents place firm limits on children and expect them to follow their directions, whereas authoritative parents, in addition to using limits and controls, encourage their children to be independent. Permissive parents can be indulgent or indifferent (Maccoby & Martin, 1983). Permissive-indulgent parents place few controls on their children but are involved with them, whereas permissive-indifferent parents are not involved in their children's lives. Whichever style is used, consistency or inconsistency in parenting behaviors will affect the child's social and emotional development. The child needs dependable guidelines in the long process of acquiring self-discipline. If the parent and teacher approach the discipline process indifferently or vacillate in how they guide the child's behavior, then the child's confusion may result in inappropriate behavior.
The parent or other adult can teach the child social skills in a variety of ways. Styles of guiding or correcting behaviors may include instruction, inductive reasoning, reinforcement, or punishment. These parenting strategies can have either positive or negative consequences in the child's long-term social development. If positive guidelines are to be communicated to the child, parents and teachers will want to focus on teaching the child appropriate behavior rather than on punishment of inappropriate behavior (Cleverly, 1988).

At the age of 2, the older toddler is learning how to interact with peers through play. He is moving from engaging in mostly solitary play or parallel play near another child to gradually increasing the frequency and level of interaction with children in play activities. Peers are important sources of socialization in that they help the child learn how to fit into group situations outside the family. Young children learn how to engage successfully in social play largely through trial and error. They discover it is less successful to hit than to offer a toy when trying to gain acceptance in a playgroup. Cooperation and sharing become recognized as successful social behaviors. Parents and teachers can help young children acquire successful social behaviors by discussing such behaviors and modeling appropriate peer relationships.

During the preschool years, the young child is exposed to both negative and positive social influences. Children can learn aggression as well as prosocial behavior. Various influences in their lives help mold the socialization characteristics they acquire. Changing social influences affect which socialization patterns the child will ultimately adopt. Because the child is in the stage that Erikson describes as initiative versus guilt, the child is in the process of discovering what kind of person he will become. The child is beginning to develop a conscience. The child's initiative and enthusiasm will result in both rewards and punishments from parents. Whether the child will resolve this stage with initiative or guilt is influenced by how the parents respond to the child's attempts at independence and self-control. If parents can set effective limits yet encourage children's curiosity, children will develop a positive outlook about their ability to manage self-control. If parents and teachers are punitive and controlling, children will possibly doubt their ability to achieve independence (Cleverly, 1988; Soderman, 1983). Television, changing family patterns, quality of child-care, and school settings all contribute to the environmental influences that socialize the child positively and negatively.

Stanley Greenspan proposes that emotions are the basis for intelligence. The ability to negotiate social relationships is learned through affective relationships between the infant and toddler and significant adults in their lives.

Children vary in how they experience critical affective interactions, depending on how their nervous systems respond to physical sensations. Some very young children process these interactions easily, while others are not able to process the experience. By understanding children's developmental level and individual differences, children can be helped to negotiate emotional situations that result in intelligence and emotional health (Greenspan, 1997).

Greenspan theorizes that the brain uses a dual code when storing experiences. One code labels the physical properties of the experience (language and intelligence), while the other code labels the emotional context. Thus, the child uses emotion and thinking and language to process and organize experiences (Cowen, 2004; Greenspan, n.d.).

**CHARACTERISTICS AND COMPETENCIES: 2 TO 5 YEARS**

As children move through the preschool years, development is more individually paced. In the preoperational period, development may be more rapid in one area than in another. Developmental change is more dependent on the individual child's maturation and experiences than on chronological age. In discussingdevelopmentally appropriate practice in programs for 3-year-olds, Bredekamp (1987) described the developmental continuum in the preschool years: "At 2½,
many children begin to display skills and behaviors most typical of 3-year-olds. Thus, children between 2½ and 3½ years of age are often similar developmentally; and some 3½-year-olds share traits of 4s" (p. 47).

To accommodate a developmental continuum, the checklists in Figure 4.5 (pp. 92–94), 4.6 (pp. 95–98), and 4.7 (pp. 100–103) describe children within three levels of development rather than by chronological age. The checklists are an adaptation of the Frost-Wortham developmental checklists (Wortham, 1984) that were originally organized by developmental category. In this context, they have been arranged by level of development, with categories

<table>
<thead>
<tr>
<th>CONCEPT DEVELOPMENT</th>
<th>Introduced</th>
<th>Progress</th>
<th>Mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Identification, Discrimination, and Classification Skills</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Discriminates between two smells</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2. Verbalizes that smells are &quot;different&quot;</td>
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<tr>
<td>3. Discriminates between sounds and verbalizes that they are &quot;different&quot;</td>
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</tr>
<tr>
<td>4. Identifies sounds verbally</td>
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<tr>
<td>5. Points to different food objects on request</td>
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<td></td>
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<tr>
<td>6. Discriminates differences in the shape of objects (round, square, triangular)</td>
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<tr>
<td>7. Discriminates differences in the size of objects (big/little, long/short)</td>
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<tr>
<td>8. Classifies objects by weight (heavy/light)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Classifies objects by height (tall/short)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Math: Quantitative and Problem Solving</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Manipulates and experiments with simple machines</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Counts by rote from 1 to 5</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Forms creative designs with materials</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Uses construction materials for multiple purposes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Perceives objects from different visual perspectives</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>LANGUAGE DEVELOPMENT</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Oral Language</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Produces language that is mostly intelligible</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Recognizes and verbally labels common objects</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3. Responds correctly to simple instructions involving locations in the classroom</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Uses sentences of four or five words</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Asks questions to gain problem-solving information</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

FIGURE 4.5 Frost-Wortham developmental checklist: Level III (pp. 92–94).
### FIGURE 4.5 (continued)

of development grouped together within each level. The language and reading development skills in Level V have been updated to reflect new approaches to reading and writing.

The checklist items include characteristic accomplishments or behaviors for each level. They are not intended to be all-inclusive. For example, in the area of concept development, typical concepts the child can learn at a given level are described, yet many more concepts could be added.

The categories of development are further delineated when compared with those in the infant and toddler checklists. Cognitive development is now more specifically described as concept development.
<table>
<thead>
<tr>
<th>No.</th>
<th>Ability Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.</td>
<td>Pushes a loaded wheelbarrow</td>
</tr>
<tr>
<td>9.</td>
<td>Runs freely with little stumbling or falling</td>
</tr>
<tr>
<td>10.</td>
<td>Builds a tower with 9 or 10 blocks</td>
</tr>
<tr>
<td></td>
<td><strong>Fine Movement</strong></td>
</tr>
<tr>
<td>1.</td>
<td>Places small pegs in pegboards</td>
</tr>
<tr>
<td>2.</td>
<td>Holds a paintbrush or pencil with the whole hand</td>
</tr>
<tr>
<td>3.</td>
<td>Eats with a spoon</td>
</tr>
<tr>
<td>4.</td>
<td>Buttons large button on his or her own clothes</td>
</tr>
<tr>
<td>5.</td>
<td>Puts on coat unassisted</td>
</tr>
<tr>
<td>6.</td>
<td>Strings bead with ease</td>
</tr>
<tr>
<td>7.</td>
<td>Hammers a pound toy with accuracy</td>
</tr>
<tr>
<td>8.</td>
<td>Works a three- or four-piece puzzle</td>
</tr>
</tbody>
</table>

**FIGURE 4.5 (continued)**

and math (quantitative and problem solving). Concept development is further divided into identification, discrimination, and classification skills.

Language development has been categorized as oral language at Levels III and IV. At Level V, it is further divided into language and vocabulary, oral comprehension, and emergent reading and writing.

Social and emotional development is described under social play and socializing and is also reflected in the continued complexity of social interactions in dramatic play.

Physical development is now categorized as motor development. Gross and fine motor skills are described as gross movement and fine movement.

**DEVELOPMENT IN THE PRESCHOOL YEARS: IMPLICATIONS FOR LEARNING**

The older toddler and preschool child in the preoperational period undergo dramatic growth in development between the ages of 2 and 5. They are active learners in every aspect of their development. They need constant experiences to help them refine emerging social, cognitive, physical, and language competencies. Improved large and fine motor control allows them to become more independent. They need indoor and outdoor play activities that will encourage practice and enjoyment of their motor skills.

The curiosity of the preschool child is nurtured through the provision of field trips, exploration of the natural environment, experiences and discovery with real materials, and opportunities for creativity and expression through music, drama, and various art media. The reading of books, storytelling, and other literary experiences will spark their interest in writing and reading their own stories and the stories and books written by others.

Preschool children learn social skills through opportunities to interact with members of the family and to play with peers. As a result of social interaction, they learn self-control as well as sharing, helping, playing together, and successfully resolving problems with family and friends. The child learns these social skills both within the home and at caregiving or school environments that foster the development of positive social
<table>
<thead>
<tr>
<th>CONCEPT DEVELOPMENT</th>
<th>Introduced</th>
<th>Progress</th>
<th>Mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification, Discrimination, and Classification Skills</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>1. Points to basic shapes (circle, square, rectangle, triangle) on request</td>
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<tr>
<td>2. Names basic shapes:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) circle</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b) square</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) triangle</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) rectangle</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>3. Labels tastes verbally</td>
<td></td>
<td></td>
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<tr>
<td>4. Identifies primary colors (red, yellow, blue)</td>
<td></td>
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<tr>
<td>5. Identifies likenesses and differences in two or more objects (shape, size, color)</td>
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<tr>
<td>6. Discriminates differences (opposites) in:</td>
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</tr>
<tr>
<td>a) sound (loud/soft)</td>
<td></td>
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<tr>
<td>b) amount (full/empty)</td>
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<tr>
<td>7. Identifies spatial relationships:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) far/near</td>
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<tr>
<td>b) in/out</td>
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<tr>
<td>c) front/back</td>
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<tr>
<td>d) high/low</td>
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<tr>
<td>8. Identifies and discriminates time relationships:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) before/after</td>
<td></td>
<td></td>
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<tr>
<td>b) earlier/later</td>
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<tr>
<td>9. Identifies and discriminates actions:</td>
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<td></td>
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</tr>
<tr>
<td>a) run</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b) walk</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>c) jump</td>
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<tr>
<td>10. Classifies objects by more than one property</td>
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<tr>
<td>11. Reverses simple operations:</td>
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</tr>
<tr>
<td>a) stacks/unstacks/restacks</td>
<td></td>
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<tr>
<td>b) arranges/disarranges/rearranges</td>
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<tr>
<td>12. Classifies by condition:</td>
<td></td>
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</tr>
<tr>
<td>a) hot/cold</td>
<td></td>
<td></td>
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<tr>
<td>b) wet/dry</td>
<td></td>
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</tr>
</tbody>
</table>

FIGURE 4.6  Frost-Wortham developmental checklist: Level IV (pp. 95–98).
<table>
<thead>
<tr>
<th>Item</th>
<th>Introduced</th>
<th>Progress</th>
<th>Mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Identifies and discriminates value relationships:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) right/wrong</td>
<td></td>
<td></td>
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<tr>
<td>b) good/bad</td>
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<tr>
<td>c) pretty/ugly</td>
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<tr>
<td>d) sad/happy</td>
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<tr>
<td><strong>Math: Quantitative and Problem Solving</strong></td>
<td></td>
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</tr>
<tr>
<td>1. Counts by rote from 1 to 10</td>
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<tr>
<td>2. Demonstrates the concept of numbers through 5</td>
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<tr>
<td>3. Orders the numbers 1 to 5</td>
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<tr>
<td>4. Understands the concepts of first and last</td>
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<tr>
<td>5. Identifies:</td>
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<td></td>
</tr>
<tr>
<td>a) penny</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>b) nickel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) dime</td>
<td></td>
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<tr>
<td>6. Compares differences in dimension (taller/shorter, longer/shorter, thinner/wider)</td>
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<tr>
<td>7. Demonstrates one-to-one correspondence</td>
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<tr>
<td><strong>LANGUAGE DEVELOPMENT</strong></td>
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</tr>
<tr>
<td><strong>Oral Language</strong></td>
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</tr>
<tr>
<td>1. Uses simple position words such as &quot;over&quot; and &quot;under&quot;</td>
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<tr>
<td>2. Uses simple action words such as &quot;run&quot; and &quot;walk&quot;</td>
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<tr>
<td>3. Uses complete sentences</td>
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<tr>
<td>4. Uses language for specific purposes (directions, information)</td>
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<tr>
<td>5. Verbalizes routine events (&quot;We're going out to play&quot;)</td>
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<tr>
<td>6. Averages five-word sentences</td>
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<tr>
<td>7. Follows simple sentences</td>
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<tr>
<td>8. Repeats nursery rhymes</td>
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<tr>
<td><strong>DRAMATIC PLAY</strong></td>
<td></td>
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<tr>
<td>1. Role-plays in the housekeeping center</td>
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<tr>
<td>2. Role-plays some adult occupations</td>
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<tr>
<td>3. Participates in dramatization of familiar stories</td>
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<tr>
<td>4. Uses puppets in self-initiated dialogues</td>
<td></td>
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</tbody>
</table>

**FIGURE 4.6 (continued)**
<table>
<thead>
<tr>
<th>Developmental Characteristics of Young Children from Birth to 8 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>5. Differentiates between real and make-believe</strong></td>
</tr>
<tr>
<td><strong>6. Pretends dolls are real people</strong></td>
</tr>
<tr>
<td><strong>7. Constructs (paints, molds, and so forth) recognizable figures</strong></td>
</tr>
<tr>
<td><strong>8. Participates in finger plays</strong></td>
</tr>
<tr>
<td><strong>SOCIAL PLAY AND SOCIALIZING</strong></td>
</tr>
<tr>
<td><strong>1. Leaves the mother readily</strong></td>
</tr>
<tr>
<td><strong>2. Converses with other children</strong></td>
</tr>
<tr>
<td><strong>3. Converses with adults</strong></td>
</tr>
<tr>
<td><strong>4. Plays with peers</strong></td>
</tr>
<tr>
<td><strong>5. Cooperates in classroom routines</strong></td>
</tr>
<tr>
<td><strong>6. Takes turns and shares</strong></td>
</tr>
<tr>
<td><strong>7. Replaces materials after use</strong></td>
</tr>
<tr>
<td><strong>8. Takes care of personal belongings</strong></td>
</tr>
<tr>
<td><strong>9. Respects the property of others</strong></td>
</tr>
<tr>
<td><strong>10. Attends to an activity for 15 to 20 minutes</strong></td>
</tr>
<tr>
<td><strong>11. Engages in group activities</strong></td>
</tr>
<tr>
<td><strong>12. Sings with a group</strong></td>
</tr>
<tr>
<td><strong>13. Is sensitive to praise and criticism</strong></td>
</tr>
<tr>
<td><strong>MOTOR DEVELOPMENT</strong></td>
</tr>
<tr>
<td><strong>Gross Movement</strong></td>
</tr>
<tr>
<td><strong>1. Balances on one foot</strong></td>
</tr>
<tr>
<td><strong>2. Walks a straight line forward and backward</strong></td>
</tr>
<tr>
<td><strong>3. Walks a balance beam</strong></td>
</tr>
<tr>
<td><strong>4. Climbs steps with alternate feet without support</strong></td>
</tr>
<tr>
<td><strong>5. Climbs on jungle gym</strong></td>
</tr>
<tr>
<td><strong>6. Skips haltingly</strong></td>
</tr>
<tr>
<td><strong>7. Throws, catches, and bounces a large ball</strong></td>
</tr>
<tr>
<td><strong>8. Stacks blocks vertically and horizontally</strong></td>
</tr>
<tr>
<td><strong>9. Creates recognizable block structures</strong></td>
</tr>
<tr>
<td><strong>10. Rides a tricycle with speed and skill</strong></td>
</tr>
</tbody>
</table>

**FIGURE 4.6 (continued)**

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(continued text)
FIGURE 4.6  (continued)

relationships. The young child needs time to work and play with family members and other children with modeling, discussion, and encouragement, which will help the child learn to use positive rather than negative social behaviors. Adults provide the personal and environmental support that facilitates learning and growth in social and all other areas of development. More detailed information on how teachers facilitate development and learning in the preschool years will be discussed in Chapters 7 to 9.

**Miles and Elizabeth**

Miles and Elizabeth are siblings. Miles is almost 5 years old, and Elizabeth is 8. Their mother is of Hispanic ancestry, and their father is Anglo. Neither the children nor their parents speak any language other than English, although they hear grandparents and other extended family members speaking Spanish. Their father works as a graphic artist, and their mother is a dental assistant. Both children have been in child care since they were young infants. Elizabeth is now in the second grade, and Miles will enter kindergarten next fall.

Elizabeth can be described as somewhat shy and eager to please. She participates in dancing lessons and Brownie Scouts. Her teachers find her a cooperative and diligent student. She enjoys Barbie dolls, books, and art activities. She is enjoying trying out her new skills in writing and spelling by describing the pictures she creates.

Miles engages in rough-and-tumble outdoor play with his friends. He lives in a neighborhood full of boys his age who spend many hours playing together in the evenings and on weekends. Wheel toys and other props facilitate "superhero" and other fantasy play themes that move across the yards of homes on their block. Miles enjoys playing with miniature vehicles and is able to keep himself occupied for long periods of time in self-initiated play when he is indoors. He is easy to manage if firm limits are set for his behavior.

**AGE 5 TO 8 YEARS: THE TRANSITION FROM PREOPERATIONS TO CONCRETE OPERATIONS**

The ages from 5 to 8 are described here as transitional because the young child is experiencing several kinds of transitions. In terms of schooling, the
UNDERSTANDING THE IMPLICATIONS OF BRAIN RESEARCH

Early childhood educators have understood the importance of the early years for development and learning for many decades. This significance was made apparent by the work of researchers such as Jean Piaget, Jerome Bruner, and others who studied the course of development in young children. Differences in development between children from homes where parents were educated and economically successful and children from low-income homes were significant. The growing data on at-risk children during the 1960s were a major impetus for funding for federal intervention programs.

Extensive evidence exists on the importance of appropriate nutrition, health, and learning experiences during the early childhood years for later success in school. More recently, brain research has supported this premise. Researchers have studied how the brain continues to grow and develop after birth. More significantly, researchers have explained how synapses in the brain are formed during the early childhood years, whereas unused connections are pruned away between the years of early childhood and age 10 (Zero to Three and The Ounce of Prevention Fund, 2000). Some educators who have studied brain research have proposed that the early years of brain plasticity provide temporary "windows of opportunity" for child development that will later be lost when the pruning process begins.

There are fundamental problems with this assumption. Bruner (1999) warns that incorrect assumptions are being made about the sensitive periods for learning. He reports there is no scientific evidence that more learning takes place where dendrite connections are being expanded than after pruning takes place. To the contrary, he proposes that more learning occurs after age 10 than before and that perhaps learning is more efficient after brain activity stabilized.

What, then, are the merits of brain research? Information on brain development has expanded our understanding of how an optimal family environment in the very early years enhances a child's development. Likewise, quality early childhood programs facilitate ongoing development in the preschool and primary grade years. The importance of rich opportunities to explore and interact with the environment support brain development. All the information on early childhood and development developed during the second half of the 20th century is supported by brain research. Nevertheless, we must be cautious in following educational claims for toys and activities that will expand a child's brain development during sensitive periods. Rather, we should continue to support sound experiences that will enhance development and learning in the early childhood years and beyond (Bruner, 1999; O'Donnell, 1999).

child is making a transition from home, child care, or preschool into a public or private elementary setting. If the school has preschool classes for 4- and 5-year-old students, the transition is being made from preschool into primary classrooms.

The child is also making developmental transitions. Although the child is in the last years of early childhood, he is gradually moving from preoperations into concrete operations. Development is uneven during this period both within the individual child
<table>
<thead>
<tr>
<th>CONCEPT DEVELOPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification, Discrimination, and Classification Skills</td>
</tr>
<tr>
<td>1. Identifies spatial relationships:</td>
</tr>
<tr>
<td>a) top/bottom</td>
</tr>
<tr>
<td>b) over/under</td>
</tr>
<tr>
<td>2. Identifies and discriminates value relationships</td>
</tr>
<tr>
<td>(like/dislike)</td>
</tr>
<tr>
<td>3. Identifies and discriminates time relationships</td>
</tr>
<tr>
<td>a) morning/noon/night</td>
</tr>
<tr>
<td>b) today/tomorrow</td>
</tr>
<tr>
<td>c) yesterday/today</td>
</tr>
<tr>
<td>4. Labels smells verbally</td>
</tr>
<tr>
<td>5. Identifies colors (green, orange, purple, brown, black, white)</td>
</tr>
<tr>
<td>6. Identifies the simple properties of an object (color, shape, size)</td>
</tr>
<tr>
<td>7. Classifies colors by intensity (dark/light, darker than/lighter than)</td>
</tr>
<tr>
<td>8. Classifies foods (fruits, vegetables, meat)</td>
</tr>
<tr>
<td>9. Classifies tastes (sweet, sour, salty)</td>
</tr>
<tr>
<td>10. Classifies surfaces by textures (smooth, rough, soft, hard)</td>
</tr>
<tr>
<td>11. Identifies and classifies common objects by shape (circle, rectangle, triangle,</td>
</tr>
<tr>
<td>oval, square)</td>
</tr>
<tr>
<td>12. Serializes (arranges) objects by size</td>
</tr>
<tr>
<td>13. Classifies by function:</td>
</tr>
<tr>
<td>a) food/eat</td>
</tr>
<tr>
<td>b) vehicle/ride</td>
</tr>
</tbody>
</table>

**Math: Quantitative and Problem Solving**

<table>
<thead>
<tr>
<th>introduced</th>
<th>progress</th>
<th>mastery</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Counts to 50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Demonstrates the concept of numbers through 10</td>
<td></td>
<td></td>
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<tr>
<td>3. Orders the numbers 1 to 10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Writes numbers for sets 1 to 10</td>
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<tr>
<td>5. Identifies pairs of familiar objects (shoes, socks, gloves, earrings)</td>
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<tr>
<td>6. Groups objects into sets of equal number</td>
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<tr>
<td>7. Compares elements of unequal sets (more than/fewer than)</td>
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</tbody>
</table>

**FIGURE 4.7 Frost-Wortham developmental checklist: Level V (pp. 100–103).**
<table>
<thead>
<tr>
<th></th>
<th>Introduced</th>
<th>Progress</th>
<th>Mastery</th>
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</thead>
<tbody>
<tr>
<td>8. Combines (adds) the total number in two small groups</td>
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<tr>
<td>9. Uses ordinal concepts up through concept of third</td>
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<tr>
<td>10. Identifies:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) penny</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b) nickel</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>c) dime</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d) quarter</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>11. Compares distance (height, width) to an independent object</td>
<td></td>
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<tr>
<td>12. Compares volumes in separate containers</td>
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</tr>
<tr>
<td>13. Tells time to the hour</td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>LANGUAGE DEVELOPMENT</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Oral Language</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Communicates ideas, feelings, and emotions in well-formed sentences</td>
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<tr>
<td>2. Uses the correct form of more verbs in informal conversation</td>
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</tr>
<tr>
<td>3. Uses the correct prepositions to denote place and position</td>
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<tr>
<td>4. Uses most personal pronouns correctly</td>
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<tr>
<td>5. Explains the operation of simple machines</td>
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</tr>
<tr>
<td>6. Uses language to get what she or he wants</td>
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</tr>
<tr>
<td>7. Can follow instructions containing three parts</td>
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</tr>
<tr>
<td>8. Learns sounds and names of letters</td>
<td></td>
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</tr>
<tr>
<td><strong>Reading Readiness</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Language and Vocabulary</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Listens to and follows verbal directions</td>
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</tr>
<tr>
<td>2. Identifies the concept of word</td>
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<td></td>
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</tr>
<tr>
<td>3. Identifies the concept of letters</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. Invents a story for a picture book</td>
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</tr>
<tr>
<td><strong>Oral Comprehension</strong></td>
<td></td>
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</tr>
<tr>
<td>5. Locates elements in a picture (tallest, largest, and so forth)</td>
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<tr>
<td>6. Retells in the correct sequence a story read to him</td>
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<tr>
<td>7. Reorganizes pictures to show the correct story sequence</td>
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<tr>
<td>8. Answers recall questions about a story</td>
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<tr>
<td>9. Draws analogies from a story to his own experience</td>
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<tr>
<td>10. Makes value judgments about story events</td>
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**FIGURE 4.7** (continued)
<table>
<thead>
<tr>
<th>Emergent Reading and Writing</th>
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<tbody>
<tr>
<td>11. Tells experiences for an experience story</td>
</tr>
<tr>
<td>12. Follows left-to-right progression as an adult reads</td>
</tr>
<tr>
<td>13. Identifies recurring words on an experience chart</td>
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<tr>
<td>14. Suggests titles for experience stories</td>
</tr>
<tr>
<td>15. Uses invented spelling to write stories</td>
</tr>
<tr>
<td>16. &quot;Reads&quot; familiar storybooks</td>
</tr>
</tbody>
</table>

**DRAMATIC PLAY**

1. Role-plays a wide variety of roles in the housekeeping center and in other centers
2. Role-plays on the playground
3. Role-plays a variety of adult occupations
4. Recognizes that pictures represent real objects
5. Participates in a wide variety of creative activities: finger plays, rhythm band, working with clay, painting, outdoor play, housekeeping, singing, and so forth
6. Produces objects at the carpentry table and tells about them
7. Produces art objects and tells about them
8. Searches for better ways to construct
9. Builds complex block structures

**SOCIAL PLAY**

1. Completes most self-initiated projects
2. Works and plays with limited supervision
3. Engages in cooperative play
4. Listens while peers speak
5. Follows multiple and delayed directions
6. Carries out special responsibilities (e.g., feeding animals)
7. Listens and follows the suggestions of adults
8. Enjoys talking with adults
9. Can sustain an attention span for a variety of duties
10. Evaluates his work and suggests improvements
<table>
<thead>
<tr>
<th>MOTOR DEVELOPMENT</th>
<th>Introduced</th>
<th>Progress</th>
<th>Mastery</th>
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<tbody>
<tr>
<td><strong>Gross Movement</strong></td>
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<tr>
<td>1. Catches and throws a small ball</td>
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<tr>
<td>2. Bounces and catches a small ball</td>
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<tr>
<td>3. Skips on either foot</td>
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<tr>
<td>4. Skips rope</td>
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<tr>
<td>5. Hops on one foot</td>
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<tr>
<td>6. Creates Tinkertoy and block structures</td>
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<tr>
<td>7. Hammers and saws with some skill</td>
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<tr>
<td>8. Walks a balance beam forward and backward</td>
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<tr>
<td>9. Descends stairs by alternating feet</td>
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<tr>
<td><strong>Fine Movement</strong></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>1. Cuts and pastes creative designs</td>
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<td></td>
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<tr>
<td>2. Forms a variety of pegboard designs</td>
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<tr>
<td>3. Buttons buttons, zips zippers, and ties shoes</td>
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<tr>
<td>4. Creates recognizable objects with clay</td>
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<tr>
<td>5. Uses the toilet independently</td>
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<tr>
<td>6. Eats independently using a knife and fork</td>
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<tr>
<td>7. Dresses and undresses independently</td>
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</tr>
<tr>
<td>8. Holds and manipulates pencils, crayons, and brushes of various sizes</td>
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<tr>
<td>9. Combs and brushes hair</td>
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</tr>
<tr>
<td>10. Works a 12-piece puzzle</td>
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*FIGURE 4.7 (continued)*

and when comparing children of the same chronological age.

It is during this transitional period between preschool and primary grades that the historical heritage of American schooling comes into conflict with developmental theories of how young children learn during the early childhood years. American primary grades have traditionally been organized by chronological age. Following Gesell’s description of norms for different ages, educators and curriculum developers in the years from 1930 to the 1950s organized instruction in the primary grades to complement the child’s abilities at ages 6, 7, and 8. The organizational pattern by chronological age persists today with the expectation that children should be prepared to learn using similar curriculum and tasks as their chronological peer. The problems encountered by young children in successfully achieving in spite of individual developmental characteristics are further complicated by the continuing escalation of curriculum difficulty as a response to school reform, discussed in Chapter 1. The lack of flexibility in adapting curriculum to individual developmental characteristics has resulted in difficulties for both teachers and students in the primary grades, especially in first grade. The need to understand the nature of development and
the implications for learning are particularly significant in the years between ages 5 and 8.

**Cognitive Development**

Between the ages of 5 and 8, children move from the preoperational stage into the concrete operational stage. Some current researchers disagree with Piaget's position that concrete operations occur at about age 7 and have demonstrated that some children can achieve conservation at much earlier ages than was previously thought. Similarly, young children acquire concrete operational concepts gradually rather than as a synchrony in development, as Piaget believed (Bellin, 1989). There is much individual variation in when and how children move from preoperational to concrete operations. It can begin in some children as young as age 4, but it is a gradual process, with characteristics of concrete operations emerging differently in young children (Santrock, 2002).

As young children make the transition to concrete operations, the quality of their thinking changes. They cease evaluating situations based on perception and begin to use logic and mental operations to understand their experiences. This advance in thinking leads to improvement in memory and length of time at each task.

The ability to conserve is the central characteristic that signals the child's achievement of the concrete operational stage. Whether the conservation activity involves number, mass, length, volume, or other type of quantity, the child who can conserve understands that the physical appearance of something does not change its quantity. The classic conservation task involving the quantity of liquid usually comes to mind as an example. The child understands that changing the width and height of the container holding the liquid does not change the original amount of the liquid. In addition, rearranging an array of objects does not change the number of objects.

The ability of the child to think logically using specific thinking skills leads to his ability to think about and solve problems mentally; nevertheless, children are limited to things they are familiar with or can see. They are not yet able to think or solve problems as adults do (Bredekamp, 1987; Bredekamp & Copple, 1997).

In terms of understanding mental experiences, primary-grade children have a better understanding of the nature of thought. Unlike preschool children who believe that thought can go in more than one direction simultaneously, they discover that mental thought is selective and focused. They also learn that thoughts and ideas occur one after another when the individual is conscious. A thought can be triggered by another mental experience. Moreover, they learn that two individuals can have different mental experiences even if they experienced the same thing (Flavell & Hartzman, 2004).

Children in the concrete operational stage are able to use mental strategies to learn new information. They can use rehearsal of information to store the information in memory. They can also play with their thoughts to think about thinking. Called metacognition, this thinking strategy permits the child to make up jokes or play games that require planning strategies (Berk, 2001; Santrock, 2002).

Regardless of the child's new sophistication in thinking skills, the process of learning new information remains the same. The child reconstructs knowledge through active involvement with information. New information is acquired not through rote memory but through engaging in experiences and modifying what is already understood using individual processes and learning paces.

**Physical Development**

As children move from kindergarten into the primary years, they grow more slowly than during the preschool years. Weight gain occurs in the muscles; the average weight gain is 3 to 7 pounds a year. The trunk and legs grow more rapidly than the head; the legs grow longer; and the trunk becomes slimmer. Muscle tone improves, and boys are usually stronger than girls.

Children begin to lose their first teeth at age 6 and have their permanent teeth by age 11 or 12. Their facial appearance becomes longer and slimmer.
as the face and jaw become more balanced with the upper part of the head.

During the primary years, children refine their gross and fine motor skills. They gain better control of their bodies and have longer attention spans. Handwriting skills are acquired through expressive art activities and opportunities for emergent writing experiences. Gross motor skills are developed through sports, games, and other physical activities. Children need to be active because they become fatigued if long periods of sitting are required. The change and progress in motor development are steady and predictable if children have plenty of opportunity for fine and gross motor experiences. They need opportunities for running, jumping, bicycling, and learning sports such as baseball and gymnastic activities such as using a balance beam. For fine motor skills, they need abundant experiences with art, including drawing, painting, working with clay, cutting, and playing with manipulative materials (Berk, 2001; Santrock, 2002).

Language Development

The process of language development in the years from 5 to 8 is similar to that of motor development. Children are refining and extending the language learned in the preschool years. They have mastered the basics of syntax and semantics; that is, they have learned how sentences are structured and how words are used to communicate meanings. However, they are still confused by the meanings and usages of some words. Metacognitive thinking allows them to think about language; in other words, children can be described as having metalinguistic awareness. This allows them to enjoy jokes and riddles and the ambiguous use of words (e.g., using words that sound similarly or sentences that can be understood in different ways) (Berk, 2001).

Oral language development can be occurring in more than one language. Continuing immigration to this country and concomitant diversity of cultures result in many children entering school whose primary language is not English. Schools serving these children must provide services so that they can acquire English. Because the predominant theory of second-language acquisition is that the young child learns English in the same way that he learned the first language, opportunities to hear and use English are important. The child needs to hear English modeled by other children and adults so that he can gradually use the vocabulary and sentence structure of English as well as the first language (Abramson, Seda, & Johnson, 1990; Quintero & Huerta-Macias, 1990).

These practices should be available to English language learners whether they are served in a bilingual program or English as a second language program.

It is said that educational practices move back and forth like a pendulum. This is particularly true in beginning reading and writing instruction. Kindergarten teachers in the 1960s and 1970s were concerned with preparing their children to begin reading in first grade. Prereading activities included extensive instruction in learning letter names and sounds and putting sounds together to make words. Other readiness skills included exercises in directionality, matching letters and words, and matching pictures to words.

In the 1980s and 1990s, emergent literacy and whole-language practices based on constructivist theories were widely used. Early childhood reading specialists and child development experts reasoned that the young child learns to read and write using the same process that is used to acquire language. Children gradually learn to write by creating stories using invented spelling followed by spelling that is more accurate and correct (Fields & Spangler, 2000; Morrow, 2000). Reading follows a similar pattern in that children obtain meaning and recognition of words from familiar books that have been read to them many times. Further, literacy was thought to emerge through interaction with literacy in the world. In addition, reading and writing emerge simultaneously and should not be taught separately (Gulbin, 1985; Toal, 1986).

As the new century approached, concern about effective reading instruction led to congressional action. In 1997, the National Reading Panel was established by the National Institute of Child Health and Human Development in consultation with the
U.S. secretary of education to review the scientific literature and determine the most effective ways to teach children to read (National Reading Panel, 2000). The panel reviewed selected research in alphabets (phonemic awareness and phonics instruction), reading fluency, reading comprehension, and computer technology. The panel found that "the research conducted to date strongly supports the concept that explicitly and systematically teaching children to manipulate phonemes significantly improves children's reading and spelling abilities" (National Reading Panel, 2000, p. 2). This benefit ranged from kindergarten through sixth grade and for children having difficulties learning to read.

The panel also found that guided oral reading is important for developing fluency. Students should read aloud to a parent, teacher, or other student. Students should also be taught variety of techniques to promote recall of information as well as questioning and summarizing techniques. Finally, the panel reported that too few studies resulted in a lack of firm conclusions about the use of technology. Nevertheless, the information they did have suggests that the use of computers for word processing may also help students read and write (National Institute of Child Health and Human Development, 2002).

Following the National Reading Panel report, the pendulum moved away from whole-language strategies to specific instruction in phonics, vocabulary development, reading comprehension skills, and reading fluency. The continuing impact of this trend indicates that emergent literacy and whole language have less of a role in learning to read beyond the preschool level. The question remains whether a balanced reading instruction program in the preschool should include opportunities for children to include their own constructions of learning to read and write as well.

Pressley (2001) disagreed with the findings of the National Reading Panel. While he concurred with the importance of the categories of reading skills described in the National Reading Panel report, he felt that much of the scientific evidence related to effective beginning reading instruction was ignored. He proposed that the panel ignored findings related to instruction at home, effects of some television programming such as Sesame Street, community tutoring resources, and some elements of whole-language instruction. Further, he believes that effective literacy instruction is a balance and blending of skills teaching and holistic literature and writing experiences. Finally, Pressley asserts that there is no single quick fix for successful beginning reading instruction and that no reform package that can be bought will guarantee improved reading achievement. There are various existing reading intervention programs that have shown some scientific support for improving children's literacy. In sum, Pressley proposes that children need more than reading and comprehension skills instruction to be successful readers. The Texas Reading Initiative on beginning reading instruction echoes this approach in its handbook on beginning reading instruction (Texas Education Agency, 2002). The handbook includes opportunities for widely varied reading experiences, hearing stories and informational books read aloud daily, and exposure to environmental prints as parts of a balanced reading program.

Social-Emotional Development

The transition into school and the new roles to be encountered are of considerable importance in the years from 5 to 8. Despite the rising numbers of children in caregiving or preschool settings outside the home during the preschool years, entry into the primary grades is an important transition socially and emotionally.

Children within this age range are entering the stage that Erikson called industry versus inferiority. Achievement and social acceptance become important parts of the child's life. If the child feels successful and achievement is a rewarding effort, then he develops a sense of industry. To the contrary, if the child feels unsuccessful, unpopular, and that he cannot succeed in achieving, then a sense of inferiority develops.

Children's social development is affected by their emerging social role-taking abilities. They are aware of other people's thoughts, feelings, and attitudes; in addition, they are becoming more aware and concerned about what others think about them. Children's positive or negative self-images are affected by
whether they are successful in social interactions (Hartup, 1983).

Perception of social acceptance also affects self-image. Children who have established friendships have been able to develop positive social strategies that are less accessible for children who are disliked. The latter have lower self-esteem, achieve less in school, and are more likely to become antisocial, disruptive, and destructive in later elementary years unless intervention is effective in changing their behaviors and outlook (Aster & Williams, 1987).

Children's early school experiences in successful learning are particularly critical for the development of positive self-esteem and a sense of industry. Success in first grade is significant because this is the first level at which children become aware of whether they perceive themselves as competent and successful learners. It is in first grade that children receive feedback on achievement that makes a major impact on whether they believe themselves to be capable of succeeding in school.

The kind of school setting the child encounters can be an important factor in whether the child will develop a positive or negative picture of his ability (Bredekamp, 1987; Bredekamp & Copple, 1997). A school that recognizes the normal variation in children's development in this transitional period, as well as normal differences in language, motor, and social development, will organize kindergarten and primary grades to maximize the child's developmental strengths to ensure success and a positive self-image. Schools where grade-level curriculum is fixed and achievement on standardized tests controls curriculum and instruction in the primary grades are more likely to have many young students who receive negative feedback and subsequently develop a negative self-image and feelings of inferiority (Santrock, 2002).

CHARACTERISTICS AND COMPETENCIES IN CHILDREN AGES 5 TO 8 YEARS: IMPLICATIONS FOR LEARNING AND INSTRUCTION

Children develop more slowly between the ages of 5 and 8 than they did previously, and characteristics of development emerge gradually over a period of years. Developmental characteristics are acquired within
the remaining years of early childhood and beyond into the middle childhood years. Developmental checklists are no longer useful for charting development because milestones are achieved gradually and continuously. Characteristics and competencies acquired between the ages of 5 and 8 are best described as evolving within the later ages of early childhood.

Because children between the ages of 5 and 8 are entering the first grades of formal schooling, it is helpful to now include a discussion of how schooling should complement developmental characteristics. Thus, this section focuses on how parents and educators should respond to rather than overlook development. Characteristics, competencies, and implications for learning and curriculum instruction are again discussed by category of development.

Cognitive Development

Despite the gradual shift from preoperational to concrete operational thinking during this period, children are still not ready to learn in the abstract. They still need real things to focus their thinking or serve as reference points when using symbols such as words and numbers. Although they can use thinking skills to mentally manipulate concepts and ideas, there is a continuation of the need for concrete materials and experiences in the learning process.

During these years, learning is a continuation of the reconstruction of knowledge. Experience is the method used to facilitate the construction of knowledge. Children need many opportunities to interact with concepts and use their developing thinking skills to identify and solve problems related to new information.

Emerging social and communication skills allow the child to understand and appreciate the thoughts and views of others. Consequently, these children are able to learn in small groups. Through group activities and discussions about group efforts, children can utilize the thoughts and perspectives of their peers to expand their own understanding. At the same time, they are also developing their language and social skills through group involvement in learning experiences.

Physical Development

Children between the ages of 5 and 8 are gaining better control of gross and fine motor skills. They develop longer attention spans and can maintain interest in learning activities. However, these new physical capabilities do not imply that children should be expected to sit for long periods of time engaged in passive, fine motor activities.

Physical activity is essential for children during these years. Their developing gross motor skills require generous time periods for outdoor play, both structured and unstructured. Physical activity indoors and outdoors is needed to practice and enjoy new physical competencies. Because children in the primary grades become fatigued from sitting for long periods, they need to be active in the classroom. In addition, their cognitive style as active learners dictates that they interact with concrete examples for meaningful learning to occur. Therefore, physical activity is also needed for cognitive learning. Physical interactions through hands-on, center-based activities should be part of the ongoing experiences with new and familiar concepts. Children need to be actively engaged in self-initiated projects and lessons using manipulative materials as part of the learning process.

Social-Emotional Development

Social competence is a major achievement in the years between 5 and 8. Children who fail to develop social competence during these years are more likely to develop serious social and emotional problems in later years. The development of competence in achievement is also a major factor in the development of a positive self-image.

Because adults and the school environment are major factors in developing social and learning competence, teachers have an important responsibility in guiding positive acquisition of feelings of success and competence. Teachers can use direct and indirect strategies with young children to assist in the struggle for social acceptance and positive social interaction.

Teachers also can be sensitive to structuring classroom experiences to facilitate a sense of industry
rather than inferiority. School-age children are able to evaluate their own efforts in learning. If they are allowed to succeed in achieving during the primary grades, then they will become self-directed and will develop a sense of industry. If they encounter frequent failure in their efforts to learn, then their self-esteem will suffer and they will develop the perception that they are failures. As a result of understanding the implications of development for learning during these years, teachers must organize learning experiences that are not beyond the child’s ability to learn successfully. Activities should be carefully designed to facilitate positive motivation to learn and foster the child’s belief in his or her ability to succeed.

Children are also developing a conscience and an understanding of moral rules of behavior. They are in the process of learning self-discipline and self-control. Teachers who use positive guidance techniques and model appropriate behaviors are more successful in helping children internalize rules of behavior than if they criticize and punish.

Organization of programs and classrooms for children from ages 5 to 8 will be described in Chapters 10. Planning for curriculum and instruction for children of these ages will be discussed in Chapters 11 and 12.

SUMMARY

The years from birth to age 8 are described as the early childhood years. This period of life is most rapid in terms of development. Development is more rapid during this period than during any other period in the life span. Understanding how infants and young children develop physically, cognitively, and socially and how they acquire language and literacy is necessary for adults who are rearing, providing care for, and planning learning experiences for children during this period. An understanding of how the theories of learning and development enable adults to guide the child in the early childhood years also helps adults plan appropriate kinds of learning experiences.

The younger the child, the more rapid his growth and development. Consequently, development of infants and toddlers during the first 2 years is charted in 6-month intervals. Cognitively, babies under the age of 2 are in what Piaget termed the sensorimotor period. Physically, they develop from neonates to toddlers who have acquired basic locomotor skills. Socially and emotionally, they are developing an awareness of self and important others in their lives.

Older toddlers and preschool children from ages 2 to 5 are still in active periods of growth. Because these young children are in what Piaget called the preoperational stage, we can describe their development in three levels rather than by age. Children in the preoperational period are rapidly developing language and concepts as they discover and explore everything they come in contact with at home, outdoors, and at locations away from home. Socially, they are developing abilities to interact and play with other children and develop a positive self-concept as they acquire social and self-help skills. They work toward independence.

Preoperational children are very active physically. They practice and enjoy both gross and fine motor movement. Two- and 3-year-olds seem to be in perpetual motion. Throughout these years, much of the children’s day is spent in physical activity as they challenge themselves to achieve new physical capabilities.

At this point, children are acquiring the foundations of their language, and by age 4 or 5, they have mastered the basic language components. Their language structure has evolved from prelinguistic utterances to a language structure that is similar to that of adults. They have developed an awareness of the nature of written language and reading and may be well on their way to developing literacy.

Children from ages 5 to 8 are in the latter stages of early childhood. They are also moving from preoperational into concrete operations. We describe these children as being in a transitional period because they are changing developmentally; moreover, they are making a transition from one level of schooling to another.

The cognitive transition to concrete operations signals new levels of thinking. The child is no longer perception bound but is now able to think using mental strategies and can think about the thought processes being used. Physical development is slower.
Over a period of time, the child extends physical capabilities as body length and muscle development predominate. Regular physical activity is important for optimal continued physical development.

Sophistication in language continues. Oral language becomes more complex as the child extends vocabulary and receptive language as well as more mature expressive language. The move toward literacy, including reading and writing, is an exciting development during the primary grades. Children master the basics of reading and can enjoy written expression and literature.

Social and emotional development are significant during this period because children have a need to become competent in social and learning interactions. It is during this period that they determine if they are popular with their peers and successful as learners.

Development during each period has its own competencies. Learning experiences provided by adults for each period need to complement the individual characteristics of each child. Developmentally appropriate curriculum and instruction are important for preschool children as well as children making the transition from preschool into primary grades. The transitional years are particularly critical for successful learning. Understanding how to match development with learning experiences is the key to successful schooling in kindergarten and primary grades if students are to develop a positive self-image, believe themselves to be competent, and become success oriented.

**STUDY QUESTIONS**

1. How can knowledge of theories of development help explain levels of development in children from birth to age 8?

2. How does knowledge of development inform planning for curriculum and instruction for young children?

3. How soon does language development occur in children under the age of 2? Trace language development from birth to age 2 years.

4. What is the nature of cognitive development in infants and toddlers? How can we describe "thought" in children at these ages?

5. Why would we describe the pace of physical development as significant in infants and toddlers?

6. At what stage of development do children begin to become social? How does this process emerge?

7. Why can we say that children enter school with command of their home language? What have they mastered in language development by the age of 5?

8. Describe significant milestones in gross and fine motor development between the ages of 3 and 6. What implications does this developmental domain have for activities planned for children at these ages?

9. How do changes in cognitive development at about ages 6 and 7 signal the end of the early childhood years? Describe this developmental process.

10. Do teachers have a responsibility to promote social and emotional development in preschool and primary children? How and why should the socioemotional domain of development be addressed?

11. How does language development affect success in literacy? What do teachers need to know about a child's language development when initiating activities for emergent literacy?
CHAPTER FIVE

Organizing Infant–Toddler Programs

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Describe the historical bases of infant-toddler programs.
2. Discuss how today’s infant-toddler programs reflect the diversity of children’s and families’ needs.
3. Explain how theories of development influence models for infant-toddler programs.
4. Describe the characteristics of components of quality infant-toddler programs.
5. Discuss how experiences are designed for developmental domains of infants and toddlers.
6. Explain how thematic curriculum has a role in infant-toddler programs.
7. Discuss the role of assessment in infant-toddler programs.
8. Explain how assessment is conducted in infant-toddler programs.
Changes in societal values and practices regarding families during the past 20 years have resulted in an increasing consensus that meeting care and education goals for infants and toddlers is a societal as well as a family responsibility. Increased knowledge about early brain development and the importance of the early years for cognitive and social-emotional growth have also changed the thinking of early childhood professionals. There is now consensus that both planned and spontaneous educational experiences begin at the earliest of age. Because such experiences require adult decision-making about their content, it is necessary to revise the traditional definition of curriculum to include both education and care perspectives.

The idea that very young infants are alert learners is still new to many adults, even some of those who care for children. We have learned that infants are sponges for learning about the people and things in their environment. Moreover, we also know that they in turn affect those who care for them. We have come a long way from the days when babies were considered passive and helpless. The vast amount of information we have learned about early development in this century has been vital in understanding how we can develop programs for the very young. The growing need for infant and toddler care and programs has stimulated the development of models for quality programs for infants and toddlers. This chapter traces the roots of these programs and the contexts that have supported advances in infant–toddler care and learning.

THE EVOLUTION OF INFANT–TODDLER PROGRAMS

The evolution of infant–toddler nurture and care parallels that of early childhood education; however, until recent years, the strongest trend for infants and toddlers has been custodial care. From the beginning, early childhood education for the preschool child from 3 to 5 years of age included an educational program. This was true for kindergartens, nursery schools, and private preschools. Conversely, infant and toddler care has been part of the evolution of the child care movement; therefore, until the 1970s, care was the most significant service provided to infants and toddlers. The transition from an emphasis on care to care plus attention to developmental experiences has become more important since the 1970s. In the discussion that follows, knowledge about the development of infants and toddlers will be applied to the programs developed for their care and learning.

Infants and Toddlers Prior to the 20th Century

Prior to the first decades of the 20th century, infant mortality was the most significant concern regarding infants and toddlers. In the 18th century, infants and young children of families emigrating to the United States rarely survived the voyage from their homeland. Physicians knew little about hygiene and how to avoid the spread of disease that contributed to the high mortality rate among infants and children under the age of 7. Little was known about appropriate child-rearing practices and proper nutrition. Midwives who delivered the infants of the poor commonly dressed the umbilical cord with stuff. They fed infants a mixture of molasses and the child's urine as a medication (Public Health Service, 1976).

In the early years of the republic, children were considered either chattel or the property of their parents. Furthermore, 19th-century philosophers and evangelical Christians perceived children as innately bad. Evangelical parents saw it as their responsibility to impose their will and enforce the child's unquestioning obedience, beginning in the child's first year. Greven (1977) explained further:

From the earliest months of life through the subsequent years of childhood, evangelical parents acted upon the assumption that parental authority was

unlimited and unquestionable. Parents systematically imposed their own wills upon their infants and small children without interference from servants or grandparents. Total power of parents, total dependency and obedience of children—this was the persistent polity. (p. 34)

In 1874, a 9-year-old child who had been whipped daily, grabbed with scissors, and tied to a bed was rescued from the brutal treatment of her guardians. Because there were no laws protecting children, the Society for the Prevention of Cruelty to Animals finally intervened to remove the child from the home where she was an indentured servant. In the following year, the New York Society for the Prevention of Cruelty to Children was established to protect children from inhumane treatment (Maxim, 1997).

At the turn of the century, conditions for infants and young children were still discouraging. Health experts were concerned about the ignorance concerning the health and safety of infants and toddlers. The high infant mortality rate was attributed partially to the distribution of contaminated milk from dirty supply sources. Another source of infant and toddler deaths was the ignorance of mothers. A 1904 edition of the Ladies' Home Journal described the practice of many mothers who gave their babies patent medicine that contained 44% alcohol, opium, or cocaine. Fortunately, regulated milk stations were set up to ensure the distribution of safe milk, and the Children's Bureau battled parental ignorance through the publication of pamphlets designed to inform parents about the care of their infants. The first edition of Infant Care was published in 1914; subsequent editions were published through much of the 20th century (Public Health Service, 1976). Some maltreatment of infants and young children declined during the second half of the 19th century. Jean-Jacques Rousseau's view of childhood was one influence that changed parenting and education in Europe and the United States. Rousseau felt that children were innately good. He proposed that babies were born with only goodness in their hearts and that if they were reared in an environment of regulated liberty, they would flower, or unfold. Parents and educators responded to Rousseau's influence by replacing repressive parenting and teaching with loving and nurturing environments for infants (Maxim, 1997).

Further concerns for the health, safety, and nurturing of infants and young children emerged at the end of the 19th century. While Rousseau's perceptions of the needs of young children were changing attitudes about the rearing of infants and toddlers, waves of immigrants were entering the United States and settling in urban areas. Widows and abandoned mothers and some wives with large families found it necessary to go to work if they and their families were to survive. With no one to care for their children, some women sent them to orphanages or foster homes or were forced to leave them unattended when they were at work. Wealthy philanthropists responded to the dilemma by opening day nurseries for unattended infants and young children. The first day care programs provided custodial care: a safe place, nutritious meals, and places for the children to rest for 12 hours per day while their mothers were at work (Maxim, 1997).

At the beginning of the 20th century, conditions were still very poor for infants and toddlers; in the first decade, one-fifth of the deaths in New York City were babies less than 1 year old (Public Health Service, 1976). However, further changes were occurring. Improvements in health services and medical services, the establishment of the child-study movement with its new knowledge about child development, and growing interest in programs for the very young led to improvements in conditions for infants and toddlers in the decades that followed.

**Infants and Toddlers in the 20th Century**

The work of researchers in the child-study movement begun at the turn of the century had implications for the perception and understanding of the importance of the first 2 years of a child's development. Early studies of infants and toddlers were used to describe how development progresses during the first 2 years. Arnold Gesell established developmental norms that were the first to sequence biological development in children. His developmental schedules (Gesell, 1925) were subsequently used to
construct scales to measure development and developmental delay in infants and toddlers; these were, specifically, the Bayley Test of Infant Development, the Catell Test, and the Denver Developmental Test (Weiser, 1991). During the same period, H. M. Skeels was studying the development of institutionized infants compared with babies placed with older girls in a home for retarded children. The significant developmental difference in the babies showed with attention by the retarded girls projected the idea that environment and attention in the first 3 years affect the course of development (Skeels, 1966). Sigmund Freud's work describing the effects of the early years on the development of personality made people aware of the nature of emotional development and the importance of positive child-adult relationships in the early years (Hall & Lindsey, 1970).

The interest in a program that provided more than custodial care for very young children emerged in the first decades of the century following Margaret McMillan's work in England. McMillan had observed that although most of the babies were born healthy in England, only 20% entered school in good health. To counter neglect during the preschool years, she opened nursery schools for children younger than school age that provided for emotional, social, and educational growth. Beyond being given physical care and nutrition, the children were taught self-care and hygiene skills. The program included outdoor play, sensory experiences, and creative self-expression activities. Abigail Eliot transported McMillan's ideas to the United States and transformed the Ruggles Street Day Nursery in Boston into a nursery school in 1922 (Eliot, 1972). The Ruggles Street Nursery School, the first to establish a learning program besides providing care, was soon followed by similar schools. In addition, in the 1920s, other professional educators were addressing programs for infants and toddlers. Harriet Johnson wrote *Children in "the Nursery School"* (1928) and later *School Begins at Two* (1936), both of which describe programs for children under the age of 3.

During the Great Depression, nursery schools expanded through the Works Progress Administration (WPA) project that funded nursery schools to create jobs for unemployed teachers and to provide care so that mothers could contribute to family incomes. These nursery schools tended to be custodial in nature; however, training for nursery school teachers was becoming available in university home economics departments, the first having been established in 1924 at Iowa State University (Maxton, 1997).

As the WPA nursery schools were phased out at the end of the 1930s, the start of World War II initiated a new need for child care. Women went to work in large numbers in factories that produced equipment and materials for the war effort 24 hours per day, and the federal government recognized that child care was thus needed. Child care facilities were established through passage of the Lanham Act, which provided children with food, rest, shelter, and caregivers. Infants and toddlers were served with predominantly custodial care. Exceptions were the Kaiser Child Service Centers, established at the Kaiser shipyards, which contained special innovative features that included constructive play, trained teachers, and an educational program (Braun & Edwards, 1972). In addition, under the leadership of James Hymes, two outstanding centers were established that provided 24-hour-per-day care for 1,000 children ages 18 months to 6 years (Dickerson, 1992). Hymes later attributed the excellent program to trained staff and adequate funding (Hymes & Stots, 1978).

After the end of World War II, programs for infants and toddlers were affected by growth in the child care industry as higher percentages of mothers with children under the age of 6 entered the workforce in each decade between 1950 and 1990. For infants and toddlers, custodial child care was still more common than educational programs. Studies and theories that emerged in the 1950s and 1960s led to experimental programs for minority and poverty-level infants and toddlers. The innovative programs that developed during those years changed the perception of the developmental potential of the very young child and gave new emphasis to developmental and educational components in settings that served infants and toddlers. A major concern beginning in the 1950s and 1960s was whether preschool children,
particularly infants and toddlers, should be placed in
caregiving settings while their mothers worked. Finding
good care for babies during the day is still a major
problem for working mothers.

The focus on the effects of poverty on preschool
children had implications for infants and toddlers.
The importance of the early years for development
and learning was researched by Hunt (1961), who
reported that experiences in the first years of life
affect the child's intelligence. Benjamin Bloom also
reported similar information that reinforced the idea
that the early years are significant for the develop-
ment of intelligence (Bloom, 1964). The relationship
between socioeconomic status and intelligence before
3 years of age was reported by Kagan (1971) and
White and Watts (1973). These and other studies
reinforced the proposition that deprivation during
the first 3 years has measurable effects. When federal
intervention efforts for children from low-income
homes were funded in the 1960s, the issues of the
effects of care on infants and toddlers and the efficacy
of early intervention programs for children under the
age of 3 could both be addressed. The advances
accomplished through the various types of infant
intervention projects in the 1960s and 1970s laid the
groundwork for the infant–toddler programs that
serve very young children today.

The first infant intervention programs focused on
the child. The model for infant–toddler care and
education initiated by Betsy Caldwell and Julius
Richmond in the Children's Center at Syracuse
University in 1968 established a positive approach to
center-based care as opposed to home care. Two addi-
tional infant–toddler programs were established by
Keister at the University of North Carolina at
Greensboro (Keister, 1970) and by Willis and Ricciuti
(1973) at Cornell University.

Later model programs focused on parents and chil-
dren. These programs emphasized the importance of
the mother in the child's growth and development
and addressed different approaches to working with
parents and babies to enhance the child's develop-
ment. Some of these parent–infant–toddler projects
included the Gordon Parent Education Program in
Florida, the Kanes Home Intervention Program, the
Family Development Research Program developed by
Lally and Honig, Leventstein's Mother-Child Program, and Schaefer's Infant Education Research Project (Cataldo, 1983; Day & Parker, 1977; Lally, 2001). These programs reinforced the understanding that parent involvement with infant care and learning is essential for the child's development. Intervention with infants alone is not effective; moreover, intervention with low-income parents is the key to permanent enhancement of the child's environment in the years before age 3.

In the 1970s and 1980s, significantly larger numbers of infants and toddlers were in need of care during the day. Working mothers, single parents, teenage mothers, and women in other low socioeconomic categories needed care for their very young children. The rapid expansion of the child care industry led to national concerns about the quality of child care and the need for establishing standards for caregiving programs. The National Association for the Education of Young Children (NAEYC) took a leadership role in establishing a national accreditation system for preschool and child care settings. The NAEYC National Academy of Early Childhood Programs was established in 1987 to accredit quality programs. Standards for accreditation included characteristics of quality infant and toddler programs (Recken, 1989).

Similar efforts were made to provide quality training for teachers and caregivers in early childhood programs that were not a part of the public schools, which required certified teachers. A consortium of organizations that included the American Association of Elementary/Kindergartens/Nursery Educators, the Association for Childhood Education International, and the NAEYC began work on a credentialing system in 1972 named the Child Development Associate Program. This program involved training in the care of infants and toddlers. In 1973, the first credential was awarded, and by 1990 more than 30,000 teachers and caregivers had been credentialed (Phillips, 1990).

By 1990, new programs were available for intervention with high-risk infants and toddlers. One priority was for early intervention for very young children with disabilities; such a program was initiated in 1986 with the passage of PL 99-457, in which included services for infants and toddlers. The intention of this federal legislation was to include provision of services to infants and toddlers with a developmental delay or a condition that is likely to result in a developmental delay (Silverstein, 1989). The federal government proposed that the funding would encourage states to develop comprehensive plans for intervention programs for infants and toddlers with disabilities and their families (Weizer, 1991).

Those who were involved with Project Head Start were focusing on intervention with infants and toddlers considered at risk because of low socioeconomic status. Head Start, originally established to serve children from ages 3 to 5, took on a new role in 1990 when the Human Services Reauthorization Act of 1990 made it possible to double the number of Head Start parent-child centers. In addition, consideration was given to extending Head Start programs to serve infants and toddlers and their families. Goals for the infant-toddler programs included parent education and training (Pizzo, 1990).

As the decade of the 1990s opened, the idea that infants and toddlers need both education and care was well established. Educare had been proposed as the appropriate term for programs that included child care for infants, toddlers, and preschoolers (Bergen, Reid, & Torelli, 2001; Caldwell, 1986, 1989; Gerber, 1981; Weizer, 1991). Models for nurturing development and learning were available; moreover, standards for developmentally appropriate care for infants and toddlers had been established by the NAEYC (Bredekamp, 1987). Programs with different goals and purposes had become available for infants and toddlers from all types of families.

Infants and toddlers in caregiving programs today represent the diversity of families in the total population. The babies are of all ethnic and racial groups. They come from families with a variety of cultural traditions and languages. They can be from a family of the unemployed poor, or they can be the children of professional parents. Some of these infants and toddlers have disabilities or developmental delays. Others are exceptional in that they have high intellectual abilities.
Some babies live in families that are new to this country. Not only are the infants adjusting to a new community, a new language, and new customs, but they can be frightened at the prospect of leaving the security of familiar family members to enter a caregiving situation with strangers who cannot communicate with them in their home language (Packer, Miller, & Hong, 1992).

Adults in caregiving settings are challenged to understand the multiple factors that affect the infants and toddlers in their care and also to guide them in understanding each other. Because very young children begin to understand sex, race, and physical characteristics by the age of 2, their experiences in caregiving programs are important for the attitudes they are developing about themselves and others (Honig, 1983, 2002; Karz, 1982). Toddlers are capable of developing stereotypes and prejudices at a very young age; therefore, caregivers and parents have an important role in guiding their acceptance and empathy for all the children in their world. To accomplish this goal, adults also must work to accept diversity among the babies in their care. They will need to overcome their own prejudices and biases that limit their abilities to nurture each of the children they care for. They must also work at relating and responding to the uniqueness that each infant and toddler and their families bring to the program (Bergen et al., 2001; Santon, 2001).

**Infant–Toddler Programs Today**

The two major categories of settings serving infants and toddlers today are child care and intervention programs. Parenting programs are also part of infant intervention projects, serving populations of parents and children from all socioeconomic categories. Some infant–toddler programs focus only on babies from more affluent families. The purpose of all these programs is to accelerate or facilitate development and learning or to provide enrichment for infants and toddlers. Yet the individual goals of these programs can be very diverse; they might have contrasting views of the developmental needs of infants and toddlers and the kinds of educational approaches that are most appropriate.

**Infant–Toddler Child Care**

In the 21st century, there are still concerns about infants being placed in group child care before their first birthday. The basic issue has been whether out-of-home care during the first year negatively affects young infants' intellectual or emotional development. There are sometimes conflicting reasons for this reluctance to place infants in care. One belief is that the child is best cared for in the home and that the early development of the infant should remain within the immediate family (Lally, 2001). From earlier concerns that infants placed in nonmaternal care before their first birthday are at risk for developmental delays (Belsky & Steinberg, 1978) to beliefs that parents are likely to perceive group care as better than in-home or family day home care (Bernrein, 1982), there are mixed feelings about the advisability of using infant and toddler care settings.

A major issue is the quality of infant care. At the end of the 1990s, it was reported that only about 10% of infant and toddler care was of high quality; conversely, almost 40% of such care was considered to be harmful (Galinsky, Howes, Kontos, & Shinn, 1994; Lally, 2001). Poor-quality care can be linked to negative outcomes for children (Belsky, 1989). However, a review of the research during the same years indicated that child care causes no ill effects in infants (Clarke-Stewart, Albusen, & Clements, 1995).

Fortunately, efforts are being made to improve care for infants and toddlers. Both the federal government and states such as California, Florida, Kansas, Nebraska, North Carolina, and Vermont are establishing comprehensive strategies for improving infant and toddler care (Penichel, Lute-Hurwitz, & Griffin, 1999). Improved Head Start Performance Standards were published in 1996 that cover the provision of services for pregnant women and children from birth to age 5. These standards also guide new programs for very young children called Early Head Start (Early Head Start, 2000; Lally, 2001).
Although there are still no definitive answers to these questions about out-of-home care, in the meantime, large numbers of infants are in some type of caregiving setting: in their own homes, family child care homes, child care centers, infant care centers, public school centers, and child development centers.

**In-Home Care.** The largest percentage of infants in child care receive in-home care (46% in 1995) (National Center for Educational Statistics, 1996). Such care is provided by a relative, a paid babysitter or housekeeper, a live-in nanny, or another individual who provides care in the baby's home.

**Family Child Care.** Family child care is the main source of out-of-home care for infants and toddlers (Ehren & LeVine, 1989). In this arrangement, child care is provided in the home of the caregiver, who serves a small number of children in her home. The number of children served varies with licensing laws in different states; however, not all family child care homes are licensed (Kelley & Surbeck, 1990). If the home is licensed, it must maintain health and safety standards set by the state licensing agency (Maxim, 1997).

**Child Care Centers.** The number of infants and toddlers attending child care centers is growing. Center care is expensive because of the high teacher-to-child ratios and because infants require more attention and time from caregivers. The NAEYC recommends one adult for four infants and toddlers under 2 years (NAEYC, 1997). Unfortunately, adult-to-child ratio varies from state to state, ranging as high as one to eight (Kelly & Surbeck, 1990).

The quality of infant and toddler care is a major issue. Child care has been characterized as barely adequate. Recent studies have found that most infant and toddler care in centers is mediocre (Cost, Quality, and Outcomes Study Team, 1995).

Quality infant care can be measured by using variables such as space and number of babies per caregiver and by examining caregiver practices (Honig, 2003). Eight characteristics of quality care include attention to health and safety, adult-to-child ratio, a primary caregiver for each baby, continuity of care with the same caregiver, and caregiver sensitivity to infant signals. Other positive qualities are meeting individual needs, including individual learning style and temperament, sensitivity to cultural and language differences, and use of a physical environment with materials and activities that are stimulating and appropriate (Fenichel et al., 1999).

**Public School Centers.** Public school child care centers are being established more frequently in high schools, partly in an effort to provide high school students enrolled in vocational homemaking programs with experience in a child care program. More significant is that such programs are set up to help teenage mothers continue their education and provide young parents with parenting training.

One such program to provide services for teenaged mothers was established in Honolulu, Hawaii. Because of concerns that pregnant teens were dropping out of high school, the program addressed needs for prenatal, birthing, and postnatal family planning. The school established a child care center on the high school campus staffed by early childhood educators and high school students who had taken child development classes. At the end of the first year of operation, 14 students who otherwise would have dropped out remained in school (Thomas & Caulfield, 1998).

School-based child care is also located in elementary schools to meet community needs. Following the example of the Kramer Project in Little Rock, Arkansas, where child care and education were provided for babies as young as 6 months of age (Blasso & Caldwell, 1974), child care facilities located at an elementary school can be convenient for parents who have older children at the school and for teachers who can bring their infants and toddlers to school with them.

**Intervention Programs for Infants and Toddlers**

As more has become known about the benefits of early intervention for children at risk for development and learning problems, programs for intervention with infants and toddlers have been added to existing...
intervention programs for school children. As was reported earlier, both Head Start and PL 94-142 funded services for children with disabilities as young as age 3; PL 99-457 amended PL 94-142 to include infants and toddlers. Part H of PL 99-457, passed in 1986, gave states 5 years to develop and carry out statewide plans to provide multidisciplinary, multiagency intervention services for infants and toddlers with disabilities and their families. The programs for at-risk infants and toddlers should be provided in the type of settings where infants and toddlers without disabilities are also served. In other words, the intent is that infants and toddlers with disabilities will be served in integrated child care, nursery school, and family child care home environments along with children without disabilities and their families (Easter Seals, 2004; Sexton, 1990). Existing infant-toddler programs are to be adapted to serve babies with disabilities and their families.

The disabilities to be served are the conditions of the following groups: children with a known disabling condition, such as Down syndrome; children who exhibit delay in one or more developmental areas; and infants at risk for developing a disability because of biological factors. Although most states plan to serve children with established disabilities, fewer will serve at-risk infants. If at-risk infants are to be served, then prevention of disabling conditions will be addressed in addition to intervention with existing disabilities (Graham & Scott, 1988). However, attempts to serve the large numbers of infants who could be identified with criteria for environmental and biological disabilities are cost prohibitive (Sexton, 1990).

An important component of intervention programs for infants and toddlers is the inclusive role of the family. PL 99-457 requires an Individualized Family Service Plan (IFSP), which identifies infant needs within the context of the family. The IFSP offers a family-centered approach in the services provided by the program. Intervention programs for economically deprived children, such as Head Start, also include family training and services. Indeed, many of the earlier models for infant and toddler programs were designed to counteract familial problems and to include goals for both child and parent.

Head Start was identified as a program to provide intervention for at-risk preschool children and children with disabilities. Early Head Start now extends these services to pregnant women and infants and toddlers from low-income families. A primary purpose of Early Head Start is to promote healthy prenatal outcomes for pregnant women and to enhance the development of infants and toddlers (Early Head Start, 2000).

The Carolina Abecedarian Project (Frank Porter Graham Child Development Center, 2000) has a long history of intervention with young children, beginning in the early 1970s, to break the poverty cycle. Children from birth to age 3 were served through this program. Children received nutritional supplements in addition to a daily, year-round program that emphasized cognitive, language, and adaptive behavior skills. Although program developers found that early intervention could not replace family influence on a child's success, longitudinal follow-ups at ages 12 and 15 showed that children in the program scored significantly higher on reading tests and mathematics from primary grades through middle adolescence than peers in a control group. As adults, those
Infant-Toddler Enrichment Programs

Not all infant-toddler programs are for babies needing intervention. Many parents are interested in learning more about how their child is developing and how they can provide learning experiences. At the same time, they may need help with parenting skills. Programs designed for meeting these parental needs are available. Some have been described as enrichment programs; others are considered formal education (Maxim, 1997).

Enrichment programs assume that the family and infant are functioning in a normal manner. The program can enhance the child’s development through enrichment experiences. Program developers have used varied approaches to informing parents how to interact with their children. Two early programs were the Nova University Play and Learn Program and the Toy Lending Library. The Nova University program offered parent manuals with suggestions for activities (Segal & Adcock, 1979), and the Toy Lending Library offered a collection of infant and preschool materials and toys that parents could use for their children’s learning and development (Nimmich, Arango, & Adcock, 1977).

A current approach to an enrichment program is used by the Crème de la Crème chain of child care centers that serve both working parents and stay-at-home mothers. The centers include interactive television studios, computers, a water play park, and a theater for children’s performances. In addition, there are rooms for more traditional curriculum, such as cognitive and motor development. A controversial element of the program is a schedule that requires children to move from activity to activity every 30 minutes. Children and adults wear Crème de la Crème uniforms. The annual tuition per child is a little less than the average yearly cost of a private, 4-year college.

Crème de la Crème attracts affluent parents who are aware of brain research and the importance of early stimulating experiences for very young children. However, critics of the program question whether some elements are necessary or needed for optimum development in very young children (Galley, 1999).

CONSIDERATIONS FOR DEVELOPING MODELS FOR INFANT-TODDLER PROGRAMS

In Chapters 2 and 3, we considered the theories of development and learning that inform curriculum and instruction that are used with young children. We also learned about some models of early childhood programs that help us approach alternative possibilities for developing quality programs. Now we consider the same types of information in terms of very young children, infants, and toddlers. In the next section, we will consider how classical and contemporary theories guide programs for the very youngest children.

Theoretical Bases for Infant-Toddler Programs

Arnold Gesell’s (1925) maturation theory has implications for infant-toddler programs in terms of his age norms for development. The concept that certain behaviors and abilities tend to emerge sequentially and within a time range helps parents and caregivers have realistic expectations about the child’s development. However, normal variations in development, particularly during the first 2 years, mean that programs for these youngest children should respond to individual development rather than be based on group expectations.

Erikson (1963) described affective development in terms of stages. Very young children from birth to age 2 work through the first of Erikson’s stages (trust versus mistrust) and proceed into the second stage (autonomy versus doubt and shame). Erikson’s stages are important in terms of development of a sense of identity. The infant gradually understands that she has an identity that is separate from others. The infant’s
attachment to another moves from a relationship based on need to one based on love. If infants develop a secure attachment to caregivers, then they will achieve a positive adjustment in an infant program. Further, if caregivers can interact well with the infants and toddlers in their care, then the babies can also develop positive multiple attachments to them.

Behaviorist theory, particularly Bandura’s social learning theory (Bandura & Walters, 1963), has a role to play in program planning for infants and toddlers. Bandura proposes that much behavior is learned through observation. Babies observe how new behaviors are performed and make adjustments following their own attempts at the modeled behavior. Children engage in self-regulation rather than just responding to a stimulus or a reward. Parents and teachers find the behavioral approach combined with social learning helpful in management of behavior. Adults and older children have a major role in providing modeling behaviors for infants and toddlers. Babies can observe others playing with toys and removing clothing as well as many other aspects of daily routines and play that they will learn through experience.

Skinner’s (1953) behaviorist theory, on the other hand, which proposes that learning occurs as a result of reinforcement and reward systems, is seen as incompatible with the constructivist position that learning is intrinsic and can be initiated by the child. Nevertheless, programs developed for infants and toddlers using task analysis and modeling follow behaviorist and social learning theories. In task analysis, the component skills of a task are determined. Children learn one step of a skill at a time and are reinforced for successful mastery of the skills and the ultimate behavior. Modeling is used to demonstrate the desired behaviors so that the child can imitate them (Bergen et al., 2001). This specific skills approach is very useful for children with disabling conditions. Children with a disability may need a carefully prescribed set of activities to respond to their disability. Particular skills must be developed. Teachers and caregivers use reinforcement strategies to promote development or provide intervention in tasks designed to overcome delays in children.

Constructivists such as Piaget and Vygotsky believed in children as active learners or initiators of learning. Piaget’s position on the child’s reconstruction of knowledge suggests that caregivers and parents of infants and toddlers can promote development and learning through a variety of methods and materials that will build on the child’s previous experiences (Kamil & DeVries, 1993). Piaget believed that developmental progress depends on both maturation and the individual’s active experiences, and he thus proposed that the child’s utilization of feedback from active experiences combines with maturation to further intellectual, physical, and social development.

During the first 2 years, the infant and toddler are in what Piaget termed the sensorimotor stage of development. The child’s thinking depends on her senses and physical actions. Babies use their senses and emerging motor abilities to discover and explore within their immediate environment to learn and understand. As they become mobile, their world for learning expands, depending on how much encouragement, materials, and experiences are available to them. Teachers, parents, and caregivers who understand the cognitive-developmental process can interact with the babies and provide the kinds of opportunities that are optimal in encouraging development.

Vygotsky, like Bandura, believed that the social environment affects the child’s development. The child learns from others in the environment. Parents, siblings, and caregivers provide guidance and development for infants and toddlers.

Urie Bronfenbrenner’s ecological theory also supports the approach that the child’s family and immediate and larger community socialize the child. The neighborhood play area, church, and child care center are a part of the child’s culture. Both Vygotsky’s and Bronfenbrenner’s beliefs in the importance of the child’s culture have implications for the programs developed for infants and toddlers.

Programs that follow a constructivist model utilizing intrinsic learning can be described as following a discovery, or interpersonal-environmental approach. In these types of programs, the adult–child interactions and environment are significant. Developmental experiences, teacher and caregiver activities, and the
environment are organized to support children's experiences that will broaden their active exploration. A prepared environment and opportunities to play are essential elements of the approach. Discovery learning opportunities are provided in all areas of development—physical, social-emotional, and cognitive and language. Caregivers interact with the babies by asking questions, modeling, and making suggestions or comments that provide ongoing feedback. Direct instruction is used when specific behaviors or skills need to be learned; nevertheless, responsive strategies predominate as caregivers and teachers interact with individual schedules, interests, and progress of infants and toddlers.

CHARACTERISTICS OF A QUALITY INFANT–TODDLER MODEL

A quality program for infants and toddlers attends to the physical, social-emotional, and cognitive needs of very young children. To provide for these developmental needs, program must include quality caregivers, a responsive environment, developmentally appropriate program, and active parental involvement. The program includes individualized experiences and opportunities for exploration and play. Each characteristic must be present if infants and toddlers are to be nurtured appropriately, whether they receive in-home or out-of-home care. Research provides us with indicators of practices that indicate high-quality care for infants and toddlers (McMullen, 1999, p. 73):

- Use of developmentally appropriate practice as a philosophy in setting up the environment and developing the curriculum
- Low adult-to-child ratios and group sizes that are strictly maintained
- Health and safety recommendations and guidelines that are rigorously followed
- Staff knowledgeable in child development and learning that is specific to the infant and toddler developmental period and who know how to use this knowledge appropriately
- Administrative policies and workplace conditions that discourage staff turnover and thus encourage consistency of caregiving for babies
- Staff who demonstrate that strong interpersonal skills and positive communication exist and are facilitated among caregivers, colleagues, parents, and babies
- Sensitive responsive caregivers who know each baby so well that they can anticipate the baby's needs, read their verbal and nonverbal cues, and consistently respond quickly in a loving and affectionate manner to meet those needs

The Role of Quality Caregivers

It is impossible to overstate the importance of the adults who provide care to infants and toddlers. Caregivers are the most important element of a quality program for babies. In keeping with this important responsibility, infant–toddler programs now use a system of primary caregivers. That means that the very young child is assigned to a single person as the primary caregiver. The child will also interact with other caregivers, but the primary caregiver will have the principal responsibility (Bernhardt, 2000). The infant–toddler caregiver is able to provide intensive personal interactions with each baby in her care. In the high-quality infant and toddler setting, secure attachment between the caregiver and child provides a positive basis for the caregiving experience (Honig, 2002; Railes, 1996). The caregiver also understands that very young children have individual temperaments and schedules and the adult has the primary responsibility to initiate interactions with each infant and toddler. Some of the behaviors the quality caregiver exhibits include cuddling and carrying the baby and using loving looks and positive voice tones (Honig, 2002).

The Role of the Environment

The physical environment in infant–toddler programs should be arranged for the unique developmental needs of very young children. Although many infant–toddler programs have environments that are more suited for older children (Lowman & Ruhmann, 1998), toddlers
need environments that permit them to explore materials and move about freely. The environment should also provide a feeling of security and afford choices of materials and equipment. Some questions might be asked about the physical environment. Is there enough physical space for large motor activities? Is there private space where children can be alone away from the group? Are an adequate number of developmentally appropriate materials available as well as a variety of materials? Is there provision in the environment for dramatic play and discovery (Zeavin, 1977)?

Basic components of an infant–toddler indoor environment include areas for diapering, feeding, sleeping, and playing. Carpeting for the floor is essential, as are open areas where a variety of play activities can take place. The indoor environment may be divided into separate areas using low shelving or partitions. The caregiver should be able to see every child at all times.

Developmentally appropriate environments for both infants and toddlers are described in Developmentally Appropriate Practice in Early Childhood Programs (Bredekamp & Copple, 1997). See Figures 3.1 and 3.2 for examples of quality infant and toddler environments.

The Role of Play

Infants and toddlers spend their waking hours in some form of play. They play in interaction with adults, by themselves, near other babies, or alongside each other in first attempts to be involved with other children.

QUALITY MODELS IN INFANT–TODDLER CARE: ITALIAN CENTERS

Like the Reggio Emilia preschool programs in Italy, infant–toddler care in that country has a long history of evolution and improvement. Not only are these municipal programs available to parents of all backgrounds in Italian communities, but services vary according to the needs of the community and the parents and family. In addition to all-day care programs similar to Reggio Emilia that assign a single caregiver to the very young child, various other services are provided at individual centers. Some of these services are as follows (Mantovani, 2001, pp. 35–36):

- Mother–child groups (each facilitated by a professional caregiver and located near a full-day center), serving children and parents together
- Part-time programs, offering children special activities in a setting with parental involvement
- Parks for infants, toddlers, and preschool children where caregivers provide socializing experiences for children and parents
- Socializing and counseling centers for parents to meet, become oriented toward other services, and find culturally sensitive mediation services for minority groups
- Toy libraries and children’s book libraries, intended as resource centers and meeting places for children and families
- Prenatal and postnatal parent support groups, often with activities such as infant massage, fathering groups, and other special initiatives
- Special times and places for socialization serving immigrant mothers, often in conjunction with other services for new families
- Training for babysitters and at-home caregivers
The play that infants and toddlers engage in parallels their development; therefore, it is useful to discuss the role of play in terms of physical development, cognitive development, and social development. Because infants are in what Piaget called the sensorimotor stage of development and toddlers are progressing from the sensorimotor to the preoperational stage of development, play reflects their developmental progress.

**Physical Play**

Physical play begins at birth, when newborns use their limited resources. They use mouth play such as bubbling saliva or mouthing a nipple (Mussen & Seitz, 1980). As they develop more physical control over their bodies, they extend physical play to their hands, feet, and other body parts. Adults extend physical play experiences as they rock and use other
movements to jiggle or swing the baby about. When the infant can grasp a toy, play is extended to objects in the environment.

Physical or motor play expands widely when the child achieves mobility and becomes a toddler. Now the child is able to extend physical play to explore the environment. The baby learns to walk and run and begins to develop better eye-hand coordination. Continual practice in physical play enables gross and fine motor skills to develop. With the decreased use
of playpens in the United States, the onset of walking occurs at an earlier age than previously occurred (Garner, 1998).

Cognitive Play
Cognitive development enables the infant to combine emerging physical abilities with cognitive competencies to learn about the world. Play with objects and exploration of the environment facilitate infant cognitive development. The infant between 6 and 12 months explores the properties of toys. The child has to use sensory and motor skills to play with toys (McCune, 1986). Typically, infants mouth and virtually explore toys. They may turn a toy over to examine all sides. They bang objects and focus on specific characteristics to better understand the toy. Later, infants are able to use the objects in play because they have mastered an understanding of what the toys can do.

As the older infant achieves object permanence and develops the ability to evoke images and use imitative activities, symbolic, or pretend, play emerges. The toddler can pretend one object is symbolized by another and uses this ability in make-believe play (Johnson, Christie, & Yawkey, 1999). The infant can now pretend to be drinking from a cup. When the older toddler can pretend that a doll is drinking from a cup, genuine symbolic play is part of the cognitive repertoire. Pretend play activities become more complex and sophisticated as the child is provided opportunities for play with objects and materials.

Social Play
Play has an important role in social development. The infant's and toddler's individual social world has a strong influence on how they can engage in social play. The infant's first social play involves interactions with adult caregivers. The accommodating play partner engages the infant in social activities such as peekaboo orummy tickling. The infant learns social taking of turns in interactions and communicating; through attending to and responding to social games, the infant waits for a turn and reciprocates in the give-and-take of the experience. Infants use these same social skills to initiate others in socialization.

Smiling and vocalizations are used to attract another to interact with them (Hagens, 1997).

Toddlers can use objects to engage in social play with adults and peers. Johnson and colleagues (1999) propose that toys serve as "social butter" for mediating play between toddlers. The emergence of symbolic play enables toddlers to use pretend play with other babies.

Ericson (1963) characterized the stages of social play as autonomic, micropsychic, and macrospheric. Infant play is autonomic because the infant's attention is focused on his or her own body. The micropsychic stage evolves when the child can extend play to include toys and objects; a few significant others in the infant's environment can be included in the infant's play. Social play improves in the macrospheric stage, when the child can engage in the play of others; play structures that facilitate shared play, such as wide slides, rocking boats, and large sandboxes, encourage social interactions among toddlers.

The Outdoor Play Environment
In addition to initiating and encouraging social interactions with infants and toddlers, adults also have the responsibility of organizing the environment to facilitate physical, social, and cognitive development through play. Earlier in this chapter, the characteristics of a quality environment were explored. Examples of indoor environments for both infants and toddlers were described to include materials and toys that are developmentally appropriate for the two age-groups. The environment and toys recommended for infants and toddlers are related to the developmental progress from one age to the other that is reflected in play experiences and materials that are beneficial and enjoyable (Wortham, 2005).

The outdoor play environment similarly provides play experiences that enhance infant and toddler development and play. Like the indoor environment, the outdoor playscape should be designed with the unique developmental needs of infants and toddlers in mind. For infants, a secure, enclosed area outdoors can provide them with opportunities to experience climate changes, landscape elements, and sensory experiences involving sun, shadows, wind, textures, and wildlife.
During the first year, the adult caregiver individualizes interactive opportunities for socializing, feeding, and playing in order to be in tune with the infant’s individual schedule, which Honig (1989) describes as the child’s tempo. During the second year, toddlers in group care can follow scheduled times for playing, eating, and performing other brief activities with flexibility for individual needs for attention and rest. Some routines, such as diapering, are still done on an individual schedule; however, caregivers can plan for group activity and play periods and can establish times for feeding and napping for the group as a whole.

The routines followed when babies arrive and leave are also important parts of the day. The smooth transition from home to the care facility at the beginning of the day and then the change at the end of the day promote security and calm for babies and their families. Other transitions in routines for toddlers—for example, changing from one activity to another or washing hands before a meal—provide predictability and consistency for the daily schedule. Caregivers help toddlers anticipate changes in the routine by giving signals that help toddlers move from one activity to another. Conversations, stories, and finger plays are also used to engage toddlers in transitions from one activity or routine to another (Honig, 2002).

**The Role of Parents**

Quality infant–toddler programs support the family. Because parents are the prime adults in the child’s life, close communication between caregivers and parents is particularly important. The relationship between the parents and caregivers should be a partnership; consistency between routines and child-rearing practices at home and at the caregiving setting is critical for the baby’s security and development. Parents and caregivers are sharing in the child’s life, and thus it is important that they discuss their roles and expectations (Bredekamp & Copple, 1997; Powell, 1989).

Parents have different needs in their relationships with staff members and caregivers in infant–toddler programs. Working parents may feel guilty and
FIGURE 5.3 Infant and toddler outdoor play environment.

anxious about leaving their child in out-of-home care. They need reassurance about the child’s daily routines and experiences, which help parents keep in touch with the child’s progress and how the day went for the child and the caregiver. Parents of infants and toddlers with disabling conditions who are in early intervention programs need ongoing progress reports and instruction on how they can contribute to the efforts being made in the child’s individual program. Many parents—particularly single, teenage mothers—need supportive guidance in parenting skills.
QUALITY MODELS IN INFANT–TODDLER CARE: HEAD START PARENT–CHILD CENTER

The Edward C. Mazique Parent-Child Center in Washington, D.C. serves as a Head Start model for children under age 3. The center serves more than 500 African American and Hispanic families on a regular basis. It provides services through a home-based program, quality child care, an adolescent parents program, and early intervention for children with special needs.

The home-based program provides information and referrals for prenatal care. Information includes nutrition, parenting styles, and child development. Parents are supported until their child enters kindergarten.

High-quality center-based care is provided for infants beginning at 6 weeks of age. After the second birthday, the child can remain at the setting or enter a preschool child care program. The child can then enter a Head Start program at age 3.

The program for adolescent parents provides quality child care for children from ages 6 weeks to 3 years. At the same time, parents are given support and encouragement to continue their own education and career.

Early intervention services are provided by the center for children 6 weeks to 5 years of age who have moderate to severe developmental delays or disabilities. Services include assessment, therapy, and transportation (Carnegie Corporation of New York, 1994).

If caregivers and other staff members in caregiving settings for infants and toddlers are responsive to cultural and language differences among the children and their families, they can learn to respond to the individual needs of parents, as well as to support the diversity of the children. Non-English-speaking parents need support and encouragement as much as their children need understanding and security (Gonzalez-Mena & Bhavnagri, 2000; Miller, 1992). These parents may be unable to communicate their desires for their child's care or hesitant about using their limited English. Sensitive caregivers make efforts to help parents explain their caregiving practices. Similarly, staff members seek to learn about the child's family and background.

Parents of biracial children may have concerns about their children's acceptance and identity. Single parents and teenage mothers may have questions about parenting skills. Parents of children with disabilities may have information about their children's care that needs to be shared. Others, such as parents of children with fetal alcohol syndrome, may have feelings of guilt about their involvement in their children's impediment. These parents, too, need to be accepted and involved in the program (Gargiulo & Graves, 1991).

When serving children from diverse families representing many cultures, caregivers will want to be perceptive about differences in caregiving, feeding, and other practices used in the care of babies. Parents can be asked about how they dress the baby, what sleeping patterns they expect, and what kinds of foods they prefer for their child. There are both subtle and obvious variations in caregiving among different cultures. The parents as well as the caregivers will feel comfortable about the child who receives care outside the home if these practices are understood and followed (Gonzalez-Mena & Bhavnagri, 2000).

The caregiver in the infant-toddler program can provide ongoing support and information that can facilitate the parents' role as primary caregivers and
teachers of their child. A daily report to all parents of infants and toddlers about how the child ate, slept, and played is important. This can provide consistency in the child's routines and planning between home and the program. Characteristics of appropriate practices in reciprocal relationships with families include the following (Bredekamp & Copple, 1997, p. 80):

- Caregivers work in partnership with parents, communicating daily to build mutual understanding and trust and to ensure the welfare and optimal development of the infant. Caregivers listen carefully to what parents say about their children, seek to understand parents' goals and preferences, and are respectful of cultural and family differences.
- Caregivers help parents feel good about their children and their own parenting by sharing with them some of the positive and interesting things that happened with their children during the day. Parents are viewed as the child's primary source of affection and care. Parents always feel welcome in the child care setting; caregivers warmly receive and support nursing mothers who are able to come in for breast feeding.
- Caregivers and parents confer in making decisions about how best to support children's development or to handle problems or differences of opinion as they arise.

Planning and Managing Infant–Toddler Developmental Experiences

Every day, it seems, we learn more about the capacities of newborns, the differences among very young children, the influence of family and community culture on early development, and the ability of infants and toddlers to cope with developmental challenges. We are also learning that group care of infants and toddlers presents special challenges and opportunities for promoting healthy development and supporting families. . . .

Infants and toddlers thrive when they encounter challenges they can meet. Infants flourish when they are free to explore and take pleasure in their emerging interests and skills. Children's sense of belonging and ability to understand their world grow when there is continuity between the home and child care setting. (Lally et al., 1997, p. 55)

Programs for very young children continue to evolve as we learn more about their capabilities and backgrounds. An infant–toddler model for care adheres to an interpersonal-environmental approach. The
environment prepared for discovery and exploration through play provides experiences and adult-child interactions through daily routines. The routines and activities initiated by the adult, whether parent or caregiver, follow the needs of each child. The curriculum is developmental: adult-child interactions and experiences promote physical, social-emotional, and cognitive development matched to the child's current level of development. Therefore, planning and managing developmental experiences in group settings centers on the behaviors of the caregivers and opportunities they provide for the babies. In the following sections, suggestions are provided for child-caregiver interactions in the domains of development. The role of the caregiver is central; nevertheless, a goal is for the child to be able to become autonomous and self-initiating. Experiences and opportunities provided should reflect a balance between adult-initiated interactions and child-initiated play activities.

Interactions and Experiences for Physical Development

During the first 3 years, children learn the skills of movement. The movement education curriculum provides guidance on interactions and experiences promoting development of gross and fine motor skills. The caregiver plans and initiates activities designed to encourage practice of physical skills.

Motor development experts have become concerned about the amount of time infants and toddlers spend in car seats, strollers, and playpens. They believe such restrictions can lead to delay in rolling over, crawling, walking, and possibly cognitive development. Another concern is growing childhood obesity and sedentary preferences that can begin in infancy (National Association for Sport and Physical Education [NASPE], 2002). Parents are advised to give babies plenty of floor time, to get down on the floor with their baby, and to enjoy their physical achievements (Davis & Keyser, 2004). The NASPE has developed physical activity guidelines for infants and toddlers (NASPE, 2002):

Guidelines for Infants*

Guideline 1. Infants should interact with parents and/or caregivers in daily physical activities that are dedicated to promoting the exploration of their environment.

Guideline 2. Infants should be placed in safe settings that facilitate physical activity and do not restrict movement for prolonged periods of time.

Guideline 3. Infants' physical activities should promote the development of movement skills.

Guidelines for Toddlers and Preschoolers

Guideline 1. Toddlers should accumulate at least 30 minutes daily of structured physical activity.

Guideline 2. Toddlers and preschoolers should engage in at least 60 minutes and up to several hours per day of daily, unstructured physical activity and should not be sedentary for more than 60 minutes at a time except when sleeping.

Guideline 3. Toddlers should develop movement skills that are building blocks for more complex movement tasks.

Guideline 4. Toddlers and preschoolers should have indoor and outdoor areas that meet or exceed recommended safety standards for performing large-muscle activities.

Guideline 5. Individuals responsible for the well-being of toddlers and preschoolers should be aware of the importance of physical activity and facilitate the child's movement.

Interactions and Experiences for Social and Emotional Development

Infants and toddlers have a basic need to develop social competency and a positive concept of self. The very young child has the dual task of understanding

*Reprinted from "NASPE Releases First Ever Physical Activity Guidelines for Infants & Toddlers" (February 6, 2002) with permission from the National Association for Sport and Physical Education (NASPE), 1500 Association Drive, Reston, VA 20191-1599.
herself as an individual, unique person separate from others and becoming a social being in the company of others. The adult caregiver nurtures social and emotional development through interactions that will support the development of a positive sense of self and guidance in the development of appropriate social behaviors. The adult approach to establishing an environment that provides emotional security includes the understanding that infants and toddlers must be able to develop a sense of trust. Adult—child interactions also reflect an understanding of different temperaments in infants and toddlers, which require alternative responses from adults.

There are some strategies that adults can use to promote positive social interaction between very young children (Hagens, 1997, pp. 147-148):

- Help children become more familiar with their surroundings and one another
- Maintain social groups and friendships
- Vary the number and types of toys available during any one period of time
- Control the number of children in a particular space
- Model and recognize positive social behaviors

In spite of strategies to encourage positive social interactions, this is not always the case. Frequent conflicts occur between toddlers throughout the day. There may be an environment to promote positive social interactions; however, toddlers are just beginning to learn social skills, and hitting, biting, and snatching toys away from another child are common behaviors. Caregivers must find appropriate ways to intervene so that children can learn to resolve their own problems. There is concern that caregivers intervene too quickly and too frequently, thus preventing children from learning how to interact. It is proposed instead that caregivers learn to observe conflict and allow natural consequences to occur whenever it is appropriate. The caregiver must also be attentive to conflict situations and intervene to prevent injury when a child is in danger. Adults can also help children learn to resolve conflicts by modeling gentleness, staying close to a conflict, comforting each child after a conflict, and providing help so that children can solve their own problems (Da Ros & Kovach, 1998).

**Interactions and Experiences for Cognitive and Language Development**

The experiences provided for cognitive and language development build on what we understand about the child's role in initiating language and the internal mechanisms the child has for constructing language in increasingly complex form and content that come from continued practice with communication. The adult models new language forms and expands and extends the child's efforts at communication, thus providing vocabulary that the child can incorporate into future verbalizations. Verbal interactions initiated by the caregiver respond to the baby's interests in exploring the environment and engaging in communication episodes with the caregiver. The caregiver initiates conversations with infants and toddlers that may seem one-sided in the early months. During caregiving routines and play activities, the caregiver describes, explains, and encourages responses from the infant, even though the baby is still unable to respond using words. Later, the caregiver responds to the toddler's attempts to combine words to form communication with the adult and initiates communication experiences that will encourage the toddler to use more language.

In cognitive interactions, the adult also uses language to point out concepts and features of toys and the environment. Physical demonstration is used to show how objects and toys work. On-going verbalizations provide the infant and toddler with contextual explanations of activities and experiences throughout the day's routines and times for play. Examples of appropriate interactions as described by Carasik (1983, p. 84) include the following:

- Recognizing the need to talk and sing to young infants regardless of their minimal ability to respond
- Encouraging vocalizing, smiling, and exaggerated imitative mouth movement responses in young infants
- Planting for crib or changing table "talk time" so that babies can listen to themselves, try out sounds, and repeat expressions before going on to other routines
• Speaking several simple words to babies before and during routines and repeating these frequently so that they will recognize them
• Praising all sounds that stand for certain objects and realizing that these are forms of early words
• Teaching the words for body parts, foods, and diapering materials
• Using picture books and repeating the words for objects that toddlers point to, naming details
• Occasionally withholding objects desired by toddlers, and coaxing them to attempt to use the words or sounds that seem appropriate for them
• Using language to animate puppets or little toy people for toddlers, pretending and describing where they are going and what they will do
• Using phrases and simple commands for toddlers to respond to, such as “get the ball,” “put the doggy,” or “put the spoon in the cup”
• Repeating and expanding the utterances of toddlers

The Role of Thematic Curriculum for Infants and Toddlers

Is it appropriate to design developmental learning experiences for infants and toddlers that are based on themes? If done carefully, an organized, thematic approach can be useful in helping caregivers focus on interesting experiences to share with very young children. For example, a unit on spring could easily be designed to include excursions outside to view signs of flowers and budding plants and trees during the early weeks of spring. Laminated pictures showing spring scenes could be mounted at infant–toddler eye level. Appropriate picture books could be shared with the children. Flowering, nontoxic plants could be displayed in the room and made available for careful touching and smelling.

Teachers and caregivers contemplating thematic experiences for very young toddlers should be cautious that the activities are child centered and appropriate. The activities selected should be responsive to individual development and schedules. Art products and other activities that are beyond the child’s capabilities should not be included. The guidelines for quality caregiver and child interactions should be followed; nevertheless, a thematic approach can provide an opportunity to design interesting experiences and new materials that caregivers and babies can enjoy together. (In Chapter 6, the infant–toddler curriculum will be described more specifically in terms of how caregivers and parents can design experiences to use with babies. Following an interpersonal-environmental approach, the experiences will be discussed in developmental categories that support the progress of the child’s growth and learning.)

The Role of Assessment in Infant–Toddler Programs

A quality program for infants and toddlers includes provisions for assessment. Evaluation facilitates assessment and improvement. It allows program planners and staff to look at what has been accomplished and what components need to be strengthened or perhaps removed from the program. In this section, two types of assessment will be discussed. First, the child’s developmental progress will be described. Evaluation of the program itself will be discussed to include the environment, experiences and activities provided for infants and toddlers, and the actions of caregivers. In addition, attention will be given to assessment of parental involvement in the program and considerations that have to be made when evaluating infants and toddlers with special needs who are served in programs for early intervention.

Assessment of Infant–Toddler Development and Competencies

Observation of infants and toddlers takes place daily as caregivers note them eating, sleeping, and eliminating during the course of the day. In high-quality programs, assessment of the infant’s and toddler’s progress during the day is reported to parents each afternoon when they arrive to take the child home. Assessment in this context is made to monitor the child’s well-being and health each day. The caregiver can also comment on the day’s activities and the child’s participation.

A less frequent but equally important assessment used with infants and toddlers is that of
developmental progress. Because growth and development are so rapid during the first 2 years, caregivers and parents are especially aware of the baby's developmental achievements. If infants and toddlers are in out-of-home care during the day, parents look to caregivers to provide indicators of developmental progress in their absence.

Developmental charts or checklists similar to the ones provided in Chapter 4 are frequently used by parents and caregivers to track individual development. The infant or toddler is observed weekly or biweekly using the checklist. When a new behavior or skill is observed during the scheduled period or incidentally during the day, the achievement and the date are noted on the child's individual checklist record. Frequent reports are shared with parents; parents in turn share similar information with caregivers. Sources of developmental indicators are easily located: In addition to the Wortham Developmental Checklist for Infants and Toddlers found in Chapter 4, Developmentally Appropriate Practice in Early Childhood Programs (Bredekamp & Copple 1997, pp. 70–71) contains a list titled Developmental Milestones of Children from Birth to Age 3 (Lally et al., 1997). Weiser (1991) also includes the same Developmental Milestones of Children from Birth to Age 3 in Appendix B of Infant/Toddler Care and Education.

Teachers and caregivers can develop strategies to make assessment more efficient and effective. Dichtelmiller (2004, pp. 30–32) provides the following tips:

- Observe children regularly
- Choose one or two children to watch each day
- Be ready to change your focus
- Watch children at different times of the day and in different situations
- Take advantage of routines
- Take notes
- Share information with families
- Ask family members about the child
- Compare notes with other staff

Portfolio assessment can be used with infants and toddlers in group care. The portfolio can be used both for assessment and program planning. An example of portfolio assessment for infant–toddler care exists at the San Antonio College (SAC) Child Development Center. SAC staff members designed a portfolio assessment system based on the center's program philosophy and program goals. After program goals were translated into program objectives, checklists were designed for developmental domains. A major decision was to determine when and how data would be collected and how checklists, anecdotal records, and other types of evaluation materials would be included in the portfolio. Parents were encouraged to contribute photos, medical forms, and other information to add to the portfolio.

A major purpose of the portfolio process was to use assessment data to plan for the child. Teachers and parents planned together for the child using an Individual Planning Profile for Infants and Toddlers. A developmental web was used to chart the child's progress and activities to encourage further development. Figure 5.4 shows the individual planning profile for Victoria, age 10 months (Apple, Enders, & Wortham, 1998).

Assessment of Program Components

All aspects of the infant–toddler program benefit from assessment procedures. Among the components that are assessed are the environment, the experiences of and activities performed with the children, and the behavior of the adult caregiver.

Assessment of the Environment. As was described earlier, the environment planned for the infant–toddler program is organized for the specific needs of infants and toddlers. The equipment, toys, materials, and arrangement are focused on unique developmental characteristics of children younger than 3 years of age. The resulting environment is evaluated to determine whether the developmental characteristics of infants and toddlers are addressed in the room established for their care. For example, the furnishings in an infant room should include tables, infant seats, shelving, and toys that are suited to infants (Harms, Cryer, & Clifford, 2002). Staff members can use the
indicators of an appropriate environment for infants and toddlers that are part of the Integrated Components of Developmentally Appropriate Practice for Infants and Toddlers (Lally et al., 1997) reproduced in Figure 5.5. A rating scale with a range of indicators for the quality infant and toddler environment is available in the Infant/Toddler Environment Rating Scale (Harms et al., 2002).

**FIGURE 5.4 A planning profile for portfolio assessment.**


**Assessment of Infant–Toddler Experiences and Activities.** The types of activities and experiences planned and set up for infants and toddlers are also assessed. The criteria for developmentally appropriate experiences have been discussed previously. These same criteria are used to evaluate the effectiveness of the activities, which should be evaluated immediately after use to determine if they have met the child's
needs and interests. Similarly, activities should be assessed to determine if they have met the purpose for which they were intended. Should an activity be used again? Does the experience need to be modified to make it more interesting or useful? Because many experiences involve adult interaction with the child, evaluation must include assessment of the adult's behaviors as well.

Assessment of the Behavior of Adult Caregivers

Two categories of adult interactions can be evaluated. The first relates to the interactions and experiences the adult initiates with the child that promote development and learning. The second category concerns the personal care routines the adult engages in with each child that concern the health, safety, and nutrition of infants and toddlers.

The Integrated Components of Developmentally Appropriate Practice for Infants and Toddlers (Lally et al., 1997) contains the contrasting indicators between appropriate and inappropriate practices used by infant-toddler caregivers in interactions and routines with babies. The caregiver's behaviors can be evaluated using the indicators related to these characteristics. The caregiver can also use the same indicators for self-evaluation and to study the characteristics of appropriate routines used with infants and toddlers. This will ensure that personal care routines and health, safety, and nutrition practices are being properly observed or carried out on a daily basis. Personal care routines and appropriate interactions and experiences can also be evaluated through use of the scales on the Infant/Toddler Environment Rating Scale (Harms et al., 2002). Interactions and activities that include language, physical skills, creative activities, social play, and cognitive skills can be evaluated using this scale.

Personal care routines used with infants and toddlers are especially important to prevent or reduce illness in very young children in out-of-home care. Staff members in locations that provide infant and toddler care will want to be very familiar with appropriate health and safety practices that are also part of personal care routines. Caregivers will want to review their practices and compare them with standards or recommended practices frequently to be sure that they are protecting the children from
### Appropriate Practices
- The play areas are comfortable; they have pillows, foam-rubber mats, and soft carpeting where babies can lie on their stomach or back and be held and read to. A hammock, rocking chair (preferably a glider for safety), overstuffed chair, and big cushions are available for caregivers or parents and infants to relax in together.
- Space is arranged so children can enjoy moments of quiet play by themselves, have ample space to roll over and move freely, and can crawl toward interesting objects. Areas for younger infants are separated from those of crawlers to promote the safe interactions of infants in similar stages of development.
- Visual displays, such as mobiles, are oriented toward the infant’s line of sight and designed so that the interesting sights and effects are clearly visible when the baby is lying on her back. Mobiles are removed when children can grasp them.
- Sturdy cardboard books are placed in book pockets or a sturdy book stand. Books that the adults read to the babies are on a shelf out of reach. Books show children and families of different racial and cultural backgrounds, and people of various ages and abilities.
- Toys provided are responsive to the child’s actions: a variety of grasping toys that require different types of manipulation; a varied selection of skill-development materials, including nesting and stacking materials, activity boxes, and containers to be filled and emptied; a variety of balls, bells, and rattles.
- A variety of safe household items that infants can use as play materials are available, including measuring cups, wooden spoon, nonbreakable bowls, and cardboard boxes.
- Toys are scaled to a size that enables infants to grasp, chew, and manipulate them (clutch balls, rattles, teethers, and soft washable dolls and other play animals.)

### Inappropriate Practices
- The play areas are sterile, designed for easy cleaning, but without the different textures, levels, colors that infants need to stimulate their senses. There is not an area where an adult can sit comfortably with an infant in her arms and read or talk to the baby.
- Space is cramped and unsafe for children who are learning how to move their bodies.
- Visual displays are not in an infant’s line of sight. They are often used as a substitute for appropriate social interaction of infants with adults.
- Books are not available or are made of paper that tears easily. Books do not contain objects familiar or interesting to children.
- Toys are battery powered or windup, so the baby just watches. Toys lack a variety of texture, size, and shape.
- Household items that help make the infant room more homelike are not available.
- Toys are too large to handle or so small that infants could choke on or swallow them.

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**FIGURE 5.5** Characteristics of an infant environment.
unsafe and unhealthy experiences. Personal care routines, especially, need ongoing attention to prevent disease and danger. Evaluators can review the indicators of appropriate practice for infants and toddlers found in the infant and toddler section (Lally et al., 1997) of Developmentally Appropriate Practice in Early Childhood Programs (Bredekamp & Copple, 1997) or use the appropriate rating scales in the Infant/Toddler Environment Rating Scale (Farran et al., 2002).

Assessment of Infants and Toddlers with Special Needs

According to PL 99-457, the Education of the Handicapped Act Amendments of 1986, Part H, infants and toddlers (from birth to age 2) with disabilities will be served with an IFSP that includes the specific early intervention services that are necessary to meet the individual needs of the child and the family. The plan involves the infant’s or toddler’s present levels of physical, cognitive, language, and psychosocial development; self-help skills; and major outcomes that are expected to be achieved for the infant and family. Included with the outcomes or objectives for the child’s progress as a result of intervention are the objective criteria that will be used to measure the child’s progress. Periodically, within the course of intervention services, the child’s progress is assessed and decisions are made whether to continue the original plan as designed or to make needed modifications to better serve the child’s intervention needs.

Assessment of Parental Involvement in Infant–Toddler Programs

If an infant–toddler program is serving children with special needs with individualized early intervention plans, the plan includes the family as well as the affected child. When the intervention program is evaluated, the parental aspect of the plan is also evaluated. A similar process should occur with programs for normal infants and toddlers who are in out-of-home care. When parental components are included in the infant–toddler program, provisions should also be made to assess and improve the parent and center relationships. If parents are involved in volunteer work at the center or in an evening parenting program, they should be given an opportunity to provide feedback on their experiences and to suggest changes they believe would be beneficial to the program. Staff members should engage in a similar process to determine the effectiveness of interactions with parents and how well they are meeting parental needs. Are the content and approach of parenting sessions meeting the parents’ interests and needs? Do parents find the newsletter helpful? These and many other questions should be reviewed to assess the overall effectiveness of parental relationships and to plan future changes and additions.

SUMMARY

Programs designed for infants and toddlers are associated with the advent of child care in this country. Although newer than preschool programs, infant–toddler programs have increased in number and have become of higher quality with the rapid growth in out-of-home care for very young children in recent years. Specialized infant–toddler programs have also emerged in the form of intervention programs for children from low-income families and infants and toddlers born with a disabling condition or who are at risk for developing a disabling condition.

Like programs for older children, infant and toddler programs are developed from theoretical bases. Theories of learning and development, particularly recent ones that emphasize the importance of the first 3 years for optimal development, form the foundations on which infant and toddler programs are organized. The purposes for the program evolve from the needs of the parents as well as the children. Some programs are used primarily for care, although experiences for development and learning are increasingly becoming a part of care. Intervention programs may serve babies of unmarried teenage mothers, low-income children who need basic experiences for language and cognitive development, and very young children who have special needs.

Regardless of the type of program established for infants and toddlers, the child’s developmental
characteristics usually form the background for the choices of curriculum, activities, and experiences provided. Because physical, social-emotional, and cognitive development are so important in the early years, programs for infants and toddlers focus on experiences and activities that promote development in these areas.

Adult caregivers have a key role in infant-toddler programs. Adult-child interactions are the forum for the activities conducted with the child. The interactions may occur naturally during caregiving routines and play episodes throughout the day. Because of the central nature of the adult's behavior with the child, much of the quality of the program and success of interactions and experiences depend on the qualities of the caregiver. The caregiver must be cognizant of the desired caregiving characteristics and behaviors that affect the child's experiences during the day. The caregiver needs to understand the match between experiences and interactions and the infant's or toddler's current stage of development and personality. The congruence between the child's current abilities and interests and the caregiver's choices of behaviors and activities to be used with the child form the curricular part of the infant-toddler program.

Although there is a place in infant-toddler programs for learning through imitation that follows the behaviorist and social learning models of learning, the Piagetian description of cognitive development is most closely related to the model used in this chapter. The model, described as an interpersonal-environmental approach to infant-toddler programs, is based on the Piagetian belief that learning is intrinsic. The very young child learns through discovery and interaction with the environment. For infants and toddlers, exploration of the environment and interactions with adults with appropriate materials and activities on an individual basis form the framework for their program. Although caregivers plan and initiate many of the experiences that occur with infants and toddlers each day, they also respond to the child's interest in activities with language, modeling, and encouragement. These responsive strategies reflect the caregiver's careful observations of the child and keen awareness of the kinds of interactions and experiences that will facilitate the child's development at the current stage.

The environment also is organized to promote the child's exploration and play. Equipment, furnishings, and toys are selected to fit the very young child's ability to explore and play. Room arrangement encourages emerging physical and cognitive abilities at the same time that it nurtures security and confidence. The caregiver makes appropriate experiences available and removes, adds, or rearranges toys and materials in a flexible manner to suit the changing needs of the rapidly growing child.

Parents are another key element in infant-toddler programs. Intervention programs seek to serve parental as well as child needs. The aim of child care programs is to build a close partnership between parents and caregiver as they all share the infant's and toddler's daily life. Programs of all types may include opportunities for parents to develop parenting skills. In addition, parental involvement with the program strengthens the relationship between caregivers and parents and the overall quality of the program.

Assessment is important to the continued growth of both children and programs. Assessment of the child's developmental progress keeps parents and caregivers aware of the child's changing developmental characteristics. Awareness of developmental progress provides information that affects the nature of the program during the year as the caregiver and parents seek to respond to the child's changing developmental needs. For children with developmental delays or special needs, the intervention program based on the child's current developmental status is also evaluated based on the child's progress on the same criteria.

Other aspects of the program that benefit from assessment are the caregiver's qualities and behaviors, the quality of the parental involvement program, and the quality of the environment. With periodic assessments of all components of the programs, ongoing improvement continues the trend toward the development of a quality program for infants and toddlers.
STUDY QUESTIONS

1. Why has custodial care always been a factor in many programs for infants and toddlers, even at the end of the 19th century?
2. Why did infant mortality remain high into the first decades of the 20th century?
3. What were some of the factors that led to the improvement of infant life and welfare after the turn of the century?
4. How did Jean-Jacques Rousseau’s view of childhood differ from that of the philosophers who preceded him?
5. What specific findings in the child-study movement have affected our perception of infants and toddlers?
6. Why did the first major developments in infant-toddler programming take place after World War II?
7. A major issue since the 1950s has been whether infants should be in out-of-home care. Why is this issue still a concern today?
8. What were the contributions of the infant-toddler programs funded in the 1960s? Why were these contributions important?
9. Why are standards for infant-toddler programs and standards for the preparation of teachers and caregivers for these programs critical at this time?
10. What is the appeal of infant-toddler programs focused on enrichment or accelerated development? What are some possible problems with these programs?
11. Is there a best type of care setting for infants and toddlers? Why or why not?
12. What is the rationale for the implementation of intervention programs for infants with disabilities and their families?
13. What is meant by the interpersonal-environmental infant-toddler model? What is implied by the name of the model?
14. How and why do the caregiver’s abilities control the quality of the infant-toddler program?
15. How and why is the environment of an infant-toddler program important to how the program is conducted during the whole day?
16. Why do parents need to be considered as partners in the infant-toddler program?
17. How can the infant-toddler program be affected by the quality of communication between the home and the program?
18. Why do parents of infants and toddlers in out-of-home care need a daily report on the child’s progress?
19. How can caregivers assess and evaluate their behaviors to improve the infant-toddler program?
20. Why do infant-toddler intervention programs need to consider the needs of the family?
CHAPTER SIX

Infant–Toddler Curriculum: Birth to Age 2

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Describe examples of experiences in each developmental domain for each age-group of infants and toddlers.
2. Develop activities that are appropriate for each developmental domain in each age-group.
In Chapter 5, the evolution of educational programs for infants and toddlers was discussed. Infant–toddler child care of the past was described as having been expanded and developed into today's programs, which serve all types of very young children through educational care, intervention, and enrichment. The important role played by caregivers and the environment in providing developmental experiences for infants and toddlers was also described; play and adult–child interactions are very significant in infant–toddler programs. The curriculum for infants and toddlers was explained in terms of physical, social-emotional, and cognitive development. A developmental curriculum was described based on themes for toddlers, and the concept of an integrated curriculum was introduced that will be further developed for preschool- and primary-age children in early childhood programs discussed throughout this text.

This chapter focuses on the activities and experiences that can be planned for the developmental curriculum for infants and toddlers. The curriculum for physical development, cognitive development, language development, social development, and the expressive arts will be discussed in terms of how infants and toddlers acquire each category of development. Examples of activities that are appropriate for infants and toddlers are provided. The activities described within the developmental curriculum will be matched to the developmental characteristics listed in Chapter 4 in the Wortham Developmental Checklist for Infants and Toddlers for babies from birth to 24 months.

**CURRICULUM FOR PHYSICAL DEVELOPMENT**

**Nurturing Physical Development in Infants and Toddlers**

During the first 18 months, the infant and toddler are in what Piaget termed the sensorimotor stage of development. The individual learns about the environment through his senses and by performing physical activities. As motor skills develop, so do the possibilities for experiencing the environment. The physical abilities of newborn infants are very limited. Initially, infants use reflexive movements such as blinking, swallowing, and alternately kicking the legs. These reflexes either are precursors of later skills or are protective. At about 8 months, movements become more voluntary; they are no longer automatic. Voluntary physical movements are categorized as gross motor, involving the large muscles, and fine motor, involving the small muscles (Gonzalez-Mena & Eyer, 1980; Santrock, 2002).

Motor skill development occurs through movement. Much of the development in gross and fine motor skills occurs naturally as the infant and toddler use emerging physical skills to extend their possibilities to experience their surroundings. Physical action is the first medium that infants and toddlers have for communication and expression. They use movement to express their state of being and their feelings and to communicate their needs in concert with vocalization, such as crying or cooing (Berk, 2001).

Motor skill development also occurs through the acquisition of body management skills, or body control. Body control begins with the head and neck and progresses downward along the spine in the cephalo-caudal process. Body management skills are acquired from the center of the body out to the limbs in a proximodistal process. The infant is able to control the center of the body first and the hands and fingers last. In this sequence, gross motor skills precede fine motor skills (Caulfield, 1996; Gober & Franks, 1988).

Motor skills are acquired very rapidly. Much of the energy expended by infants during their waking hours involves physical activity. In the following section, experiences for infants and toddlers that will promote physical development are described. The activities are coded to the Wortham developmental checklists in Chapter 4 (Figures 4.1 to 4.4).
EXPERIENCES FOR PHYSICAL DEVELOPMENT IN INFANTS

Practicing Eye Movement
Age: Birth to 6 Months
Checklist Skill 3: Follows a Moving Person or Object with Eyes
Hold the baby in your arms or in your lap. Introduce a new toy by holding it in front of the baby's eyes. Slowly move the toy back and forth and allow the baby to follow the movement. When the baby tires, stop the activity. If the activity is resumed, introduce a new toy or object.

Materials Needed: Infant toys

Patterns and Faces
Age: Birth to 6 Months
Checklist Skill 4: Looks at Suspended Object
Very young infants prefer looking at patterns or faces to bright colors. Patterns can be placed on the side of the crib or held for the infant to look at while he is lying in a caretaker's lap. Checkerboard and bull's-eye designs, simple geometric shapes, and large, simple faces attract the baby's visual attention.

Materials Needed: Checkerboard and bull's-eye designs; geometric shapes; drawings of simple faces

Suspended Crib Toy
Age: Birth to 6 Months
Checklist Skill 6: Moves Arms and Legs Actively
Hang a toy on the crib that will move when the baby moves his arms or legs. The more the baby moves, the more he will be rewarded by the movement of the toy. Babies also enjoy being able to activate a toy by hitting it or kicking it.

Materials Needed: Crib toy that moves easily; brightly colored pictures suspended across the crib

Rolling Over
Age: Birth to 6 Months
Checklist Skill 9: Rolls Over
As the baby begins to gain control of his arms and legs, he will begin trying to roll over. Daily opportunities to play on a pad or blanket on the floor will encourage learning to roll over. Alternately place baby on tummy and then on back. To encourage rolling
from back to tummy, introduce a toy so that the baby must reach for it. Gradually move the toy farther away until the baby must roll to grasp it. Praise all efforts.

**Materials Needed:** Small toys to grasp

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**Grab It**

**Age:** Birth to 6 Months

**Checklist Skill 11: Uses Eye-Hand Coordination in Reaching**

As you observe the baby during the first few months, you will notice that he is trying to reach for a toy. To accomplish this skill, eyes and hands have to be coordinated. To encourage reaching skills, hold or suspend a toy or object over the baby lying in a prone position. At first, the toy should be placed very close to the baby. As reaching skills improve, move the toy farther away.

**Materials Needed:** Small toy, yarn

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**Another Toy**

**Age:** 6 to 12 Months

**Checklist Skill 2: Transfers Object from One Hand to Another**

Babies will naturally learn to transfer an object from one hand to another. Offer the baby a toy. Then offer a second toy. At first, the first toy will be dropped. Show the baby how to transfer the toy. Repeat.

**Materials Needed:** Small toys

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**Cereal Snack**

**Age:** 6 to 12 Months

**Checklist Skill 4: Picks up Small Things with Thumb and Forefinger**

Place a few pieces of cereal, such as Cheerios, on the high-chair tray. Show the baby how to pick up one. When all have been grasped and eaten, place a few more on the tray.

**Materials Needed:** Cereal pieces

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**Getting Around**

**Age:** 6 to 12 Months

**Checklist Skill 9: Creeps or Gets from One Place to Another**

To encourage creeping and crawling, provide the baby with opportunities to play on the floor or outside on a pad or quilt. Place a favorite toy just out of reach, and encourage baby to try to reach for the toy. Reward all attempts with smiles and approving language.

**Materials Needed:** Blanket, toys
**Hit It**

Age: 6 to 12 Months

Checklist Skill 11: Stands Holding On

Once the baby has learned to pull up to a standing position, he enjoys the opportunity to practice the new skill. To make standing fun, place two chairs facing each other. Suspend a rope between the chairs and hang toys or household items from the rope. Encourage the baby to stand holding on to the chair and hit at the objects.

Materials Needed: Two sturdy chairs, rope, small toys or household items, yarn to attach objects to the rope

**Walk the Maze**

Age: 6 to 12 Months

Checklist Skill 12: Walks Holding On

Set up chairs, soft forms, or other infant furniture into a maze so that the baby can walk continuously holding on in a complete pattern. On other occasions, make different arrangements so that there will be a variety of “mazes” to experience.

Materials Needed: Sturdy furniture or plastic-covered foam shapes that can be arranged into an enclosure

**Drop It**

Age: 6 to 12 Months

Checklist Skill 13: Drops or Places Objects into a Container

When the baby is able to grasp and hold objects, he soon learns to drop them with some control. The adult can encourage hand control by playing a dropping game with the baby. Using small objects such as cubes and a container, the adult picks up an object and drops it in the container. The baby is then given an object and encouraged to drop it in the container. The baby should be praised for all efforts.

Materials Needed: Container such as a basket, pan, or bowl; small blocks, cubes, or toys to drop into the container

**Surprise Box**

Age: 6 to 12 Months

Checklist Skill 13: Drops or Places Objects into a Container

Use a shoe box or other container with a lid. Place small toys in the box. Show the baby how to remove the lid and “find” the objects. Show how to put the objects back into the container and replace the lid. Repeat with different toys.

Materials Needed: Box or large can with lid, small toys
EXPERIENCES FOR PHYSICAL DEVELOPMENT IN TODDLERS

Throw It!
Age: 12 to 18 Months
Checklist Skill 1: Throws Ball
Toddlers love to throw, and balls are a favorite toy. Provide the toddler with a soft sponge or rubber ball that can easily be held in one hand. Take turns throwing the ball back and forth for a short distance. As the toddler gains competence, lengthen the distance. Use a larger ball requiring the toddler to use both hands for a different throwing experience.

Materials Needed: Sponge or rubber ball

I Can Build
Age: 12 to 18 Months
Checklist Skill 2: Builds Two-Block Tower
Use a set of traditional wooden blocks or plastic blocks that are about 2 inches square. Demonstrate how to line them up in a row and how to stack them. Larger, lightweight cardboard blocks can also be used to build a tower.

Materials Needed: Small wooden or plastic blocks or large cardboard blocks

What Can You Make?
Age: 12 to 18 Months
Checklist Skill 2: Builds Two-Block Tower
Gather a collection of small, sturdy cardboard boxes and other stackable containers. Cover them with Con-Tac paper. Help the toddler stack the containers. Encourage the toddler to try his own system of arranging and stacking. Round containers such as coffee cans and oatmeal boxes can also be covered and used for stacking.

Materials Needed: Empty containers covered with Con-Tac paper

Walking Here, Walking There
Age: 12 to 18 Months
Checklist Skill 3: Walks Well
Take the toddler outdoors for a walk. Find different types of walking surfaces to experience. Practice walking on sidewalks and uneven ground. Find different kinds of paved surfaces and walk up gradually sloping grassy surfaces and natural paths.

Materials Needed: None
**Big Steps, Little Steps**

Age: 12 to 18 Months  
Checklist Skill 3: Walks Well  
Walk with the toddler in an open area. Show the child how to take big steps and little steps. Practice running on tiptoe and taking running steps. Make taking the different kinds of steps into a game. Talk about the kinds of steps you are taking.  
**Materials Needed:** None

**A Little Dance**

Age: 12 to 18 Months  
Checklist Skill 4: Walks Backward  
Put on a record or tape of slow music and try a simple dance. First take forward steps with the toddler. Occasionally take a backward step. Alert the toddler some time before a backward step is taken.  
**Materials Needed:** Music

**Learning About Spoons**

Age: 12 to 18 Months  
Checklist Skill 8: Uses Spoon with Little Help  
Put dried beans such as pinto or large navy beans into a shallow dish. Show the toddler how to use a spoon to transfer the beans to a second dish. Start with a few beans at first and increase as dexterity is acquired.  
**Materials Needed:** Spoon, beans, shallow dishes

**Scribbling**

Age: 12 to 18 Months  
Checklist Skill 11: Scribbles  
Give the toddler large pieces of paper and a large crayon. Show the child how to make marks on the paper. Offer a different color. Name the colors as they are used. Praise all efforts. Put the completed “pictures” where they can be admired.  
**Materials Needed:** Large paper, large crayons

**Kick It Back!**

Age: 18 to 24 Months  
Checklist Skill 3: Kicks Ball Forward  
Engage the toddler in a game of kicking a ball back and forth. Start with a short distance and gradually move farther away. Encourage the toddler to alternate feet rather than kicking with one foot every time.  
**Materials Needed:** Large rubber ball
**Balls and Balls**

Age: 18 to 24 Months

Checklist Skill 4: Throws Ball Overhand

Gather several different balls that can easily be held in one hand. Demonstrate how to throw the ball using an overhand motion. Enjoy taking turns throwing the different balls with the toddler.

**Materials Needed:** An assortment of small balls

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**Follow Me**

Age: 18 to 24 Months

Checklist Skill 5: Walks Up Steps

Cut footprints the size of the toddler’s feet in various bright colors. Attach them to the floor and up a three-stair climber. Have the child step on the patterns as he climbs up and down the stairs using alternating feet. Don’t push if the toddler is not ready.

**Materials Needed:** Cutouts of foot shapes on colored paper; tape; low set of stairs

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**Run! Run! Run!**

Age: 18 to 24 Months

Checklist Skill 6: Runs

Mark three large circles with rope in an open area. With a toddler or group of toddlers, start in a circle and run to another circle. Pause and then run to the third circle. Later, widen the distance between the circles. If a wooded area is available, toddlers can run to marked trees. On a playground, they can run from one piece of equipment to another.

**Materials Needed:** Lengths of rope or other materials to mark goals

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**Running Like the Wind**

Age: 18 to 24 Months

Checklist Skill 6: Runs

Give each toddler a paper streamer or a scarf. Show them how to run holding the streamer. Use an open, grassy area for running and observing the streamer as it flutters behind.

**Materials Needed:** Paper streamers or scarves
Pouring Rice

Age: 18 to 24 Months

Checklist Skill 10: Drinks from Cup or Glass

To improve motor skills used to drink from a cup or glass, let the toddler pour from various types of cups and glasses. Fill a plastic dish tub half full of rice. Show the toddler how to pour the rice from one container to another. For a group of toddlers, spread an old bed sheet on the floor and provide each toddler with a plastic tub, rice, and plastic cups and glasses.

Materials Needed: Plastic dish tubs, rice, plastic cups and glasses of various sizes

CURRICULUM FOR COGNITIVE DEVELOPMENT

Nurturing Cognitive Development in Infants and Toddlers

The section on physical development described infant development as involving the senses and physical actions to learn about the world. Physical movement and development of body control facilitate learning; likewise, the senses are used to take information that leads to cognitive development. Because infants use their senses and physical actions simultaneously, the two cannot be separated (Caulfield, 1996).

Cognitive development is the means for learning. Through the acquisition of cognition, infants and toddlers learn and become intelligent beings. Learning leads to understanding. Weiser (1991) proposes that understanding involves three steps: infants (a) take in information with their senses, (b) process it, and (c) use it to understand.

Caregivers and parents have a significant role in nurturing cognitive development because there are affective dimensions to learning. Infants and toddlers not only need to have the capacity to learn but also need to be motivated to want to find out about the world. They need to have the disposition to acquire knowledge (Katz, 1988). The goal for parents and caregivers is not only to help infants and toddlers be exposed to experiences that will develop cognition but also to guide them to perceiving that learning is an enjoyable process.

In the following pages, activities that will provide cognitive experiences are explained. The activities are matched to checklist characteristics described in the Wortham developmental checklists in Chapter 4 (Figures 4.1 to 4.4).
EXPERIENCES FOR COGNITIVE DEVELOPMENT IN INFANTS

Prepping up Baby
Age: Birth to 6 Months
Checklist Skill 3: Follows a Moving Person or Object with Eyes
Checklist Skill 10: Looks at Objects and Realistic Pictures
Just as babies need to be held in different positions, they also need to be placed in different positions so that they can observe their surroundings from different perspectives. Babies can be seated in an infant seat or on a beanbag chair or propped up in a seated position with pillows. They can observe the movement and activities of others, view pictures, and observe natural features of the outdoor environment.

Materials Needed: Beanbag chair, pillows, or infant seat

Looking and Finding
Age: Birth to 6 Months
Checklist Skill 3: Follows a Moving Person or Object with Eyes
Babies love to watch the movements of their caretaker. As they gain experience, they are able to locate adults by the location of their voice. Play a game by calling to the baby from different locations. When the baby turns his or her head to locate your voice, reward the baby with hugs and praise. The baby should be placed in different positions—on the back and tummy and in seated positions—to stimulate different kinds of movement to locate the adult playing the game.

Materials Needed: None

Crib Mobiles
Age: Birth to 6 Months
Checklist Skill 4: Looks at Suspended Object
At a very young age, babies are able to focus visually on items hanging from the crib. Interesting household items can be suspended over the baby’s crib. It is important that objects are beyond the infant’s ability to grasp if they can possibly be harmful. Because infants need moderate variety to maintain interest, new materials can be introduced when the baby appears to be bored with the existing objects.

Materials Needed: Strap to attach across the crib, yarn, rubber kitchen tools or toys to suspend
Looking, Looking

Age: Birth to 6 Months
Checklist Skill 10: Looks at Objects and Realistic Pictures

Babies are interested in looking at objects and pictures in their environment. When they are sitting in the caregiver’s lap, they can be introduced to pictures in a magazine or picture book. They also enjoy being carried about and shown plants, grass, flowers, pets, and interesting objects. Looking activities should be accompanied by conversation about the things observed.

Materials Needed: Objects, animals, plants, and so on from the indoor and outdoor environment; pictures; picture books

What Do You Hear?

Age: Birth to 6 Months
Checklist Skill 12: Turns Head to Sound of Bell or Rattle

Infants are attentive to new sounds. To give the baby practice in hearing and listening, use a rattle or bell in a listening game. Seat the baby in the parent’s or caregiver’s lap. Come from behind the baby and ring the bell. The baby will soon turn toward the new sound. Reward the baby by offering the toy to be held and explored.

Materials Needed: Bell, rattle, or other toy that makes noise

Find It

Age: 6 to 12 Months
Checklist Skill 5: Uncovers Hidden Toy

Between 6 and 12 months, most babies learn object permanence. To nurture this developmental milestone, tie brightly colored ribbons to small toys. Hide the toys with the ribbon showing. Show the baby how to pull the ribbon to find the toy. Praise all efforts.

Materials Needed: Ribbons of several colors, small toys

Texture Fun

Age: 6 to 12 Months
Checklist Skill 14: Manipulates Objects

Babies love to experiment with materials that have different surfaces, textures, and sounds. Give babies wax paper, cellophane wrap, newspaper, a soft towel, or gift-wrapping paper. Supervise carefully because the materials may end up in their mouth.

Materials Needed: Cellophane wrap, paper of various colors and textures, and so on
Nesting Cups

Age: 6 to 12 Months
Checklist Skill 14: Manipulates Objects
Give the baby a set of measuring cups or toy nesting cups to explore. Show the child how to place a smaller cup into a larger one. Praise all efforts. Measuring spoons will add to the interest in the activity.

Materials Needed: Nested measuring cups or toys, measuring spoons

Simon Says

Age: 6 to 12 Months
Checklist Skill 16: Imitates Actions
In this simplified version of “Simon Says,” the adult initiates activities such as clapping hands for the baby to imitate. “Patty-cake” is also an example of an imitating game. The adult first models the actions and encourages the baby to do it also. Touching and naming nose, knees, and so on can be imitated. Traditional imitating activities taught to babies include giving a kiss, throwing a kiss, and waving bye-bye.

Materials Needed: None

EXPERIENCES FOR COGNITIVE DEVELOPMENT IN TODDLERS

Egg Hunt

Age: 12 to 18 Months
Checklist Skill 1: Pursues and Retrieves a Toy That Is Out of Sight
Hide plastic Easter eggs so that only part of each one is hidden. Show the toddlers how to find the eggs. At first, make the eggs fairly obvious. After more experience, leave less and less of the egg in sight.

Materials Needed: Large plastic Easter eggs

Mailman

Age: 12 to 18 Months
Checklist Skill 1: Pursues and Retrieves a Toy That Is Out of Sight
Put toys or other interesting objects in letter envelopes or manila mailing envelopes. Put the “mail” in a large box. Invite the toddler to pick out an envelope and find what is inside. After the game has been repeated several times, change the items in the envelopes.

Materials Needed: Small and large envelopes, toys and other items to be put into the envelopes
Clothespins in the Can
Age: 12 to 18 Months
Checklist Skill 2: Puts Objects into and out of Container
Cover a coffee can with Con-Tac paper. Cut a round hole larger than a clothespin in the plastic lid. Show the toddler how to put clothespins (try to use round clothespins) through the hole. Count the clothespins as they are placed through the hole. When all the clothespins are in the can, show the toddler how to take off the lid and dump them out. Repeat.

Materials Needed: Coffee can or other container with a plastic lid, clothespins or other objects

Ring, Ring
Age: 12 to 18 Months
Checklist Skill 3: Role Plays with Familiar Objects
Provide toddlers with old telephones or play telephones. Show them how to dial the number and “talk” on the telephone. Encourage them to call someone in their family. Become involved in the role play by pretending you are talking to someone on the telephone.

Materials Needed: Toy telephones or discarded telephones

Going Shopping
Age: 12 to 18 Months
Checklist Skill 3: Role Plays with Familiar Objects
Collect empty food containers. Put the containers on a low table or shelf. Show the toddler how to go shopping using a large basket, bag, or play grocery cart. Talk about what the toddler is going to buy. After items have been selected, name each one and encourage the toddler to take out the named item. Change items to provide variety and new vocabulary opportunities.

Materials Needed: Empty food containers; bag, basket, or cart for shopping

Hat Game
Age: 12 to 18 Months
Checklist Skill 4: Recognizes and Responds to Self in Mirror
Make a collection of old hats, the more outrageous the better. Show the toddler how to try on the hats and look in the mirror. Enjoy taking turns and recognizing each other in the funny hats. Be sure to have hats for both boys and girls and encourage the toddler to try on all types of hats.

Materials Needed: A collection of hats
**Puzzle Play**

*Age: 12 to 18 Months*

**Checklist Skill 5: Solves Simple Puzzles or Constructions**

Purchase simple puzzles with two or three parts or make puzzles by mounting a picture on cardboard and cutting it into two or three pieces. Wooden puzzles should have knobs for picking up the pieces. Show toddlers how to assemble the puzzle. Praise all efforts. When the puzzles become too easy, increase the number of pieces. An endless supply of puzzles may be made from empty food boxes.

**Materials Needed:** Puzzles with two or three pieces, either purchased or hand constructed.

**Solving Problems**

*Age: 12 to 18 Months*

**Checklist Skill: Solves Simple Puzzles or Constructions**

Using plastic hair curlers of different diameters, show the child how to put a smaller curler inside a larger curler. Encourage the child to explore putting curlers in and out.

**Materials Needed:** Plastic curlers of different diameters (Adapted from Segatti, Brown-Du Paul, & Keyes, 2003)

**Mechanical Toys**

*Age: 18 to 24 Months*

**Checklist Skill 1: Demonstrates Perception of Correct Function of Toy**

Many toys require the toddler to push buttons, pull levers, or perform some other physical action to activate the toy. Introduce the toddler to such a toy and demonstrate its function. When interest lags, put the toy away for a while and substitute another toy.

**Materials Needed:** Toys with mechanical function

**Outside Toys**

*Age: 18 to 24 Months*

**Checklist Skill 1: Demonstrates Perception of Correct Function of Toy**

Make available a variety of outdoor push and pull toys. Show the child how to “cut the grass” with a toy lawn mower or to push a doll in a doll carriage. When the toddler is playing with a toy, talk to him about the activity and the use of the toy.

**Materials Needed:** Push and pull toys
More Shapes

Age: 18 to 24 Months
Checklist Skill 3: Places Correct Shape in Shape Box
Make or acquire a "shape box" with five different shapes. Invite the toddler to experiment with putting shapes into the correct holes. If the toddler finds the task too difficult, show how the shaped pieces fit.

Materials Needed: Shape toy with five or more pieces

Soap Bubbles

Age: 18 to 24 Months
Checklist Skill 4: Uses Housekeeping Toys
Fill a plastic dishpan about half full of water. Add liquid detergent. Show the toddler how to use a whisk or eggbeater to make soap bubbles. Toddlers may be more interested in playing in the soapsuds with their hands. A large piece of plastic may be needed to protect surfaces. A child's apron will protect the toddler's clothing. A water play table may be used for a group of toddlers.

Materials Needed: Dishpan, detergent, eggbeater or whisk, plastic sheeting, aprons

Playhouse

Age: 18 to 24 Months
Checklist Skill 4: Uses Housekeeping Toys
Make a playhouse by putting an old sheet over a table. Cut an opening for a door. Put play dishes, child's sleeping bag, or other dramatic play toys in the playhouse. Invite the toddler to enjoy pretending in the house.

Materials Needed: Table, old sheet, playhouse toys

Here I Am

Age: 18 to 24 Months
Checklist Skill 5: Recognizes Self in Photograph
Make a book of individual and group photographs that include pictures of the toddlers. As you look through the book together, ask toddlers to find themselves or identify another person in the pictures.

Materials Needed: A collection of photographs or photograph book
Find Another One.
Age: 18 to 24 Months
Checklist Skill 6: Matches Familiar Objects by Color
Select six wooden cubes or other objects: two red, two yellow, and two blue. Put one of each color in front of the toddler. Select one of the other three cubes and show the toddler how to match it with the same color. Repeat with each of the cubes. Reward all efforts. Discuss the colors of the objects as they are matched.
Materials Needed: Two cubes or other objects of each color: red, yellow, blue

One More
Age: 18 to 24 Months
Checklist Skill 8: Understands “One More”
Engage in a game counting objects with the toddler. Stop after counting to three or four. Add one more to the group of objects and say, “One more.” After repeating the activity several times, ask the toddler to give you “one more.”
Materials Needed: Toys or objects to count

Put It Away
Age: 18 to 24 Months
Checklist Skill 9: Returns Toy to Correct Place
Divide a toy shelf into three or four spaces with colored tape. Choose four toys to arrange in the spaces. Find a picture of the toy in a catalog. If no picture is available, draw a simple picture to represent the toy. Play a game of putting toys on the shelf to match the picture. At the end of play times, help toddlers replace toys in the correct spot. When one shelf has been mastered, add another shelf of toys.
Materials Needed: Storage shelf, toys, pictures or drawings of toys

Feeling
Age: 18 to 24 Months
Checklist Skill (Social-Emotional Development) 5: Shows Interest in Exploring New Places
Take toddlers on a feeling expedition outdoors. Show them different elements in the playscape such as grass, sand, and tree bark. Help them to touch and experience the texture and verbally describe it for them.
Materials Needed: None
CURRICULUM FOR LANGUAGE DEVELOPMENT

Nurturing Language Development in Infants and Toddlers

Although true vocalizations and communication using language generally do not occur before the end of the first year, the process of acquiring language begins at birth or even before birth. The tremendous task of learning to use language to communicate with others begins with the infant’s using the sense of hearing to understand the basic building blocks of sounds and language in his environment (Caulfield, 1996). Infants and toddlers must learn the sounds, or phonology, of the language; the semantics, or meaning, of the language; the formation of words, or the syntax and grammar, in the language; and the actual logics of communication, or pragmatics, of the language (Santrock, 2002). The process of learning all these language components begins in the early months of the first year and continues throughout life, although the basic systems of the language are mastered by the time the young child enters school.

Theorists have different perspectives about how language is acquired. Skinner (1957) proposed that adults provide the language model that children acquire through imitation. Language and thought are initiated through interactions between adult and child. Innatists (Chomsky, 1965; Lennenberg, 1967; McNeill, 1970) believe children have an internal ability to learn language; as the child matures, language expands. Piaget (Piaget & Inhelder, 1969) proposed that language results from children’s experiences with language in their world; early language reflects the child’s sensory experiences. Vygotsky (1978) believed that social relationships affect the child’s speech in that adult language and encouragement of the child’s language match the child’s need for help with language. More experienced adults provide social structure to guide children’s participation in language (van Kleck, Alexander, Vigil, & Templeton, 1996).

Infants and toddlers are encouraged to speak when they are reinforced by adults for their efforts. Likewise, they use language, once they are able to verbally communicate, to describe their actions and cognitive progress. They learn vocabulary by imitating the words they hear, although they impose their own level of syntax on the words they use. In effect, the complex nature of language acquisition is explained in part by each of the theories, although none provides a complete understanding of the process.

The role of adults is significant in the development of language in infants and toddlers. The verbal environment provided by adults and supporting interactions that include verbal communication are necessary if the child is to hear and attempt to use language. Literacy is also part of language development. The use of books and stories with infants and toddlers is part of the continuum in becoming able to read and write in addition to being able to listen and speak (Moerow, 2000).
Very young children who come from homes where a language other than English is spoken have special needs in language development. These infants and toddlers are encountering a different language in the caregiving setting than in the home. They are being exposed to and learning two languages. Miller (1992) suggests that adults in the caregiving setting can help their non-English-speaking children adjust to the new language and learn to use it by following the following guidelines:

1. Build trust by helping the child feel safe and secure. To make the child feel comfortable, hold and otherwise touch the child, use eye contact, and smile at the child.
2. Use key words in the child's language. Find out from the parents how the child communicates his needs.
3. Be a good model by speaking slowly and clearly. Model the use of complete sentences and extend the child's single-word utterances.
4. Build receptive language through talking about what is happening. Talk to the child about what he is doing and the sequence of routines and events in the classroom.
5. Encourage productive language by encouraging the child to use key social words such as "thank you," "yes," "no," and "okay."
6. Try to understand nonverbal communication by observing the child's efforts to communicate through gestures and sounds and using verbalizations to interpret for the child.
7. Encourage the child to interact with other children in the classroom. Social interactions will help in socialization and provide experiences with language.

The following section presents activities that caregivers can use to implement a curriculum for language development. The activities are related to the Worsham developmental checklists in Chapter 4 (Figures 4.1 to 4.4). For infants under 6 months, the checklist items are found in the "Social-Emotional Development" section; for children 6 to 12 months, they are part of the "Physical-Cognitive Development" section; and for those older than 12 months, checklist items are in the "Language Development" section.
EXPERIENCES FOR LANGUAGE DEVELOPMENT
IN INFANTS

Little Talks
Age: Birth to 6 Months
Checklist Skill 3: Responds to Talking, Smiling, or Touching
Checklist Skill 6: Vocalizes in Association with Pleasure, Displeasure, Eagerness, and Satisfaction
Provide frequent opportunities when the baby is rested and fed to hold and talk to him. The baby should be held close enough to view your face as you talk and smile. If the baby vocalizes, smile and reflect the vocalization. Both the infant and the adult reinforce their loving attachment from positive “conversations” with each other.
Materials Needed: None

Body Parts
Age: Birth to 6 Months
Checklist Skill 3: Responds to Talking, Smiling, or Touching
Place the baby in your lap or on the floor on a blanket. Touch and pat the baby on different parts of the body as you name them. All vocal conversation should be accompanied by smiles. If the baby also vocalizes, these should be rewarded with more smiling and talk.
Materials Needed: None

Communicating Feelings
Age: Birth to 6 Months
Checklist Skill 6: Vocalizes in Association with Pleasure, Displeasure, Eagerness, and Satisfaction
During the first 6 months, the infant begins to communicate different kinds of feelings through vocalizations. On some occasions babies will coo when interacting with an adult. When babies are tired, hungry, or frustrated, they will make fretting vocalizations or cry. Respond to different kinds of communication with understanding. Talk to the baby concerning your understanding about how he feels.
Materials Needed: None

Laugh with Me
Age: Birth to 6 Months
Checklist Skill 9: Chuckles and Laughs
Babies love to “talk” with familiar people. As they gain experience with communicating, they first coo and soon chuckle or laugh. Lay baby in your lap facing you when he
seems to be in a mood to "chat." Talk to baby, smiling and laughing. The infant will let you know if he wants to escalate the fun. You will soon know which kinds of conversation or physical movement on your part will bring forth chuckles and laughs. When baby tires of the activity, change to something quieter.

**Materials Needed:** None

**Talking with Baby**

**Age:** 6 to 12 Months  
**Checklist Skill 8: Imitates Speech Sounds**

Although infants cannot vocalize true words at this age, they are able to vocalize and imitate sounds. You can initiate a "conversation" or respond to the infant's efforts to use sound to communicate. Hold the baby in your lap facing you and acknowledge a sound made by the baby and imitate it. You can then initiate a sound such as "ba-ba-ba" and encourage the baby to make the same sound. All efforts should be rewarded.

**Materials Needed:** None

**Learning New Words**

**Age:** 6 to 12 Months  
**Checklist Skill 8: Imitates Speech Sounds**

The infant can begin to learn names of things in the environment, although the names cannot be verbalized. While the baby is playing, introduce or name things in nearby areas. If the baby responds or tries to imitate your speech, praise and reinforce the efforts and repeat the names of the objects. Repeat the activity with the same and different items.

**Materials Needed:** Toys and other items in the environment

**Hi and Bye-Bye**

**Age:** 6 to 12 Months  
**Checklist Skill 18: Says Single Words Such as "Mama" and "Dada"**

One of baby's first ways to communicate is to say "hi" and "bye-bye." Wave to the baby, saying these words, and encourage baby to imitate you. Use other familiar words, such as names of pets and siblings. Praise all efforts.

**Materials Needed:** None

**Encouraging Language for Communication**

**Age:** 6 to 12 Months  
**Checklist Skill (Social-Emotional Development) 8: Uses Motions or Gestures to Communicate (Holds Out Arms to Be Picked Up)**

Before infants are able to talk, they use gestures to let the caretaker know what they want. Babies will gesture or point or perhaps whine. To encourage positive
communication, ask the baby what he wants. "Do you want a banana?" "Can you say, 'banana'?" Praise efforts to verbalize. "Good. You said 'banana.' Here is the banana." Repeat for different gestures, each time modeling for the baby how to use words or positive verbalization rather than gestures or whining.

Material Needed: None

EXPERIENCES FOR LANGUAGE DEVELOPMENT IN TODDLERS

Talk to Me
Age: 12 to 18 Months
Checklist Skill 1: Says Single Words (May Add Two and Three Words)
Before the baby can say words, he babbles, using vocalizations that sound like words. Because the baby's first words stand for a complete thought, the adult tries to determine what the baby is expressing and reflect the communication. For example, if the baby says, "light," the adult may say, "Yes, that is a light." Praise all the efforts to communicate by responding to the baby's utterances.

Material Needed: None

Where Are Your Eyes?
Age: 12 to 18 Months
Checklist Skill 2: Points to a Body Part on Request
Before the toddler can name things, he can point to them. Toddlers are interested in their body and respond to learning the names of body parts. Adults can help toddlers learn the names by pointing to each body part and naming it. Later they can play a question game such as "Where are your eyes?" or "Show me your mouth." When the toddler has mastered pointing to major body parts, add others. When the names of the body parts can be verbalized, ask the toddler to name them as you point to them.

Activity Needed: None

Body Puzzle
Age: 12 to 18 Months
Checklist Skill 2: Points to a Body Part on Request
Make a puzzle by gluing a simple doll picture on cardboard and cutting out the body parts or gluing the picture on flannel and using it on a flannel board. Show the toddler how to assemble the puzzle. Ask the toddler to put on the arms, legs, and so on. Name the body parts and have the toddler point to each one.

Material Needed: Body puzzle made from a picture of a doll or human figure glued to cardboard or flannel and cut out by body parts
Names in Books

Age: 12 to 18 Months

Checklist Skill 3: Imitates Words

Select beginner books that feature objects, toys, or animals that are familiar to the baby. As you and the toddler look at the book, name each picture. Encourage the baby to say the name of the picture after you. Repeat many times with many books.

Materials Needed: Simple picture books

Where, Oh Where?

Age: 12 to 18 Months

Checklist Skill 4: Responds to a Single Request

Sing the song, "Where, oh where is dear Little ——?" The toddler points to himself when requested. The toddler points to the things named in the tune. In a group setting, the toddlers can point to the person named in the tune. This activity teaches vocabulary as well as how to follow a request.

Materials Needed: None

Old MacDonald

Age: 12 to 18 Months

Checklist Skill 5: Says the Names of at Least Five Things

Make a book of pictures of animals, or select an animal picture book. Adapt the song "Old MacDonald" to fit the pictures in the book. As you look at the book with the toddler, sing the song, leaving out the name of the animal in the pictures. Encourage the toddler to supply the missing name. Provide help when needed.

Materials Needed: Picture book of farm animals

Outside Talk

Age: 12 to 18 Months

Checklist Skill 5: Says the Names of at Least Five Things

When outdoors with toddlers, be alert for things in the environment they can observe. Point to a bird flying overhead and name it for the toddlers. Repeat with other elements in the environment. After many experiences, ask the toddlers to name the things that are seen.

Materials Needed: None

What Am I Doing?

Age: 18 to 24 Months

Checklist Skill 1: Combines Two to Three Different Words

Pantomime familiar activities. Ask the child to tell you what you are doing. For example, do the motions for washing your face, putting on clothing, or drinking from a
glass. Show the toddler how to pantomime an action. Tell what he is doing. Repeat using other activities.

**Materials Needed:** None

**Tell Me About Food**

**Age:** 18 to 24 Months

**Checklist Skill 1: Combines Two to Three Different Words**

During mealtime or snack time, talk to the toddler about the food being eaten. Talk about the name of the foods, their color, and how they taste. Ask the toddler about the foods. Praise all responses and voluntary statements. (This process for eliciting language can be used in many everyday activities.)

**Materials Needed:** Mealtime foods or snacks

**Here's a Ball**

**Age:** 18 to 24 Months

**Checklist Skill 1: Combines Two to Three Different Words**

Learning simple finger plays helps children to develop language. An example of a simple finger play is “Here’s a Ball.” The adult says the finger play and models the actions. Encourage the toddler to imitate the actions and say the words to you.

Here's a Ball

Here's a ball [make circle with thumb and forefinger],
And here's a ball [make circle with both hands],
And a great big ball I see [make circle with both arms],
Can you count them? Are you ready?
One [make circle with thumb and forefinger],
Two [make circle with both hands],
Three [make circle with both arms]!

Repeat finger plays frequently. As toddlers become familiar with them, they enjoy being able to participate in the activity.

**Materials Needed:** None

**Play Talk**

**Age:** 18 to 24 Months

**Checklist Skill 1: Combines Two to Three Different Words**

When outdoors, talk to the toddlers about different play activities. Encourage them to talk to you about what they are doing. For example, if toddlers are digging in the sand with shovels and pails, make comments about the activity and ask the children to tell you about it. Encourage attempts to share information about the activity.

**Materials Needed:** None


Names, Names

Age: 18 to 24 Months

Checklist Skill 3: Names Pictures

Construct or collect sets of pictures of categories of things such as animals, foods, furniture, and toys. Using one category of pictures, name each picture for the toddler. Ask the toddler to name them. When possible, relate the picture to the actual item. After many naming activities, go through a set of pictures and see how many the toddler can name without prompting. Praise all efforts.

Materials Needed: Sets of pictures of familiar categories of things

Stories

Age: 18 to 24 Months

Checklist Skill 3: Names Pictures

Read simple storybooks frequently. When the toddler is familiar with the story, look at the pictures and encourage the child to name things in the pictures. Ask the toddler to tell you what is happening in the picture.

Materials Needed: Storybooks

Puppets

Age: 18 to 24 Months

Checklist Skill 4: Imitates Adult Speech Without Prompting

Engage in puppet play with toddlers. Have the puppet “talk” to the child. After the toddler is familiar with the puppet, invite the toddler to make the puppet “talk” to you. Don’t push if the toddler is apprehensive.

Materials Needed: Familiar puppets

Picture Books for Infants and Toddlers

Tips:

Picture books should have few words of text per page. Language should be clear, creative, and evocative.

Picture books should have themes that are interesting and appealing for very young children. Some suggested themes are dressing and undressing, bedtime stories, and lullaby stories.

Picture books that name objects, colors, numbers, and so on are popular. Things that can be named can include animals (pets, zoo, and farm animals), household items, toys, and items beginning with different letters of the alphabet.

Repetitive use of picture books is appealing to infants and toddlers. They will bring books to be “reread” over and over.

For more information about selecting and presenting picture books to young children, see Jelongo (2004).
CURRICULUM FOR SOCIAL DEVELOPMENT

Nurturing Social Development in Infants and Toddlers

Social development begins as soon as the neonate engages in the first interactions with the people in his environment. Immediately after birth, the infant may be placed on the mother's abdomen and held by the father. These early interactions begin the process of bonding between the parents and the infant. Social interactions that occur in the neonate's times of wakefulness and alertness continue the process of social and emotional development.

During the first 18 months, infants are in what Erikson (1963) said was the first stage of psychosocial development: trust versus mistrust. The dependability and consistency of adult attention to the infant's needs form the basis of positive social and emotional development. The toddler then enters the stage of autonomy versus shame and doubt, when the need to develop a sense of self as an individual emerges. Adult support for exploration and independence facilitates the now mobile individual's quest for affirmation of autonomy. Many of the activities that are a part of daily routines nurture social and emotional development in infants and toddlers; however, adult caregivers may not be aware of the importance of social interactions that occur as a part of the activities. In a previous section, it was stressed that caregiver verbalizations and communications with infants and toddlers encourage language development. Social interactions likewise nurture social and emotional development. In the activities described next, attention is given to how adult interactions with infants and toddlers can support social development.

EXPERIENCES FOR SOCIAL DEVELOPMENT IN INFANTS

Ride a Cock-Horse

Age: Birth to 6 Months

Checklist Skill 1: Looks Attentively at an Adult

All babies love this game. It gives them an opportunity to gaze directly at the adult's face and interact through vocalizing as the game progresses. Place the baby in your lap facing you and bounce the baby gently as you repeat the poem. The baby is bounced higher on the final word, "goes." Both adult and baby will enjoy the anticipation of the end of the rhyme.

Ride a Cock-Horse
Ride a cock-horse to Banbury Cross
To see a fine lady upon a white horse;
Rings on her fingers, and bells on her toes,
She shall make music wherever she goes.

Materials Needed: None

Holding Baby

Age: Birth to 6 Months

Checklist Skill 2: Adjusts Body to the Way the Adult Holds Him or Her

Hold the baby in various positions such as on your shoulder and cradling in your arms. Place pictures, patterns, and so on within the baby's line of vision. Vary where you
stand or sit so that the baby will have a variety of things to see. The baby learns trust and love by being held and cuddled. Talking to the baby reinforces the communication felt through bodily contact.

**Materials Needed:** Colorful patterns, pictures, or objects for the infant to see

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**Up and Down**

**Age:** Birth to 6 Months

**Checklist Skill 3: Responds to Talking, Smiling, Touching**

The baby enjoys the play of being lifted up and down gently as the adult smiles and talks. Trust in the adult develops as the enjoyment of physical action reinforces the bond of attachment between the baby and adult. The adult should maintain eye contact with the baby as the baby is lifted gently or raised up over the adult’s head in a playful gesture. The baby will respond to the adult’s pleasure in the activity.

**Materials Needed:** None

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**Hold Me**

**Age:** Birth to 6 Months

**Checklist Skill 4: Quiets When Picked Up**

When an infant is upset, he wants to be held. Very young babies are still adjusting to a new environment, and knowing that he will be held builds a feeling of security and trust. When the baby is upset, hold the baby close as you talk in a soothing voice. Touching, patting, and stroking also help to reassure a fretful baby. The baby is also reassured by the tactile feeling of being enclosed securely in a warm blanket.

**Materials Needed:** None

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**Baby Wants Attention**

**Age:** Birth to 6 Months

**Checklist Skill 5: Stops Crying When Someone Plays with Him**

It used to be thought that picking up a young infant when he was crying would spoil the baby. Research now shows that when a baby’s need for security and holding are met in the early months, the baby will demand less attention later.

When the infant cries for attention, instead of always picking the baby up, stop to play. Talk, touch, or offer a toy, letting the baby know you are there if needed.

**Materials Needed:** Toy

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**Where Am I?**

**Age:** Birth to 6 Months

**Checklist Skill 8: Knows Familiar People or Things by Sight or Voice**

Soon after birth, infants learn to discriminate between their mother or primary caregiver and less familiar adults. Play a recognition game by calling to the infant when out
of sight. When the infant begins to look for you, reward the baby by appearing and engaging in talking, holding, or playing.

**Materials Needed:** None

**Mirror Fun**

**Age:** 6 to 12 Months  
**Checklist Skill 2: Plays with Image in Mirror**  
Place a mirror in front of the infant while he is being held in an adult’s lap. Allow the baby to view his image in the mirror. Encourage the baby to interact with the image in the mirror. As an alternative, place the baby on his tummy on the floor in front of a freestanding mirror.  

**Materials Needed:** Hand mirror or large mirror at floor level

**The Hat Game**

**Age:** 6 to 12 Months  
**Checklist Skill 2: Plays with Image in Mirror**  
Babies love to put on hats. Seat baby in front of a mirror beside you. Show the baby how to put on the hat and admire him in the mirror. Take turns putting on hats and enjoying and admiring each other.  

**Materials Needed:** An assortment of interesting hats

**A New Friend**

**Age:** 6 to 12 Months  
**Checklist Skill 4: Responds to Presence of a New Person**  
When infants are in a period of “stranger anxiety,” caution is needed when introducing a new person. Allow the baby to become familiar with the person from a secure position such as the lap of a family member or caregiver. Only when the infant indicates an interest in approaching the “new friend” should social interactions be initiated. When the baby feels comfortable with the new person, he will indicate readiness for including that person in interactions.  

**Materials Needed:** None

**EXPERIENCES FOR SOCIAL DEVELOPMENT IN TODDLERS**

**See My Toy?**

**Age:** 12 to 18 Months  
**Checklist Skill 2: Offers Object to Another Person**  
One of the first ways a toddler shows an awareness of social interactions is by approaching someone with a toy or object. The baby may want to show the toy or offer...
it to be held. The adult responding to the action should accept the toy and thank the baby. The gesture is usually temporary, and the baby soon expects the toy to be handed back. Often one toy after another is offered as the baby makes a game of the activity.

**Materials Needed:** Toys or other objects

**By Myself**

**Age:** 12 to 18 Months

**Checklist Skill 3:** Plays Independently or in Parallel Play

Toddlers who receive adequate attention do not always have to have an adult to engage in play with them. When the adult notices that the baby is happy playing by himself, the adult can refrain from interrupting and keep an eye on the baby from a distance. The adult can encourage or check on the activity after a short period of time.

**Materials Needed:** None

**Setting the Table**

**Age:** 12 to 18 Months

**Checklist Skill 4:** Helps with Simple Tasks

The toddler is aware of tasks that are performed in the home or in a center setting. One of the tasks that the toddler can help with is setting the table. An adult can show the toddler how to put a napkin out at each place setting. The toddler may be able to put a cup beside each napkin with adult guidance. Show appreciation for the help, even if it is time consuming!

**Materials Needed:** Napkins, cups

**Love the Baby**

**Age:** 12 to 18 Months

**Checklist Skill 7:** Carries, Hugs Toys

Toddlers who receive plenty of affection soon learn how to express love. Parents and caregivers can model loving behavior with a toy and show approval when the baby demonstrates affection. The adult may suggest, “Pat the baby” or “Love the monkey.”

**Materials Needed:** Toy doll or animal

**How Are You Feeling?**

**Age:** 18 to 24 Months

**Checklist Skill 1:** Uses Words to Make Wants Known or Express Feelings

Toddlers can learn to identify and express their feelings. Adults can facilitate the expression of feelings. When the child is happy, angry, or afraid, the adult can reflect the feeling.
in conversation by saying, for instance, “______ is very happy.” Or a question can be asked: “Are you feeling mad? Sometimes Mommy feels mad, too.” If the toddler’s feelings are discussed frequently, the toddler will come to understand that he has different feelings and that they are a normal part of living.

**Materials Needed:** None

**Let’s Put Toys Away**

**Age:** 18 to 24 Months

**Checklist Skill 2: Puts Toys Away on Request**

Older toddlers are pleased to be able to respond to requests. A task in which they can easily cooperate is in putting toys away. The toys should have specific locations where they are stored. Adults can talk about where the toys belong and model how to put them away. Although the toddler is not likely to complete the task alone, he will enjoy participating in the task. Help and continued praise are essential elements of the activity.

**Materials Needed:** Toys

**Loving You**

**Age:** 18 to 24 Months

**Checklist Skill 3: Engages in Affectionate Interchanges with Adults and Children**

The toddler is developing social skills as a part of a group. Adults can encourage affection in the toddler by being loving and affectionate themselves. Toddlers need opportunities to participate in group activities. Adults can encourage affectionate interchanges among toddlers. When adults observe a child being loving toward another, they can praise the child and reward him with an affectionate gesture.

**Materials Needed:** None

**Outings**

**Age:** 18 to 24 Months

**Checklist Skill 5: Shows Interest in Exploring New Places**

As toddlers overcome their hesitation in the presence of strangers or new places, they enjoy a variety of experiences. They are avid learners and show a continued awareness of new people and places. Take toddlers to parks, puppet shows, informal musical events, and other locations where they can observe and experience. Talk about where you are and what is happening.

**Materials Needed:** None
CURRICULUM FOR THE EXPRESSIVE ARTS

Nurturing Expressive Arts in Infants and Toddlers

Is it possible for infants and toddlers to develop an appreciation for the expressive arts? Can infants and toddlers participate in expressive activities? Although their limitations are obvious, these very young children can use the competencies they do possess to develop an awareness of the aesthetic quality of the natural world and man-made expressions of the expressive arts.

Infants and toddlers use their senses and physical actions to experience and understand their world. Adults can foster their awareness of sensory characteristics of their environment by providing activities that introduce them to music, beautiful elements of the natural environment, sculpture that can be touched and felt, pictures that are representative of the work of great artists, and other activities that allow them to interact with quality aesthetic examples of the fine arts.

Infants and toddlers are introduced to music and songs through nursery rhymes and other singing activities that are made a part of their daily activities. They can also be exposed to fine music when riding in the car, playing with toys, and other quiet times of the day. Parents and caregivers can rock or move about with babies in their arms to classical music pieces that are examples of different tempos and moods. Outdoor concerts can be enjoyed with the family when there are also other play opportunities available to provide diversions for short attention spans.

EXPERIENCES FOR AESTHETIC APPRECIATION AND EXPRESSION IN INFANTS AND TODDLERS

Looking and Listening

Age: Birth to 6 Months

Checklist Skill (Physical-Cognitive Development) 4: Looks at Suspended Object

Babies enjoy viewing and experiencing suspended objects that move and possibly make sounds. Wind chimes, colorful banners, flags, wind socks, and trees moving in a breeze are possibilities for young infants to experience the movement of suspended objects and living things.

Materials Needed: Natural elements or suspended objects that move

Looking and Listening II

Age: Birth to 6 Months

Checklist Skill (Physical-Cognitive Development) 10: Looks at Objects and Realistic Pictures

In this activity, the baby is active, and objects or natural elements are acted on. The baby is taken to or shown flowers, pets, interesting objects, and other elements in the surrounding environment. Interesting pictures on the walls or in books are viewed and discussed by the adult caregiver.

Materials Needed: Objects, pictures, and animals in the child’s environment
**Looking at Beautiful Books**
Age: 6 to 12 Months
Checklist Skill (Physical-Cognitive Development) 6: Looks at Picture Book
Select books with quality illustrations. When viewing the pages and naming items, attention is given to aesthetic qualities in the pictures.

**Materials Needed:** Picture books selected for the quality of the illustrations

**Moving to Music**
Age: 6 to 12 Months
Checklist Skill (Physical-Cognitive Development) 16: Imitates Actions
Play a piece of music that has a distinctive tempo, such as a march. Carry the infant as you move to the tempo. Clap to the tempo, encouraging the baby to clap. Engage babies in this activity frequently, using different types of quality music with various tempos and moods.

**Materials Needed:** Music

**Patty-Cake**
Age: 6 to 12 Months
Checklist Skill (Social-Emotional Development) 7: Enjoys and Plays Games with Others
Babies enjoy playing games, particularly games that include rhyming and physical actions. Patty-cake is a favorite that has been handed down for many generations.

**Patty-Cake**
Patty-cake, patty-cake, baker's man [clap baby's hands together].
Bake me a cake as fast as you can [make whirring motion with baby's hands].
Roll it out, cut it, and mark it with a "B" [make rolling, cutting motions].
And put it in the oven for Baby and me [Push baby's hands gently in his tummy]!

**Materials Needed:** None

**Watch Me Color!**
Age: 12 to 18 Months
Checklist Skill (Physical-Cognitive Development) 11: Scribbles
Felt-tipped markers make exciting strokes in bright colors. Offer the toddler a marker and a piece of paper. Let the toddler experiment with one marker at a time. Or,
alternatively, put a newspaper page on the wall and encourage the toddler to color on it. Supervision is very important. Toddlers may enjoy working in a group situation with a large piece of butcher's paper. The resulting "mural" can be mounted on the wall to be enjoyed by all.

**Materials Needed:** Paper, newsprint, butcher's paper, nontoxic, washable marking pens

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**Finger Play Fun**

**Age:** 12 to 18 Months

**Checklist Skill (Physical-Cognitive Development) 11: Scribbles**

Place a small amount of pudding on a formica-topped table in front of the toddler. Show the toddler how to experiment with scribbling with the pudding. Tasting is allowed. With older toddlers, use aerosol shaving cream and combine touching and smelling it.

**Materials Needed:** Pudding, shaving cream, aprons to protect clothing

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**Roll It Out**

**Age:** 18 to 24 Months

**Checklist Skill (Physical-Cognitive Development) 7: Pounds and Rolls Clay**

Older toddlers enjoy experimenting with various forms of clay or dough. Introduce them to soft, homemade dough, which is easier to use at first than commercial dough. Let the toddler first experiment with the dough to learn how it feels and is manipulated. Later, introduce a small rolling pin or cylindrical block to roll the dough. Simple cookie cutters are fun, as are shells, stones, toys, and objects with interesting shapes and surfaces to make prints in the dough.

**Materials Needed:** Dough, wet clay, cylinders or small rolling pins, cookie cutters, toys, and objects for printing

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**Nursery Rhymes**

**Age:** 18 to 24 Months

**Checklist Skill (Language Development) 4: Imitates Adult Speech Without Prompting**

Look at a nursery rhyme book with the toddler. Say the nursery rhymes until they are familiar. After the toddler knows a rhyme, say it, leaving off the last word of each line. Help the toddler supply the missing word. Encourage the toddler to say more of the rhyme with you.

**Materials Needed:** Nursery rhymes and rhyming storybooks
Sing Along with Me
Age: 18 to 24 Months
Checklist Skill (Social-Emotional Development) 4: Sings with Adults or Other Children
Introduce toddlers to simple songs such as “Row, Row, Row Your Boat,” “Mary Had a Little Lamb,” and “Jack and Jill.” Encourage toddlers to sing along, clap, and dance to the songs. Praise all efforts to participate.
Play simple recorded songs. Sing along with the records and praise the toddler for any attempts to sing along.
Materials Needed: Recorded songs

Rhythm Band
Age: 18 to 24 Months
Checklist Skill: None
Provide toddlers with simple rhythm band instruments such as drums, bells, or sticks. Kitchen utensils such as metal pans and wooden spoons can be substituted. Play recorded music that has a definite beat. Encourage the toddlers to match the beat of the music. Alternate with music with a different type of beat.
Materials Needed: Rhythm band instruments, pots, wooden spoons, recorded music

The value of books and story experiences can be extended to aesthetic appreciation. Adults can be selective in the kinds of books to share with infants and toddlers. In addition to concern for durability, as the toddler gains experience in caring for books, adults can look for books with quality illustrations. Picture books that contain reproductions of well-known art can be introduced with an eye to using pictures that will appeal to the very young viewer.

Nursery rhymes and finger plays introduce the very young child to poetry. Singing and telling nursery rhymes and singing songs with the babies permit them to both experience and participate in examples of interesting, melodic language. Repeated experiences with action rhymes such as “Ride a Cock-Horse” and “This Little Piggy Went to Market” allow the child to hear the rhythm and melody of language and the anticipation of physical actions that accompany the rhymes.

Aesthetic appreciation is fostered particularly through the presence of examples of beautiful living things from the natural environment. Fish in an aquarium, flowers, colorful plants, and interesting animals and birds provide infants and toddlers the opportunity to experience beautiful colors and striking combinations of color and shape. The infinite variety in flowers and plants can be viewed and often touched and smelted. Babies’ sensory capabilities are stimulated and extended through many experiences with elements of nature.

Although no developmental characteristics on the checklists are specifically related to appreciation for the expressive arts, activities can be planned with attention to the inclusion of aesthetic experiences. The activities that follow can be selected for a development objective; however, they can also be planned with the intention of fostering aesthetic appreciation or expression.
SUMMARY: A WORD OF CAUTION

Infants and toddlers are active learners. They use their physical and sensory capacity to explore and understand their environment. Parents and other adults encourage the learning and development process by responding to the child's emerging abilities expressed in interesting and appropriate activities. An understanding of the developmental characteristics of infants and toddlers provides adults with clues to the types of activities that the child will enjoy and that are beneficial. This chapter has described the types of experiences that can be enjoyed by adults and infants and toddlers together. Suggested activities have been included for each age from the neonate to 2 years of age.

The nature of the very young child's approach to exploring also makes it necessary to be very alert to possible dangers in materials and places used for infant and toddler activities. Because babies rely on their senses and physical abilities to explore the toys and locations in their environment, adults need to use caution and careful planning for experiences and activities. Children under the age of 2—and often older preschool children—put everything in their mouths. This includes bugs, pebbles, paper clips, and anything else that comes their way. They require constant supervision as soon as they develop the ability to grasp. When they are mobile, new dangers are possible. They can pull things off of tables and beds, climb up the most unlikely places, and get themselves stuck in very small spaces.

Teachers, caregivers, and parents must plan all activities and experiences with these cautions in mind. The infant who enjoys a crib toy dangling overhead becomes the infant who can reach the same toy and choke on it 2 months later. Toddlers are capable of climbing a play structure meant for preschool children and being injured in a fall or entrapping their head between railings that are too far apart to prevent such a disaster. When planning all activities and selecting materials, adults must consider possible dangers from the materials themselves and from improper use of the materials. Materials with toxic paint or other possibly poisonous elements should not be used. No objects that have parts that can be dislodged and swallowed should be placed within the reach of small children. Infants and toddlers use their sensory abilities to explore,
but these same capacities, combined with extreme limitations in their understanding of danger, make it necessary for adults to plan experiences and activities with the safety and health of children in mind.

**STUDY QUESTIONS**

1. How do developmental experiences for infants and toddlers encourage them to explore their world? Give some examples in cognitive development for each age-group.
2. How are infants from birth to 12 months encouraged to socialize? Give examples of some activities.
3. How does physical development encourage cognitive development in toddlers? Give examples of experiences that broaden opportunities for exploration.
4. What are the major physical milestones during the first year and second year? How does each milestone increase possibilities for exploring the environment?
5. How do adults foster language development in infants and toddlers? Give examples of language experiences for each age-group.
6. What are the major milestones in social development from birth to 2 years? How are language and physical development related to social development?
CHAPTER SEVEN

A Developmental Model for Preschool Programs

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Discuss how goals for quality early childhood education apply to preschool programs.
2. Describe the characteristics of a quality developmental preschool model.
3. Discuss what is meant by a developmental-thematic curriculum.
4. Discuss three roles of developmental-thematic curriculum in the preschool classroom.
5. Design a developmental-thematic unit following the steps described.
6. Explain the role of assessment in preschool programs.
INTRODUCTION

This chapter, as well as Chapters 8 and 9, will discuss how to develop curriculum and instruction in preschool classrooms. Chapter 5 and 6 discussed quality programs for infants and toddlers and looked at some examples of programs that have demonstrated quality. Now we are concerned with 3- to 5-year-olds and how we can implement quality programs for preschool children.

In Chapters 2 and 3 we learned about the history of early childhood education and how classical and contemporary theorists have informed early childhood programs. We also discussed quality programs for the 21st century and models that are available to guide us in developing our own programs. Reggio Emilia, the Project Approach, HighScope, and developmentally appropriate practices (DAP) are all examples of excellent programs that can show us how theory has been put into practice. As we proceed into this chapter, we will discuss how characteristics of quality programs, theories, and models of programs can give us ideas for developing curriculum for preschool children. We will discuss components of a quality preschool model and then study an example of how to implement curriculum and instruction for preschool children. First, we must distinguish between theories and ideals and the reality of teaching in different preschool settings with "real world" expectations.

THE DIFFERENCES BETWEEN THEORY AND PRACTICE

In discussing the differences between theory and practice in early childhood education, one can describe the main points of major theorists and the implications for how their ideas should influence practice in the classroom. It is also plausibly cogently describe past educational movements and the ways in which schools and early childhood programs set up the curriculum suggested by certain theories and movements.

However, one is much more tentative when discussing what actually happens in the classroom. Individual understanding, acceptance, and use of theories, educational movements, and innovative approaches to instruction are difficult to see in practice in many settings. Teachers are not only bombarded with current trends and fads in education but also have been influenced by their own experiences and thus function according to how they perceive appropriate education should progress. It is said that we often "parent as we were parented"; we also often "teach the way we were taught," not the way we were taught to teach. The individual teacher's idea of what constitutes a quality early childhood program is strongly affected by her own beliefs and experiences. Although education movements reflect in general the major influences of a period, instructional practice has ranged from one extreme to another—from quite innovative to very traditional. Despite the theories or innovations available to them, teachers throughout the history of schooling in the United States have varied in their conscious and unconscious decisions about how they would teach young children. There continues to be a significant discrepancy between the current theories and models and the way in which those ideas are transformed into practice.

During the Progressive period, many primary-grade teachers continued the practice of rote learning and rigid drills. Some kindergarten teachers used Froebelian methods in spite of new progressive ideas about classroom democracy and learning centers. In the decade of the 1970s when elementary classroom teachers were trying open concept methods and team teaching, others continued round-robin reading and spelling drills (Weber, 1969).

Thus, it is therefore not surprising that there are wide variations in how early childhood programs are designed and implemented today. Many theories and practices affect current thinking. Teachers, administrators, and other early childhood advocates vary widely in their understanding, acceptance, and willingness to carry our programs that are of the best quality.

We have discussed how teachers reflect their background, training, and biases in their teaching. How
teachers teach young children is also influenced by the differences in administrators. Ideally, school principals should be trained to be instructional leaders. More specifically, they should have instruction in the education of young children in the early childhood years. Unfortunately, more administrators are trained in management of schools rather than in instructional leadership. Even fewer have been trained in the unique characteristics of early childhood education and the kinds of experiences that young children need for their stages of development and styles of learning.

The No Child Left Behind Act (National Governors Association Center for Best Practices, 2002) has had a strong influence on how teachers teach. Many preschools are feeling the pressures for academic accountability and increased skills instruction. Even if the teacher has a strong background in early childhood development and education, academic expectations may preclude freedom to provide a program that focuses on how young children develop and learn.

The model proposed in this text reflects the current thinking that curriculum and instruction must be compatible with the developmental abilities of young children. Moreover, the cognitive-developmental theories of Jean Piaget and Lev Vygotsky, which perceive the child as an active learner with intrinsic potential to engage in learning, are the major theoretical influences for the model to be described. However, pure models following one theory rarely exist; thus, an eclectic approach building on various effective innovations and possibilities will be incorporated. Finally, although the possibilities for a quality model can be advocated in a textbook, the practices followed in individual classrooms by future teachers will also differ and will evolve continually, depending on the experiences, influences, and individual efforts of teachers to continue to sort out, interpret, and incorporate past experiences into future innovations and possibilities. Adults and teachers, like children, continue to develop; moreover, the progress of their growth as teachers will depend on their motivation to continue to search for the best ways to expedite preschool children's learning.

CONSIDERATIONS FOR DEVELOPING A MODEL FOR PRESCHOOL EDUCATION

Chapter 3 discussed goals for quality programs in the 21st century. Those goals included five indicators that should be considered in preschool program development: (a) principles of child development; (b) balanced curriculum; (c) parent, teacher, and child relationships; (d) assessment and accountability; and (e) diversity in children and families. How do these indicators bridge theory and practice for preschool curriculum?

Principles of Child Development

This chapter is titled "A Developmental Model for Preschool Programs," which indicates that children's development is a foundation for preschool programs. All domains of development—physical, cognitive, and socioemotional—are considered. Arnold Gesell (1923) provided the first norms of development. His studies described typical development by chronological age, which was used as a first guide for what children can do at different ages.

Cognitive Development

Through Piaget, the child's cognitive development was revisited. Piaget believed that cognitive development is influenced by both maturation and the nature of experiences encountered by the preschool child; through these encounters the child reconstructs knowledge. The child absorbs information because of interactions with the world and tries to make sense of the new information using what is known from previous experiences. The child is continually engaged in constructing knowledge by fitting new input into existing information. Each child brings different past experiences to the newly acquired knowledge and will construct further knowledge within an individual perspective.

The preschool child is in Piaget's preoperational stage of development. The preoperational child begins to use mental reasoning and forms concepts about the world. The child is egocentric but is able
to engage in symbolic thought. Children in this stage believe that inanimate objects have lifelike qualities known as animism.

Piaget’s description of the learning process leads to a better understanding of the child as an active learner. The term child-centered instruction used by the models discussed in Chapter 5 has a richer meaning if we incorporate the child as actively reconstituting knowledge with how the teacher prepares the environment and plans experiences to facilitate the learning process. The teacher in a quality developmental preschool builds on a belief in child-centered, active learning and reconstruction of knowledge when organizing the curriculum (Bredekamp & Copple, 1997; Holmann & Weikart, 1995; Malaguzzi, 1996; Stain, 1998).

Lev Vygotsky added an additional dimension to how the child acquires knowledge. For Vygotsky, cognition is a shared process. Mental processes occur in exchanges between children and between children and adults (Bodrova & Leong, 1996). The mental processes are first acquired in shared experiences and then move to individual internalization. Albert Bandura (Bandura & Walters, 1963) also viewed learning as having a social dimension. He suggested that children learn by observing others.

Active learning within the social context implies that the child learns by active involvement with information and other children or adults. New (1992) proposes that such learning is also contextualized; it has meaning and purpose. Purposeful learning has also been described as authentic learning (Newmann & Associates, 1996). Real-life problem solving provides the context that is meaningful. For Piaget, the child experiences disequilibrium and uses assimilation and accommodation to construct new concepts. Vygotsky described cognitive conflict within the process of the zone of proximal development. Children first solve the problem with the assistance of others and eventually can resolve acquisition of new knowledge individually.

Social-Emotional Development

Erik Erikson’s psychosocial theory of development provides the guide for developmental preschool classrooms. Children between the ages of 3 and 5 are in Erikson’s stage of initiative versus guilt. Children will develop initiative if they are encouraged to engage in social play and explore. A major task for preschool children is to develop prosocial skills and be able to work and play within a social group. Quality programs are attentive to children’s social development and provide guidance that will facilitate success in emotional development and social interactions.

Balanced Curriculum

A balanced curriculum for preschool children means that all domains of development are addressed as well as experiences in the expressive arts. Balance also reflects constructivism in that the child has opportunities to construct and apply knowledge in a meaningful context.

Balance is also achieved through acquisition of necessary skills. Skinner (1953), Bandura (Bandura & Walters, 1963), and Vygotsky (1978) advocated a role for teachers to use direct instruction with children to teach them specific knowledge and skills as part of a curriculum that addresses the whole child. In addition, metacognitive skills permit children to learn more deliberately through reflecting, questioning, and hypothesizing.

Parent, Teacher, and Child Relationships

Quality preschool programs engage teachers and parents as partners in the child’s learning. The child is also an active participant in planning, implementing, and reflecting on the learning process. All the models for early childhood programs discussed earlier view parents as integral participants in the preschool program through parent involvement, participation in planning and evaluation, and possibly in training provided for parents. Reggio Emilia provides an excellent model for these relationships in that parents are engaged in the administration of the schools in addition to participating in program activities (Malaguzzi, 1996). Early Head Start and Head Start programs also include many roles and services for parents within their programs.
Assessment and Accountability

Quality preschools have a system for assessment that evaluates all facets of the program to include child progress, teaching effectiveness, and program quality. The HighScope model has a well-established assessment system called the Preschool Child Observation Record, second edition (COR) (HighScope Educational Research Foundation, 2003) that is used to document developmental progress. The DAP guidelines (Bredekamp & Copple, 1997) propose a variety of strategies to document child and program progress. Reggio Emilia and the Project Approach use displays of children's work to document child accomplishments. Later in this chapter we will learn about preschool assessment in more depth.

Diversity in Children and Families

The fifth goal for quality addresses the variety of ethnic, language, cultural, and ability differences in children who attend preschools. Quality programs provide opportunities for children and families to share their own background and learn about other cultures and practices. The curriculum reflects cultural differences as well as the individual learning needs of children with atypical abilities or disabilities. HighScope and DAP provide guidance for addressing diversity in preschool children.

A Quality Preschool Model: The Garden Project

The University of Michigan—Dearborn Child Care Center is an example of how a program can draw from theories and model programs to develop their own model of quality. The educators at the center that services children ages 1 through 5 have been influenced by Piaget, Vygotsky, and the Reggio Emilia approach to preschool education.

Children are given many opportunities to encounter new knowledge through project curriculum. The environment is organized so that children can represent their ideas and understandings in many forms. Classroom areas make it possible for children to use representation in dramatic play, constructions, drawings and other art forms, and through oral and written language.

Long-term projects are based on children's interests. Teachers document children's thinking during projects and use written language transcriptions, audiotapes,
videotapes and prints, photographs, overhead transparencies, and children's productions.

The garden project was implemented with children from 4½ to 6 years of age. The project lasted from April to June and was based on children's interest in the spring season and things that were beginning to grow. In addition to class discussions and questions asked by the children, the teacher looked to Website information as the process began. The children initiated many of their own investigations and used opportunities for self-initiated activities to gather information and represent what they were learning.

The interest in growing things evolved into an interest in gardens, which led to a trip to a greenhouse. Next, the children studied gardens and then planned and planted their garden using a map of the layout generated on a computer.

Throughout the work on the garden project, children's ideas and discussions drove the direction of activities. As children learned new information, project plans were revised and extended to incorporate new questions and information that emerged (Trepas-Sive-Street, 2000).

**Developmentally Appropriate Practices: Using Principles of Development**

The National Association for the Education of Young Children (NAEYC) describes quality preschool programs that provide curriculum that matches young children's development as developmentally appropriate practice (DAP). In the publication *Developmentally Appropriate Practice in Early Childhood Programs* (Bredekamp & Copple, 1997), the NAEYC not only defines what is meant by *developmental appropriateness* but also provides guidelines for DAP. Professionals working in high-quality programs for young children make decisions that affect the well-being and education of young children based on three kinds of knowledge: (a) what is known about child development and learning; (b) what is known about the strengths, interests, and needs of each individual child in the group; and (c) knowledge of the social and cultural contexts in which children live (Bredekamp & Copple, 1997, p. 9).

The new information on quality programs for young children in *Developmentally Appropriate Practice in Early Childhood Programs* describes current trends
in early childhood education that now serve children from diverse cultural and language backgrounds and children who vary in the abilities they bring to the program. To address some criticisms of the 1987 position statement on DAP, the current position statement includes principles that embrace individual diversity in children and practices that are compatible with the complex needs of children. The following statements are given as examples of how this complexity is addressed:

- Children construct their own understanding of concepts, and they benefit from instruction by more competent peers and adults.
- Children benefit from opportunities to see connections across disciplines through integration of curriculum and from opportunities to engage in in-depth study within a content area.
- Children benefit from predictable structure and orderly routine in the learning environment and from the teacher's flexibility and spontaneity in responding to their emerging ideas, needs, and interests.
- Children benefit from opportunities to make meaningful choices about what they will do and learn and from having a clear understanding of the boundaries within which choices are permissible.
- Children benefit from situations that challenge them to work at the edge of their developing capacities and from ample opportunities to practice newly acquired skills and to acquire the disposition to persist.
- Children benefit from opportunities to collaborate with their peers and acquire a sense of being part of a community and from being treated as individuals with their own strengths, interests, and needs.
- Children need to develop a positive sense of their own self-identity and respect for other people whose perspectives and experiences may be different from their own.
- Children have an enormous capacity to learn and an almost boundless curiosity about the world, and they have recognized, age-related limits on their cognitive and linguistic capacities.

- Children benefit from engaging in self-initiated, spontaneous play and from teacher-planned and teacher-structured activities, projects, and experiences. (Bredekamp & Copple, 1997, p. 23)

The curriculum should include learning for physical, social, emotional, and cognitive development. Further, learning is described as integrated so that children can make connections between content areas in the curriculum. In other words, the child's learning takes place in a meaningful, purposeful context rather than through isolated skills acquisition. Physical development occurs through unstructured play, whereas aesthetic development results from daily opportunities for creative expression through art and music.

The Inclusive Classroom

The quality developmental model of early childhood education embraces differences in abilities in young children. Public Law 94–142, passed in 1975, mandated that children with disabilities be mainstreamed into the regular classroom as much as possible. More recently, inclusion has begun to replace "mainstreaming." Inclusion is the process of fully integrating the child into the regular classroom. Support services needed for inclusion are provided by the special education teacher, teaching assistants, and supervisors. Sometimes, the child from the regular classroom also work in the special education classroom. Quality programs for young children plan for inclusion and modify curriculum and instruction and the classroom environment to complement the needs and abilities of young children with disabilities. In addition, the teaching and management strategies used match the social and emotional objectives required by individual children. Management strategies used by the teacher are individualized to accommodate the

child's needs for appropriate classroom adjustment and behaviors. Not all children will need the same level of teacher management. A child-centered instructional model is desired, with children as active learners; nevertheless, teacher support and direction will vary for individual children.

The Culturally Responsive Classroom

A quality program for young children is sensitive to the individual culture of the home and the group culture represented by the child’s family. Teachers working in a model that is culturally responsive plan curriculum and instruction that reflect the cultures present in the classroom and in the community at large. If children are predominantly from a single culture, then other cultures are included in instructional planning. The interests of the children in the classroom are a focus of the curriculum, and parents are used as resources and support for the instructional program. Parents are active partners in the educational process.

The Integrated Classroom

A quality model of early childhood education results in meaningful learning by interrelating the developmental domains or content areas in curriculum and instruction. An integrated curriculum has historical roots in early childhood education. John Dewey argued that learning could be more meaningful if content areas were blended for curriculum and instruction. Theme studies with real-life activities could lead to more relevant academic study (Dewey, 1938; New, 1992). British Infant Schools in the 1960s and 1970s were based on a child-centered, integrated curriculum that promoted projects developed and done by young children. The work of Piaget
featuring child-initiated learning encourages the use of integrated curriculum based on children's ideas. Vygotsky's emphasis on the social nature of learning also supports peer interaction and meaningful activities to support learning.

Today, integrated learning is seen as the vehicle that permits teachers to design curriculum that meets the diversity in children's development and abilities and be responsive to cultural differences. Integrated curriculum makes it possible for curriculum to be child centered and to accommodate individual interests and for children to learn from each other and the teacher.

The Teacher's Role

The teacher's role is to use the environment and teaching activities to facilitate learning. The teacher has a major role in planning and implementing instruction; however, rather than instruction being primarily teacher directed, the focus is on possibilities for the child to take the initiative, make selections, and assume active responsibility for learning.

The teacher and children are curriculum designers. Instead of total dependence on commercial, preplanned curriculum kits and teacher guides, such manuals are used as resources, when needed, as the teacher organizes learning activities for the children. Using an integrated approach to curriculum development that evolves from a topic or theme, the teacher and children design activities that will comprise both teacher-guided lessons and child-centered and child-selected activities.

Following Vygotsky's understanding of the teacher's role in the learning process, the teacher includes a variety of teaching strategies. She recognizes that the teacher learns from the child and vice versa. Opportunities for interactions with children working on curriculum projects and activities lead to dynamic expansion of information for both child and teacher (Berk & Winsler, 1995; Bodrova & Leong, 1996). The teacher is an observer of children and uses the zone of proximal development to help children progress in their learning. The teacher motivates children to work on tasks just beyond their independent capabilities through support of the teacher and peers.

Using Piaget's idea of the preoperational child's learning process, the teacher makes a variety of activities available to help the child learn new concepts. If the child is to assimilate and accommodate new knowledge into a schema, then there must be opportunities to actively explore the information; the child must have concrete experiences with the information. The High/Scope Model (Hohmann, Banet, & Weikart, 1979) uses progressions that explain active reconstruction of knowledge. Three of these progressions include concrete to abstract, simple to complex, and experiencing to representing. More recently, the model (Hohmann & Weikart, 1995, p. 38) included ingredients of active learning that summarize the process as follows:

- **Materials.** There are abundant, age-appropriate materials that the child can use in a variety of ways. Learning grows out of the child's direct actions on the materials.
- **Manipulation.** The child has opportunities to explore, manipulate, combine, and transform the materials chosen.
- **Choice.** The child chooses what to do. Since learning results from the child's attempts to pursue personal interests and goals, the opportunity to choose activities and materials is essential.
- **Language from the child.** The child describes what he is doing. Through language, the child reflects on his actions, integrates new experiences into an existing knowledge base, and seeks the cooperation of others in his activities.
- **Adult support.** Adults recognize and encourage the child's reasoning, problem solving, and creativity. These ingredients are used as a guide to observe children, for planning experiences, and for interacting with children. The concept of active learning is used to describe how adults initiate and use a child-centered program that is group and individually appropriate.
The Role of the Environment

The preschool classroom is arranged into learning or activity centers or areas. Learning areas should allow the children to be able to make choices and carry them out. Materials in each area are organized to support the curriculum; therefore, the child-initiated activities that are possible in each learning center facilitate self-directed learning and independence. There are many ways to arrange the classroom into centers or areas. The model described here uses the dramatic play center, language center, science and mathematics center, art center, and music and movement center.

The dramatic play center includes housekeeping equipment, an area with blocks and trucks, and provisions for puppetry and dramatic productions. The center’s purpose is to provide combinations of opportunities for sociodramatic play. Prop boxes for changing themes and other rotating materials should be available, along with toys and blocks that are permanently located in the center.

The language center is the location for language and literacy development. It includes the library, listening center, materials for writing, and possibly a computer or typewriter. Language experience charts, individual slates, and various sizes of paper are just some items to be found in the center.

The science and mathematics center can incorporate equipment for sand and water play, animals and plants, materials for counting and working with other mathematical concepts, and materials for temporary projects related to topics of study. It can also house a manipulative area for materials such as puzzles and fine motor construction materials.

The art center includes easels and a variety of materials for art activities. Painting supplies, crayons, marking pens, and ample paper supplies are always available, whereas specific activities requiring particular supplies and materials are placed in the center when needed for a few days.

The music and movement center can share an area with a classroom space used for large-group activities. Record, cassette, or disc players; musical instruments; and other props for activities are located adjacent to a large rug area with ample space for physical activities.

Room arrangement is fluid and modifiable. As activities warrant, some areas may be expanded and others reduced or eliminated for a time. Teacher observation of center activities may discern a need for more extensive rearrangement because children are using space differently than anticipated. The main point is that the environment should support the children’s choices and activities, not dictate them. Because the purpose of the room environment is to facilitate active learning with materials available to encourage the child’s participation in self-initiated learning, the work or learning center areas are not to be used as a reward. The environment is a key to active learning; the teacher, as facilitator and resource person, uses the learning areas to encourage the progressions in the child’s reconstruction of knowledge.

The teacher understands that peer collaboration and interaction support the acquisition of new knowledge. The child learns in a social environment; therefore, the teacher organizes the environment to promote peer group problem solving to include peer tutoring, cooperative learning activities, and group play (Vygotsky, 1978).

The Role of Technology

Seventy percent of 4- to 6-year-olds have used a computer (Exchange Every Day, 2003). This impressive statistic demonstrates how the use of computers by young children has expanded over the past decade. Early childhood educators are also rapidly expanding their use of technology in the classroom as well. Digital cameras, digital video cameras, e-mail, and Internet Websites are some technological tools used by teachers in early childhood classrooms in addition to computers, scanners, and printers (Donohue, 2003).

There are benefits from the appropriate use of technology with young children that are supported by research. Computer use enhances children’s self-concept and increases levels of spoken language. It provides young children with opportunities for
socialization and leadership (Gimbert & Cristol, 2004; Haugland, 2000).

Two issues that determine the quality of technological experiences that young children receive in the classroom are adequate teacher preparation and activities that are developmentally appropriate. There is concern that preservice students do not receive technology instruction that prepares them to use technology in teaching across the curriculum and in the appropriate use of technology with young children (Gimbert & Cristol, 2004). Likewise, there is a great need for professional development for in-service teachers and caregivers (Bewick & Kostelnick, 2004; Donnahe & Neugebauer, 2004; Haugland, 2000)

The enhancement of quality learning experiences through the use of technology also had to be addressed. In 1996, the NAEYC issued a position statement on the appropriate use of technology (NAEYC, 1996). According to the position statement, technology should do the following:

1. Be age appropriate, individually appropriate, and culturally sensitive
2. Be used to enhance children's cognitive and social functioning
3. Be infused into the classroom curriculum to support children's learning
4. Eliminate exposure to violence
5. Not stereotype any group

Papert (1998) believes that computers have a positive impact when children have free access and can control the learning experience, when the computer provides concrete experiences, and when teachers use the computer to teach important ideas.

Technology has an important role for curriculum and the classroom environment. Teachers and children can search the Internet for information, take virtual field trips using Websites, develop activities and projects, and demonstrate creative expression through technology. This can begin after age 3. Technology is best used when it is integrated into the curriculum and not used to reinforce skills or as a supplemental activity (Gimbert & Cristol, 2004; Haugland, 2000; Lacinia, 2004).

The Role of Play

The role of play is a most difficult aspect of young children's development and learning for many educators and parents to understand. Play is sometimes perceived as idleness or useless activity when contrasted with learning. For many parents and teachers, learning is associated with sitting quietly and listening to the teacher or working preschool workbook pages. (Bodrova & Leong, 2004; Jacobson, 2004). To the contrary, play provides opportunities for active exploration of information, social interactions, and physical activity essential to learning and development. Furthermore, a growing body of research supports the role of play in various types of development. (Jones, 2004; Perry, 2004). A few examples of activities that demonstrate the relationships between play and learning are described next.

In cognitive development, sociodramatic play and construction play may have positive relationships to IQ scores (Johnson, Ershler, & Lawton, 1982). It is also proposed that the problem-solving behaviors used in play influence general problem-solving abilities (Bruner, 1972; Simon & Smith, 1983). Vygotksy researchers determined that children's mental skills are at a higher level of the zone of proximal development during play (Berk, 1994; Elkonin, 1978). Smilansky and Shtayny (1990) correlated growth in dramatic play with gains in cognitive and social development and school-related skills. There is also a relationship between creativity and play. Lieberman (1965) conducted research that showed a possible link between play, creativity, and intelligence. Lieberman (1977) further linked creativity with early playfulness. Divergent thinking has also been linked with imaginary play (Hart & Bhavnani, 1976; Lieberman, 1965).

Play has an important role in the development of language. As the child engages in object play, language is attached to meanings and relationships. Language is used during play to imitate adult speech, for sociodramatic play, and to organize and manage play (Smilansky, 1968; Wortham, 2005d). Young children also play with the language itself (Garvey, 1977). For example, babies sometimes sing
themselves to sleep with rhyming utterances; preschoolers make up words and names and try to outdo each other with outrageous verbalizations.

Play facilitates social development. Group dramatic play requires that children plan and interact if they are to engage successfully in pretend or make-believe play episodes. As a result, sociodramatic play helps children to practice and perfect their social skills (Johnson, Christie, & Yankey, 1999). Social interaction in turn supports learning. New developmental and learning accomplishments emerge in group play followed by individual internalization by individual children (Berk, 2001; Bodrova & Leong, 1996, 2004).

More obviously, play facilitates physical development. The basic locomotor skills refined during the preschool years are acquired through daily activities involved in indoor and outdoor play. Larger and fine motor skills are also practiced through play activities (Jambor, 1990; Mullen, 1984; Worsham, 2005d).

Play provides the experiences that enable the child to integrate and make sense of the vast amounts of information to which he is exposed each day. Because the child is in charge of play events, he can use sociodramatic, physical, and aesthetic play activities to process and understand new knowledge. The child can also practice physical, social, and language skills (Klein, Wirth, & Linas, 2004). The teacher will want to use indoor and outdoor play periods to support development and learning. Centers in the classroom are organized for sociodramatic play, construction play, fine motor play, and aesthetic play. Outdoor play environments can offer more than physical and social play opportunities by including sociodramatic play props and aesthetic and creative activities. Cognitive development can be encouraged through gardening, pet observation and care, and provisions for group dramatic and literacy activities. Science experiments and natural science activities can be easily engaged in outdoors. If young children
are to understand their world, the teacher needs to use the natural environment that is accessible nearby (Perry, 2004).

The Role of the Daily Schedule

Children should work individually or in small groups most of the time. Nevertheless, there will be times during the day when teachers will find that whole-group activities are useful and appropriate. The daily schedule will provide opportunities for children to plan and carry out projects and other learning and play activities. The teacher can conduct small-group and whole-group activities, and children enjoy both indoor and outdoor activities. When planning the daily schedule, the teacher will want to achieve a balance between teacher-directed and child-initiated activities. Various combinations of schedule components can be used. In this model, I will describe schedule components as large-group time, center time, small-group time, and outdoor time.

Large-group time provides opportunities for activities in which the whole group of children can participate. It may occur several times during the day, especially early in the day and after the completion of center and lesson activities. Large-group time can be used for sharing experiences, discussing plans for the day, reviewing concepts learned earlier in the year, performing music and movement activities, telling stories, reviewing what has been accomplished, and transition time between activities.

Center time occurs so that children may work in learning centers. This time is preceded by a planning period, when individuals or small groups of children describe what they will accomplish in the center. The teacher may prepare the children for center time by introducing the available activities and their purposes. The teacher may also want to give instructions on the proper use of a new toy, for example, or on material placed in the center for the first time. Some center activities may be expected to be used by all children; others can be the child’s choice. The teacher also uses preparation for center time to guide children who have difficulty in making choices. During the center time, the teacher interacts with the children and assists them in making the best use of their activities. The teacher may work in a center with a small group if assistance is warranted. After center time, there is a period for cleaning up and restoring center materials to their proper location. A large-group activity can follow center time to review what the children did and how they carried out their plans.

Small-group time offers an opportunity for the teacher to guide a learning activity or engage in direct instruction. Working with a group of four or five children at a time, the teacher engages in work with concepts, discusses theme topics, conducts hands-on activities such as cooking or special art projects, and teaches lessons. Small-group times can be scheduled during center times, with the teacher alternating between facilitating center activities and conducting small-group activities. Outdoor time provides an opportunity to play or work outdoors. If the outdoor environment is perceived as a classroom, some outdoor periods may be used for large-group and small-group instruction and others for free play. Physical activities, both structured and unstructured, are planned for outdoor periods, as are field trips, neighborhood walks, and other curriculum-related activities.

PLANNING AND MANAGING INSTRUCTION

In this section, planning and carrying out developmental instruction are discussed. The approach that children learn best when learning is purposeful and meaningful is used to describe planning thematic or integrated curriculum that will maximize the possibilities for children to make connections between new information and knowledge that they already understand. Using the daily schedule to set up integrated learning is also discussed.

How does the teacher plan and implement a quality instructional program that complements the developmental levels of the children? I have described the characteristics of a program designed for early childhood. Now I will explore how the classroom teacher designs and implements a quality
program for preschool students. Teachers must consider not only the general developmental characteristics of their students as a group but also the unique qualities of each individual student. Teachers analyze the diversity among their students in terms of cultural and economic backgrounds and in terms of individual differences in interests and abilities. If children with special needs are assigned to the classroom, then their individual limitations and potential are also considered in planning appropriate activities.

Many resources are available for determining goals and objectives for curriculum in early childhood classrooms. Sources for curriculum development can include developmental checklists, state-mandated curriculum objectives, commercial curriculum objectives related to adopted basal materials, and locally determined curriculum goals. All these resources help the teacher understand which curriculum goals are appropriate or expected in the educational setting where he or she teaches (Seefeldt, 2004).

The way in which one plans and manages the curriculum to achieve the desired goal can take various forms. If the program is to be developmentally appropriate, however, the curriculum design must facilitate successful learning that accommodates developmental differences within a child-centered or child-initiated approach. If learning is to be integrated and purposeful for the child, the approach for curriculum design must incorporate those characteristics. In this text, developmental-thermatic is the term used to describe a curriculum that meets these characteristics.

Understanding Developmental-Thematic Curriculum

Teachers have been designing curriculums based on themes for a long time. Every college student can remember studying Indians, community helpers, or another topic during his or her elementary school years. John Dewey introduced thematic curriculum with his project approach during the Progressive Era. He felt that the classroom should be a miniature democracy and children should be engaged in projects that would help them understand their role in their community (Cremet, 1961). Themes were used for the meaningful projects that Dewey believed would engage children in learning for a purpose. Projects were activities planned by the students with a practical purpose, and problem solving was the process used to conduct projects. For example, in making plans for a garden, students were required to make their own decisions regarding how to design the layout and plant the seeds (Parker & Temple, 1925). Later, Dewey lamented that his project approach had been reduced to a collection of activities rather than useful experiences that would have a real purpose for the child's understanding. He described the contrast between aimless utilization of activities collected by teachers and, on the other hand, working with problems that emerged from the children's experience and were within their capacity to understand the relation of means and ends (Dewey, 1958).

Recently, Dewey's ideas have resurfaced with the new understanding of the child's role in the learning process that we have gained from Piaget. It has been called the project approach (Katz & Chard, 2000), integrated learning (New, 1993), and the concept of thematic curriculum (Seefeldt, 2004), among various other names. The new advocates of this type of curriculum, such as Reggio Emilia, stress not only the interrelated nature of learning but also the importance of child involvement in planning and implementing the projects (Edwards, Gandini, & Forman, 1996). Moreover, the format for theme planning facilitates an understanding by both teacher and students of how different content areas are related to each other. The format demonstrates how individual activities can support learning in several areas of development and content areas.

What, then, is thematic curriculum? Essentially, it is a curriculum planned around a theme that students have identified as a learning topic or that the teacher has selected based on children's interests or from the curriculum. The learning activities and projects selected for the theme reflect how the students want to explore the topic or the kinds of activities they have identified that will help them acquire the knowledge or skills related to the theme. As an alternative, the teacher might do some initial brainstorming about unit activities, and the students
would either select which activities are most desirable or expand on the teacher's ideas. As planning proceeds, the teacher and students use a process called webbing, which involves brainstorming about the possible activities and analyzing the ways in which content areas of the curriculum are being utilized or incorporated into the theme or unit plans.

The curriculum has also been identified as developmental in the early childhood years. By now, the implications of the developmental nature of thematic curriculum should be obvious. The curriculum not only will provide for integrated, purposeful learning but also will provide for the development of the students (Bredekamp, 1987; Bredekamp & Copple, 1997). In choosing the kinds of activities to design for the project or theme, the teacher will consider how learning is furthered in content areas of the curriculum; more important, however, is that the focus should be on how physical, social, and cognitive development are involved in the activities. In addition, the activities selected and developed will be planned to accommodate a range of developmental levels so that all students will have successful experiences because of being actively involved in the theme projects (Katz & Chard, 2000). Consideration of development is an integral part of the planning and implementation process.

Roles of Developmental-Thematic Curriculum

How does developmental-thematic curriculum fit into school routines? Ideally, it could be the organizational pattern for the entire school program. It is easy to conceptualize how such a curriculum could be used in a developmentally appropriate setting for the total program; in effect, it could be used to determine the environmental arrangements, daily schedule or routines, and learning activities that will be provided in a series of units or themes throughout the year.

Many early childhood teachers, particularly those in public school settings, lack the flexibility to fully determine their schedules. For them, incorporation of the thematic-developmental curriculum into their program might take different forms. To explore several possibilities, I will discuss the developmental-thematic curriculum in terms of a primary framework for curriculum, as one of several instructional methods, and as an occasional resource for exploring special topics.

Developmental-Thematic Curriculum as the Basic Framework

When themes can be used to design the total curriculum for a preschool program, they become the framework, or scaffold, for the program. The teacher studies the educational goals or objectives for the program and correlates them with the units or themes developed during the year. Planning is carried out with the students providing their ideas and input; however, the teacher also studies the total plan and incorporates or modifies activities to ensure that desired goals are accomplished. The daily schedule for a block of days and, more probably, weeks is devoted to implementation of theme projects and activities. The time allotted in the yearly calendar is flexible and can be modified according to student interest and possible additional projects or activities that might arise during the theme. While one theme is ending, the planning process can begin for the next theme. Teachers and children can be gathering resources in anticipation of the initiation of the new theme as the planning stage comes closer to the implementation stage. In this approach, cycles of planning, implementation, and evaluation of completed themes and projects are ongoing throughout the year.

Developmental-Thematic Curriculum as One of Several Approaches

Some teachers may find themselves in a situation where a schedule for preschool already exists and must be followed. The teacher does not have the opportunity to totally determine the instructional methods that can be used. Predetermined curriculum materials might be required to provide consistency within a school or school district. Perhaps the teacher may plan and modify the schedule and curriculum within limits but may not abandon district expectations entirely.
In this type of program, the teacher tries to fit themes or projects within existing instructional practices. Project or theme curriculum is planned and organized to integrate the curriculum; however, some elements alternate with other required work. Similarly, activities or projects might have to be accomplished during scheduled times devoted to particular content areas. The teacher and students work on projects and theme activities in a consistent manner, but theme units complement rather than replace existing instructional practices in the school. Given time constraints in many schools, scheduling must be carefully planned to accomplish both theme and separate learning objectives. This approach of including themes into the curriculum might be more difficult than the first total approach; nevertheless, teachers have found that with some initial effort, they can comfortably include thematic instruction and increase its use as they become more perceptive about implementing it in a variety of combinations within the daily schedule.

Developmental-Thematic Curriculum as an Occasional Resource

Some teachers, particularly beginning teachers, may find it easier to plan only occasional units until they become more secure in managing children and the curriculum. For others, the current expectations for academic learning that extends to preschool restricts how often teachers can incorporate thematic work into the curriculum. In this context, the teacher follows the routines and curriculum in the school setting and plans a thematic unit for a special occasion or topic. A holiday or social studies topic is used as the theme. An integrated, developmental curriculum is planned around the theme, but projects and activities occur together with a subject area each day until the unit is completed. Once a unit has been completed, there may be a period before another unit is planned and set up. This approach might be considered similar to existing models of unit planning; to the contrary, it differs in the conscious inclusion of interrelated learning activities and accommodation for variations in development among the students.

Another difference is the emphasis on child-planned and child-initiated projects and opportunities for purposeful problem solving.

Each of these approaches has merit. Regardless of which approach a teacher decides to use, the principles of developmentally appropriate learning can be maintained. However, carrying out developmental-thematic curriculum as one of several approaches or as an occasional resource rather than as the basic framework provides fewer opportunities for the children to see relationships or connections in learning. The teacher will want to begin using developmental-thematic curriculum at a level that is comfortable; then, as experience makes it possible to see new avenues for integrated instruction, the teacher can increase the number of times themes are used and improve the way in which themes are planned and used in the classroom.

Designing Developmental-Thematic Curriculum Units

How, then, do the teacher and students go about planning a developmental-thematic curriculum that meets all the goals of an integrated approach to learning? Designing such a unit of work can be accomplished by following a sequence of activities from planning to implementation. The sequence begins with selection of the topic. It goes on through brainstorming, organizing ideas into a web, selecting objectives or outcomes and activities for a balanced curriculum, describing the interrelatedness of the developmental activities in the curriculum, and, finally, planning and scheduling for curriculum activities.

Selecting a Theme Topic

There are many ways to select a theme for study. In past decades, it was common for the social studies curriculum in elementary schools to be organized into themes or units. In some school systems, teachers designed the thematic curriculum to be used at each grade level.

In this context, theme topic selection is intended to be more about the teacher's and students' interests and needs within the individual classroom. If the
Selecting a Topic for a Theme

Questions to ask:
1. Is the topic focused? Is it specific enough that it doesn’t try to accomplish too much?
2. Is the topic relevant for the group of children in the classroom?
3. Is the topic important for children to explore?
4. Can the topic be used across the curriculum?
5. Are there adequate resources available to support the topic?

The teacher selects the topic, she may determine it from some aspect of the curriculum that needs to be covered. Ideally, the children initiate the topic, and the teacher helps them plan and carry out what is to be learned. The topic is planned to include and interrelate developmental areas in the projects and activities that are to take place. The teacher might also initiate a topic because of some event that has occurred that has meaning for the students. For example, a student in a classroom for 4-year-olds brought a pet gerbil to school. Noting the children’s interest in the gerbil, the teacher and students planned the unit based on learning about gerbils and their care. In Reggio Emilia schools, thematic curriculum is described as “projects.” The teacher and children work as partners to uncover the desired information. Children work together in small groups to accomplish the project work. In this context, project-based curriculum has the following characteristics (Abramson, Robinson, & Ankenman, 1994–1995, p. 198):

- Extended period of time devoted to a project
- Small-group rather than whole-class projects

Topics should have relevance for the population of students in an individual classroom and the area in which they live. Children living in southern regions of the United States or in Hawaii would have a different understanding of winter than would children living in northern continental states or Alaska. The cultural diversity of children in a classroom would affect the study of many topics; in addition, family differences would affect the planning of units that involve family traditions.

As much as possible, children should be the source of the topic. Students might share a bit of news that is of interest to the entire class. For example, Kevin, a student in a kindergarten classroom, brought a brightly painted clay piggy bank to school to share with the class. A general discussion about banks that other children had at home led to a unit on saving money in small and large banks.

Brainstorming a Topic

Once the topic has been selected, the teacher and students are ready to explore the information and activities that can expand their knowledge. In the case of preschool children, such a discussion might be very general, with the teacher calling suggestions from comments made by the children about the topic or guiding the discussion with ideas of her own. After gaining input from the children, the teacher can continue the brainstorming process herself.
The focus of the brainstorming should be on creating ideas for working with the topic and developing or identifying resources that will support the theme. Both teacher and students will discuss what the children want to learn about the topic; also, the teacher will try to expand the brainstorming session to include information that might be acquired as part of unit activities. The teacher will list all the possible activities that relate to the topic. Katz and Chard (2000) suggest writing each of the possibilities on slips of paper. Whatever the method used, once the possible activities have been identified, it is time to develop a web.

A thematic unit on the topic of leaves can be used as an example. The unit was developed by Lisa, a student teacher, in response to students’ curiosity about fall leaves that they were collecting on the playground. Lisa and her students live in New England, where the fall season is highly characterized by leaves turning colors and falling from the trees. (If the children lived in Hawaii or Arizona, a different element of nature might have been chosen for the unit topic.) In designing her unit, Lisa was required to follow a unit plan format that included the following components:

Unit topic:
Overview or rationale for the unit:
Developmental stage:
Brainstorming web:
List of activities (categorized as teacher directed, teacher-child initiated, or child initiated):
Concepts, skills, and processes:
Unit objectives:
Summary of integrated activities:

Lisa first listed some ideas that she and the students generated about things they could do to learn about leaves. In her initial discussion with the children, they were able to make a list of the following activities:

- Take a nature walk.
- Visit a botanical garden.
- Draw leaves.
- Rake leaves.
- Make pictures with leaves.
- Compare leaves.
- "Write" stories about leaves.

Lisa studied the original ideas and continued the brainstorming process to expand the thematic unit possibilities. She further organized activity ideas into activities using leaves and activities about leaves. Her expanded list of possible activities included the following:

- Take a nature walk.
- Visit botanical garden.

Activities Using Leaves
- Create leaf rubbings.
- Describe characteristics of leaves.
- Count sets of leaves.
- Make leaf collages.
- Measure leaves.
- Group leaves by common characteristics.

Activities About Leaves
- Dictate stories about leaves.
- Dictate stories about nature walk and visit to botanical garden.
- Make sponge-print pictures of trees.
- Discuss leaves that are food sources.
- Sing songs about leaves.
- Listen to stories about leaves.
- Participate in music/movement activity (e.g., pretending to be fall leaves).

Developing a Brainstorming Web
Lisa was now ready to make a brainstorming web (see Figure 7.1). She focused on developmental areas of the curriculum and placed all the ideas in the appropriate categories of the web. Most of the activities fit into two or more categories because developmental areas were integrated in the activity. Lisa had not yet...
determined which of the activities would be developed for the unit. She was looking for a balance in developmental areas and was considering which activities had the most merit and the highest potential for providing meaningful, purposeful experiences that were developmentally appropriate for her students. She again worked with the children to select the activities that would be included.

Selecting Unit Activities
The next step in planning the thematic curriculum is to select the activities that will be used for the unit. The ideas and activities that were developed during the brainstorming activity and located on the brainstorming web are considered for inclusion in the final unit design. In addition, possible combinations of activities or expansion of original activity ideas are contemplated as the teacher and children begin to consider how the activities will be scheduled and set up.

Lisa decided that the leaves unit would be appropriate for a week of study. She decided that taking a field trip to the botanical garden was beyond the scope of her possibilities for activities but that taking a nature walk to find and gather leaves on the school grounds and nearby park would be a suitable way to

![Brainstorming web diagram]

**FIGURE 7.1** Brainstorming web.
initiate unit activities and projects. She and the children also decided to focus unit activities around the fall leaves themselves rather than to broaden the unit to include more about leaves. The number of activities was narrowed to 12, and a final activity list was made. In the process of planning at this stage, she and the children decided that making a book of unit activities would be a good project. The tree sponge-print pictures could be used for the cover of individual books. Lisa then determined whether the activities were teacher directed, child initiated, or a combination of teacher and child initiated. She wanted to ensure that there was a balance between teacher- and child-directed activities. Lisa’s final list was as follows:

1. Take a nature walk, then dictate stories about the walk (teacher-child initiated)
2. Discuss the characteristics of leaves (teacher directed)
3. Count, measure, and group leaves by common characteristics (teacher-child initiated)
4. “Write” stories about leaves (child initiated with teacher assistance)
5. Participate in movement to music (teacher directed)
6. Sing songs about leaves (teacher directed)
7. Rake leaves (teacher-child initiated)
8. Draw pictures of leaves (child initiated)
9. Create leaf rubbings (child initiated)
10. Make leaf collages (child initiated)
11. Make sponge-print pictures of trees (teacher-child initiated)
12. Make individual unit booklets (teacher directed)

Describing Developmental-Thematic Unit Objectives

Once the teacher has determined which activities and projects will be incorporated into the unit to accomplish what both students and teachers want to learn about a topic, the teacher studies the activities to identify more specifically what will be learned. The teacher has a major decision to make: What type of objective should be used to describe the purpose for the desired learning? Traditionally, preservice students have been taught to use performance objectives (Mager, 1975). The performance objective has three elements: the behavior that the learner will exhibit, the conditions under which the behavior will occur, and the standard of performance that is minimally acceptable. For example, one of Lisa’s activities for the unit on leaves was to count groups of leaves. Lisa could write an objective for the activity as follows: “As a result of a lesson using leaves for counting, the student will be able to count sets up to five with 100% accuracy.” In this example, the behavior is the student’s ability to count, the condition is the use of leaves in a counting activity, and the level of desired performance is 100% accuracy.

There is disagreement in the field of education, particularly in early childhood education, as to whether performance objectives are always appropriate for describing learning objectives for young children. Critics of performance objectives propose that they are too specific and result in breaking curriculum into fragmented elements that can be meaningless. Furthermore, an integrated curriculum that emphasizes the child’s opportunity to initiate and conduct

Determining Concepts, Skills, and Processes

Lisa wanted to be clear about the concepts and skills that children would learn from the unit on leaves. She also wanted to review learning processes that would engage the children in interacting with information about fall leaves. She made a list that could include the following:

1. Some leaves change colors in the fall before they fall from the trees.
2. Leaves grow in different sizes, shapes, and textures.
3. Leaves can be used for counting.
4. Leaves can be sorted by common characteristics.
5. As a result of sorting leaves, we can describe their characteristics.
6. There are many ways that we can express our understanding and appreciation of fall leaves. We can make leaf rubbings, draw pictures of leaves, make leaf collages, sing songs about leaves, and move to music like leaves.
7. We can write about our experiences with leaves.
learning activities does not lend itself to description by performance objectives. Proponents of the use of performance objectives point out that many schools are predominantly teacher directed; furthermore, school districts and state education agencies might require the use of performance objectives. Schools that adopt Madeline Hunter's Instructional Theory Into Practice (Hunter, 1979) model are examples of settings where performance objectives are required. Individualized Education Plans (IEPs) that are used to plan curriculum objectives for children with special needs also require the use of performance objectives (Orlach et al., 1990).

In this text, I propose a compromise between the two positions in writing learning objectives. The standard of performance will be omitted because learning processes are more important than achieving a specific level of performance; however, the condition and desired behavior will be retained. The circumstances under which the learning occurs can be derived from the planned activities. The behaviors will be those that the child can exhibit as a result of engaging in the planned activities.

Lisa determined that as a result of engaging in unit activities in the leaves unit, her students would acquire specific concepts and abilities. The items in the behavior component of her objectives were categorized as what the students could understand and what they would be able to do. She listed them as follows:

1. As a result of taking a nature walk to find leaves, students will understand that leaves change color and fall from trees in the fall.
2. As a result of taking a nature walk to find leaves, students will understand that there are many kinds of trees and leaves.
3. Following an activity to examine and discuss the characteristics of leaves, students will understand that leaves are different colors, shapes, and sizes.
4. As a result of participating in an activity to examine and discuss the characteristics of leaves and opportunities to group leaves by a student-identified characteristic, students will understand that leaves can be organized by common characteristics.
5. As a result of participating in an activity to examine and discuss the characteristics of leaves, students will be able to describe comparative characteristics of leaves.

6. As a result of participating in group activities with fall leaves, students will be able to "write" (emergent writing) stories about leaves.

7. As a result of participating in teacher-directed and center activities with fall leaves, students will be able to count, measure, and group leaves using their own criteria.

8. As a result of working with leaves, paper, and paste in the art center, students will be able to create leaf collages.

9. As a result of working with leaves, paper, and crayons in the art center, students will be able to create leaf rubbings.

10. As a result of working with sponges cut into the shape of leaves, tempera paint, and paper, students will be able to create sponge-print pictures.

11. As a result of completing art activities, students will be able to make a book of unit activities about fall leaves.

12. Students will be able to work cooperatively in groups to rake leaves on the playground.

13. Students will be able to use appropriate behaviors during the nature walk.

**Describing Integrated Unit Activities**

The final step in formulating a unit plan is to write a summary of the activities that will be included in unit experiences. There are two purposes for briefly explaining the activity: to preview what will happen during the activity and to understand how the activity provides for integration of learning.

Lisa wrote such an explanation for her unit activities. Two of those activities were described as follows:

**Nature Walk**

The students will be given large grocery bags and will take a walk on the playground and in the park next to the school. We will observe the different types of trees we see, the variety of leaves on the ground, and other natural characteristics that might be seen. Students will collect leaves in their bags to be used in later activities. They will also be encouraged to collect seeds and other items they might find. The teacher will have hand magnifiers available to examine interesting aspects of the environment. The activity involves cognitive development, using concepts in science. It integrates language development in the discussions that take place during the activity and social development in the use of appropriate behavior on the walking tour and social interactions used during the experience. Large and fine motor skills are used in the process of taking the walk and collecting leaves and other objects. Safety must be observed. Aesthetic development is integrated within the discussion during the walk.

**Leaf Collages**

Leaves and other natural items collected on the nature walk will be located in the art center. Students will be instructed on how they can create their own collage using glue to paste items on a piece of paper. The activity provides for aesthetic development as the children construct their creation. Fine motor skills are integrated when the children manipulate the materials and use the glue.
After Lisa had completed the steps in her unit design, she was ready to write her final unit plan using the format mentioned earlier. She described her rationale for developing the unit and the general development level (preoperational) of the students.

**Planning Lesson Activities**

Once the final unit design is completed, the teacher needs to plan the activities in detail. The unit objectives addressed by the activity, a description of the procedures for the activity, the materials needed to conduct the activity, and plans for evaluation are all considered. Students who are preparing to be teachers might be required to develop activities into lesson plans.

Lisa was required to use lesson plans for her unit on leaves. She followed a lesson plan format that included the following:

- **Title of plan:**
- **Concepts, skills, processes:**
- **Objectives addressed:**
- **Concepts, skills, and processes used:**
- **Activity procedures:**
  - Large-Group Activity
  - Small-Group Activity
  - Center Activities
  - Cooperative Learning Activity
- **Materials/resources needed:**
- **Assessment:**
  - Teacher Assessment
  - Activity Assessment
  - Student Assessment

When planning a lesson, the teacher first identifies the activity by giving it a title. If more than one activity is incorporated into a plan, then the title is broader to reflect activities and objectives addressed. After determining the title, the teacher describes the concepts, skills, and processes being addressed in the lesson. The category of concepts, skills, and processes includes those described in the unit plan that are applicable to the lesson.

Under the category of objectives addressed, the teacher takes the unit objectives that relate to each individual lesson and cites them in this context.

The activity procedures describe in detail the activities to be undertaken. The teacher first determines which types of activities the lesson will include. Large-group activities are used with the whole class. This type of activity can be used for field trips, class discussions, and other experiences that benefit all children. Small-group activities are selected when lesson activities warrant including about five children at a time so that all can be equally involved and given individual attention. Center activities are chosen when opportunities for child-selected experiences are indicated. Most center activities should be possible for the child to engage in individually or with other children with some prior direction from the teacher. At times, the teacher or another adult is present to guide activities in a center. Some activities will involve cooperative activities that are directed by the children with the guidance of the teacher.

Whichever type of activity is chosen, the procedures are planned and described in three parts: (a) introduction, or planning; (b) development of lesson or activity; and (c) summary, or review. The introduction, or planning, procedure is the beginning of the activity. If the activity is teacher directed, the teacher plans how the lesson will be introduced. If it is the first step for an activity that includes child planning, plans are made to solicit input from individual children or the group. If the activity is a center activity, the teacher uses this opportunity to give instructions for use of centers, and children are enabled to make their plans for selection and use of centers.

The development of the lesson or activity follows the beginning step of the learning experience. In this part of the lesson plan, the teacher describes plans for the main content of the lesson. The sequence of the lesson is explained, including questions and procedures. If a center activity is set up, the teacher serves as a facilitator as children engage in their selected activities.

The last step of the learning experience, the summary, or review, is used to conclude the activity or reach closure. If the teacher is conducting an activity,
the last step is a process for summarizing the lesson. More important, it is an opportunity for the children to review and provide feedback on their understanding and reaction to the lesson. If center experiences are the type of activity used, this is the time when students conclude their activity and put materials away. Then they meet with the teacher and discuss how they carried out their plans for the centers and review the experience. If cooperative activities are included, groups report their work to the rest of the class.

In addition to planning for the body of the lesson, the teacher needs to anticipate what will be needed for successful implementation of the selected activities. In the materials/resources section of the plan, the teacher identifies what will be needed in the way of human, technological, and other materials for the lesson. Books, art materials, adult assistants, cassette tapes, videotapes, and food items are just a few of the items that would be listed as materials or resources. Needed equipment such as cooking utensils, projectors, and computers are listed.

Adapting Lesson Plans for Diversity

An important step in planning is to determine how modifications might be made in the projects, lessons, and independent activities for children in the classroom who represent various types of diversity. Are there children with language differences in the classroom who need help with vocabulary related to the unit? Do some of the activities need to be conducted in the child’s home language? Better yet, is the thematic unit meaningful to children with language diversities? Does it have a multicultural dimension that is a motivating context for language use (Abramson et al., 1994–1995)? Or are there children in the classroom with physical limitations that might preclude their participation in an activity? How can the activity be modified for these children? It might be necessary to have an adult or other children assist those children with physical limitations in some activities or projects. Can a child with disabilities be paired with another child who can collaborate to engage in some activities? The teacher will need to think through unit experiences that require assistance or modification for children with diverse abilities.

The last component of the lesson plan is assessment. The teacher plans how the lesson is to be appraised. Within the plan for assessment, a description is given of how the teacher’s role, the activity itself, and the children’s learning will be evaluated. More information on the role of assessment and how it can be conducted follows.

Planning for Assessment

This section will address how curriculum and instruction are assessed as they relate to individual lesson plans. In keeping with the assessment purposes of the lesson plan just discussed, I will describe the process of assessment of the teacher’s effectiveness, the activity itself, and the children’s learning.

Assessment of the Teacher. Teachers will want to conduct ongoing assessment of their effectiveness in working with the children and facilitating the desired learning. Reflection following small-group and large-group instruction can be conducted to determine success in group management, student interest in the activity, effectiveness of the materials used, and appropriate timing of the length of the activity. The teacher can note positive and negative aspects of teaching activities to constantly improve teaching and management behaviors.

Regarding Lisa’s lessons, she determined how she would assess her effectiveness by asking herself specific questions. Did she adequately prepare the children to engage in the activity to make leaf collages? In talking about the leaves, did the manner in which she guided the discussion enable the children to understand how to use descriptive words to discuss the leaves?

Assessment of the Activity. Activity and curriculum assessment in preschool programs should be ongoing, whether the learning experiences are part of a thematic unit or included as a separate component of instruction. The teacher should reflect on the appropriateness of her curriculum choices before using them in the preschool classroom. Following the use of commercially designed material or participation in a teacher-designed activity, the teacher should
reflect on the effectiveness of the material and activity in accomplishing objectives. Also to be considered is student interest in the activity. Decisions to use the material or activity in the future should be based on an assessment after the activity has been completed. In Lisa's sample lessons, she wanted to know if the children enjoyed making leaf collages. She also wanted to know if the activity was appropriate for her preschool children. In the lesson on describing leaves, she wanted to evaluate whether her plan for conducting the lesson was effective with her students. She also wanted to find out if the leaves she used were good samples for the children to describe as well as whether her questions to guide the children resulted in productive descriptions in their responses. Figures 7.2 and 7.3 represent two of Lisa's lesson plans.

<table>
<thead>
<tr>
<th>TITLE OF PLAN: Leaf Collages</th>
</tr>
</thead>
<tbody>
<tr>
<td>OBJECTIVES ADDRESSED:</td>
</tr>
<tr>
<td>As a result of working with leaves, paper, and glue in the art center, students will be able to create leaf collages.</td>
</tr>
<tr>
<td>ACTIVITY PROCEDURES: Small-Group Lesson</td>
</tr>
<tr>
<td><strong>introduction</strong></td>
</tr>
<tr>
<td>The activity will be explained during large-group time. The teacher will describe how leaves and other objects collected on the nature walk can be used to create a picture. Instructions for using glue and putting away materials will be reviewed.</td>
</tr>
<tr>
<td><strong>Development of Lesson or Activity</strong></td>
</tr>
<tr>
<td>Students will construct their collages during center time. A volunteer parent will be present to provide assistance and display the finished pictures.</td>
</tr>
<tr>
<td><strong>Summary or Review</strong></td>
</tr>
<tr>
<td>At large-group time following center time, the teacher and children will discuss the pictures. Children will be encouraged to explain or describe their selections and the process they used to create their picture.</td>
</tr>
<tr>
<td><strong>MATERIALS/RESOURCES NEEDED:</strong></td>
</tr>
<tr>
<td>Volunteer parent</td>
</tr>
<tr>
<td>Large construction paper of assorted colors</td>
</tr>
<tr>
<td>Paste or glue</td>
</tr>
<tr>
<td>Collection of leaves and other found objects</td>
</tr>
<tr>
<td><strong>ASSESSMENT:</strong></td>
</tr>
<tr>
<td><strong>Teacher Assessment:</strong></td>
</tr>
<tr>
<td>Did the children understand the activity from the explanation given?</td>
</tr>
<tr>
<td>Were materials appropriate and adequate?</td>
</tr>
<tr>
<td><strong>Activity Assessment:</strong></td>
</tr>
<tr>
<td>Did the children enjoy the activity?</td>
</tr>
<tr>
<td>Were the children able to carry out the activity with little assistance?</td>
</tr>
<tr>
<td><strong>Student Assessment:</strong></td>
</tr>
<tr>
<td>Did all students participate?</td>
</tr>
<tr>
<td>Was descriptive language used to discuss the completed pictures?</td>
</tr>
</tbody>
</table>

**FIGURE 7.2** Example of a child-initiated lesson plan.
TITLE OF PLAN: Describing Leaves

OBJECTIVES ADDRESSED:
As a result of participating in an activity to examine and discuss the characteristics of leaves, students will be able to describe comparative characteristics of leaves.

ACTIVITY PROCEDURES: Small-Group Lesson

Introduction
After getting the students settled around the table in the science–math center, the teacher will hold up two leaves from the collection and describe them for the children. Likenesses and differences will be discussed in terms of colors, shapes, and unique characteristics.

Development of Lesson or Activity
The students will be invited to find two leaves in the collection that are interesting to them. Each is given a turn to describe their leaves and guided to look at color and shape as well as other unique qualities. Other students will be invited to add comments after individual children have completed their descriptions.

Summary or Review
Students will be guided in summarizing what descriptive words they used to tell about their leaves. A list of words can be made on the chalkboard or a language experience chart. When the list is completed, the teacher and children will read the words together. The chart can be retained for follow-up activities.

MATERIALS/RESOURCES NEEDED:
Collection of leaves
Experience chart
Marking pen

ASSESSMENT:
Teacher Assessment:
Did the lesson proceed smoothly?
Did the lesson take an appropriate amount of time?
Were the teacher’s questions effective?
Did the students understand the purpose of the activity?

Activity Assessment:
Was the activity appropriate for the students?
Did the students participate in the lesson?
Were the leaves appropriate for the discussions?

Student Assessment:
Were the students able to understand how to describe the leaves?
Were the students able to use descriptive words to describe the leaves?
Were new descriptive words used?

FIGURE 7.3 Example of a teacher-directed and child-initiated lesson plan.
Assessment of Student Learning. The teacher will also want to determine if students successfully mastered the learning objectives of the unit or other developmentally based curriculum. After working on activities with the new concepts or skills, the teacher will want to conduct an assessment of individual understanding; the teacher will thus observe independent activities or tasks during a small-group time after having provided the children with sufficient opportunities with the materials.

The teacher will need to determine if student learning is expected to reach some level of mastery or if the focus is on assessing the learning process. If specific information is desired, the teacher will design a task or lesson activity that will give that kind of information about the child's achievement. For example, if the teacher wants to know that the child understands number concepts up to five, then a task would be used with the child that would allow the child to demonstrate that understanding. A certain level of performance is required of the child under those circumstances. Similarly, some type of record keeping would be needed to maintain information on student progress.

It is hoped that the teacher and students use portfolio assessment to demonstrate the child's performance. If so, samples of the child's work will be selected to demonstrate the student's progress or mastery of skills within the unit. For Lisa's unit, samples of artwork would be an important example of the student's participation in the unit. Dictated stories would provide documentation of the child's understanding of unit concepts.

In the preschool curriculum described in this chapter, level of performance has not been required; moreover, the teacher is more interested in the child's ability to problem solve or use divergent thinking to engage in integrated activities. The teacher is using assessment to understand the child's developmental growth instead of mastery of skills as such. In Lisa's sample lesson plans, she was assessing the process of learning. There was no student assessment component of the aesthetic activity in making leaf collages. In the lesson on the description of leaves, she was interested in ascertaining how the children approached the process of describing characteristics of leaves, not in determining some level of skill development in being able to characterize similarities and differences in the leaves.

Scheduling Unit Activities

The final step in thematic unit planning is to determine how the activities will be scheduled. This step will involve making decisions about what components of the daily schedule are best suited for the activity. The teacher will need to consider whether the activity requires teacher facilitation and assistance or whether the students can conduct the activities independently with some prior preparation and planning. In addition, if the activity needs teacher instruction or direction, the teacher must decide whether it is best suited to whole-group participation or if alternating small groups would be more appropriate for all students to get the most from the experience. Once these decisions are made, the teacher can complete a schedule for the period of time that the unit will be in progress.

Lisa was student teaching in a classroom that incorporated the developmental-thematic approach to curriculum development and implementation. In charting her unit for a period of a week, she incorporated schedule components of the approach as well as other elements of the preschool model. Figure 7.4 represents how Lisa's unit was carried out in a preschool classroom in a 5-day period. Some of her activities were scheduled for large-group time so that the whole class could participate in planning, reviewing, and learning information. Some activities were set up in small-group time, giving the teacher an opportunity to facilitate an activity or engage in some direct instruction. Centers were used extensively for creative and exploratory activities. Visits to the language center were included daily to encourage the children to browse through the books related to fall leaves.

Implementing Developmental-Thematic Curriculum

Before a teacher is ready to begin a new unit, some final preparations are in order. Resources must be gathered, the environment must be arranged to
<table>
<thead>
<tr>
<th>Schedule Component</th>
<th>Day 1</th>
<th>Day 2</th>
<th>Day 3</th>
<th>Day 4</th>
<th>Day 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large-Group Time</td>
<td>Plan nature walk</td>
<td>Plan for center time</td>
<td>Plan for center time</td>
<td>Plan for center time</td>
<td>Plan for center time</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Songs about leaves</td>
<td>Songs about leaves</td>
</tr>
<tr>
<td>Small-Group Time</td>
<td></td>
<td>Discuss characteristics of leaves</td>
<td>Count, measure, classify leaves</td>
<td>Pressed-leaf arrangements</td>
<td>Make unit booklets</td>
</tr>
<tr>
<td>Center Time</td>
<td>Library Books about fall</td>
<td>Art Collages Library Books about fall</td>
<td>Art Leaf rubbings Library Books about fall</td>
<td>Science-Math Count, measure, classify leaves</td>
<td>Library Books about fall</td>
</tr>
<tr>
<td>Large-Group Time</td>
<td>Songs about leaves</td>
<td>Reread dictated stories</td>
<td>Movement to music using leaves</td>
<td>Read book about leaves Plan for raking leaves</td>
<td>Movement to music</td>
</tr>
<tr>
<td>Summary and Review</td>
<td>Review nature walk Dictate story</td>
<td>Review center time activities Discuss leaves in individual collages</td>
<td>Review center time activities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Outside Time</td>
<td>Nature walk</td>
<td></td>
<td></td>
<td>Rake leaves</td>
<td>Review unit booklets Discuss individual pictures and stories</td>
</tr>
<tr>
<td>Individual</td>
<td></td>
<td>Review individual stories about leaves</td>
<td></td>
<td>Dictate leaf stories</td>
<td></td>
</tr>
</tbody>
</table>

**FIGURE 7.4** Unit on leaves: Schedule for 1 week
Accommodate the activities unique to the unit, and further planning takes place with the children to involve them in preparations to begin the new topic for learning.

**Gathering Resources**

If the teacher has planned carefully, needed materials and resources were listed as the thematic unit was being designed. Now it is time to study the list and determine which materials are already on hand and which need to be acquired. The art materials must be organized in preparation for the center and small-group activities that will occur during the week of the unit. A trip to the school library and other facilities is in order to find books that relate to the fall season and changes in leaves. Books that have illustrations of fall leaves can also be included in the classroom library. The teacher will want to determine which books to share with the children and which to place in the library area for browsing.

Students may be able to bring some unit materials from home. If materials for some of the activities represent items from home that can be recycled, the teacher can discuss the needs with the children and send a note home requesting that parents send the needed items. In some schools where parents have an active volunteer program, the parents will take the responsibility to help find needed resources without having to resort to purchasing materials. When purchase of some items is unavoidable, parents sometimes are enthusiastic errand runners and offer to conserve the teacher’s time. Acquired resources can be organized so that they are readily available for unit activities before the unit is initiated.

The parents themselves may be needed resources during the course of the thematic unit. If the teacher needs assistance with activities during small-group time or center time, the presence of a parent volunteer can ensure that activities go smoothly. If the preschool teacher is fortunate enough to have a teaching assistant for the classroom, parental help may not be as essential; nevertheless, with young children, an additional adult supporter is always welcome when many active projects are under way.

**Arranging the Environment**

Although learning centers or areas in the preschool classroom are rearranged frequently to provide variety and maintain interest, the beginning of a new thematic unit is also a time when room arrangement is reevaluated. The teacher consults the plan to determine which center will be affected and need reorganization. Existing materials might be replaced with items required for the new unit. Art materials, prop boxes, artifacts, and other relevant resources are located in the appropriate centers or learning areas. Sometimes centers may be relocated in the classroom to better facilitate unit activities.

In the case of Lisa’s unit, the theme of leaves led her to enhance a science–mathematics area in the classroom. A large table was introduced where children could measure, count, and group leaves. Small-group time to introduce the activity would be conducted at the table. Later during the week, the children could continue the activity independently during center time.

Lisa also rearranged the art area to facilitate the various creative activities using leaves. Art materials unrelated to the thematic unit remained in the area to provide choices; nevertheless, an additional space was reserved for unit-specific activities.

**Planning with the Children**

As was mentioned earlier, additional planning with children is important before initiation of a new unit. In addition to being involved in locating relevant resources, they will be enthusiastic supporters of activities to prepare the classroom. Children can organize the library center or other classroom areas that will be rearranged or organized for unit activities. They can also be involved in last-minute discussions about the activities that are being planned for the new theme.

**THE ROLE OF ASSESSMENT IN PRESCHOOL PROGRAMS**

In the descriptions of the process of developing unit and lesson plans presented earlier in this chapter, there were provisions for assessment. In the lesson
plan description, possibilities for assessing teacher effectiveness, lesson activities, and student learning were discussed. In this section, I will discuss the broader purpose of assessment in preschool programs, the measurement of child development and learning, and the assessment of program components of preschool programs.

Assessment of Child Development and Learning

Purposes for Assessment

In Chapter 5, information was shared on how adults can monitor the development of infants and toddlers. During those years of rapid growth and development, frequent assessment of development permits monitoring of developmental progress in very young children. During the preschool years, development is slower, but awareness of developmental progress is still important. The preschool years are a significant period of development of potential for learning as well as of physical, intellectual, and social development; therefore, information about the individual child's development is important for assessing developmental competencies, screening for delayed development, and determining possible placement in intervention programs.

Assessment of developmental competencies in the preschool years is done by parents, medical personnel, and personnel in school and child care settings. Using developmental checklists and other instruments, the child's developmental characteristics are measured against the norms for that age. Competencies in language, motor skills, and social and cognitive development are assessed using indicators of the normal range of development. Pediatricians frequently use an instrument such as the Denver II (Frankenburg et al., 1990) for a quick developmental evaluation. School and child care center personnel might use a checklist similar to the Frost-Wortham developmental checklists found in Chapter 4. Other sources include developmental indicators used by child development centers and public schools that are locally devised or obtained from books or other texts (Beary, 1998; Wortham, 2005a).

An important purpose for developmental assessment in the preschool years is to identify developmental delays. Children with difficulties in hearing, vision, motor, language, or cognitive development or other types of developmental delays benefit from early identification and intervention (Greenspan, Meisels, & the Zero to Three Work Group on Developmental Assessment, 1996). Screening for developmental problems can be conducted with a variety of standardized instruments, such as the Early Screening Inventory—Revised (Meisels, Marsden, Wiske, & Henderson, 1997) and the Developmental Indicators for the Assessment of Learning (DIAL-R) (Mardell-Czudnowski & Goldenberg, 1998). If indicators of delayed development are identified through use of a screening instrument, more intensive testing can be conducted by medical or psychological professionals to diagnose the delay more specifically and refer the child to the appropriate program for intervention services.

Standardized tests are frequently used with preschool children in the early childhood years for various purposes. Developmental screening tests, readiness tests, IQ tests, and other standardized instruments are used to determine if young children should be withheld from preschool programs or retained at the preschool level instead of promoted to first grade. Because of the inaccuracy of standardized test results in the preschool years and the national concern about using this kind of testing for tracking or school placement, many testing specialists, early childhood specialists, and organizations serve as advocates opposed to inappropriate testing of children in the early childhood years, particularly children in preschool programs. The NAEYC and the National Association of Early Childhood Specialists in State Departments of Education (1997) published its "Guidelines for Appropriate Curriculum Content and Assessment in Programs Serving Children Ages 3 through 8," and the Association for Childhood Education International published a position paper, "On Standardized Testing" (Perrone, 1991). Additional efforts have been made to provide information on alternatives to standardized testing for assessment and evaluation purposes (Fair Test, 1990; National Education Goals Panel, 1998; Wortham, 2005a).
Assessment of Children in Preschool Programs

Several strategies are recommended for adults who are assessing development and learning in the preschool years. Teacher observation, hands-on tasks and activities, work samples, and portfolios are informal assessment tools that can be used to determine the child's progress in development and learning.

Preschool children demonstrate growth and learning through activity. Because they learn through active work and play, observation is a primary method for understanding the child's progress and the way in which the child thinks or behaves. Teachers can schedule systematic observations of individual children at regular intervals to update information on language development or fine and gross motor skills or to conduct observations for a specific purpose, such as identifying causes of inappropriate behavior. Checklists can be used for assessing developmental characteristics. Different types of observation tools, such as anecdotal records or time sampling, can be employed to obtain the desired information (Bear, 1998; Boehm & Weinberg, 1997; Wortham, 2005a).

A more structured process for measuring learning can be accomplished through teacher-designed tasks or other hands-on tasks and activities for the children to complete. Within the context of a teacher-conducted small-group or individual lesson or activity, the teacher can ask the child to do a task and then observe the child's verbal and physical responses to determine the desired information. In a similar manner, the teacher can use discussions with children to determine ability to use language to demonstrate understanding of concepts. The teacher can also observe the child using materials in center activities for evaluation purposes (Wortham, 2005a).

Teachers are making increasing use of portfolios to collect materials to use for assessment purposes. Some type of container is designated for each child in the classroom. A list of possibilities for housing portfolios includes pizza boxes, expandable folders, paper briefcases, office supply boxes, and plastic crates (Barbour & Desjean-Perron, 1998). The portfolio can contain samples of artwork, emergent writing, checklists, observations, and any other relevant materials that can document the child's progress over a period of time and be shared with parents (Jervis, 1996; Wortham, 1998, 2005a).

Portfolios can also be used as part of an assessment system. In this context, there is a plan for using the portfolio to report the child's progress. In addition to including a variety of examples of the child's work that serve as documentation of progress, results of teacher assessment strategies are organized to further document what the child has accomplished. The portfolio contents become a system when a narrative report synthesizes and summarizes the child's development and learning two or three times per year (Wortham, 2005a).

Teachers serving children with special needs have specific requirements for design of intervention activities and evaluation of progress. Diagnostic assessment of the child before he enters a program identifies the characteristics and needs for intervention that are specified and addressed through an IEP. The plan identifies the strategies that will be used for intervention. Ongoing assessment is conducted to determine the effectiveness of the intervention activities and the child's developmental progress. Although there are concerns about the effectiveness of available standardized measures for diagnosis and ongoing assessment of children with disabling conditions (Fewell, 1983), Gauth (1996) recommends the Carolina Record of Individual Behavior (Simeonsson, Huntington, Short, & Wad, 1982) as an effective observational instrument to be used with young children.

Assessment of Program Components

Program assessment is an important part of the total assessment picture in preschool classrooms. The program is assessed by paying attention to the indoor and outdoor environments, the curriculum, and the teacher.

The learning environment is essential to the development and learning of preschool children. Because learning is active and physical activities are part of the child's overall development, the environment is
designed and arranged to facilitate learning through play and child-centered activities. Both the indoor and outdoor environments are planned to promote physical, social-emotional, language, and cognitive development. When assessing the quality of the environment, the observer looks for characteristics of the environment that promote all categories of development. Some of the specific characteristics that are essential include plans for a variety of activities, accommodations for large- and small-group activities, and age-appropriate and developmentally appropriate materials and equipment as described in the Guide to Accreditation provided by the National Academy of Early Childhood Programs (1998).

The outdoor environment should also meet these criteria. In addition, criteria for safety should be met. Information for evaluation of a quality outdoor environment is also described in the Guide to Accreditation (National Academy of Early Childhood Programs, 1998). More comprehensive information about quality outdoor playgrounds and the way in which to evaluate a quality, safe play environment for preschool children is available in Play and Child Development (Frotn, Worthing, & Reifel, 2005).

The effectiveness of the curriculum is also assessed as part of the assessment of overall program quality. Teachers will want to have feedback on how well the curriculum fits the learning needs of children in preschool classrooms. The Guide to Accreditation suggests that materials, activities, and the daily schedule are among the factors that indicate an appropriate curriculum. The daily schedule ensures a balance between active and quiet activities as well as periods for outdoor play. There is also a balance between small-group and large-group experiences. Materials that are used have multiracial and nonsexist elements; developmentally appropriate materials include manipulatives, blocks, art materials, dramatic play materials, and sand and water toys.

Finally, assessment of the teacher and the teaching role are part of the assessment of program quality. The quality of adult interactions with children is a key to teaching effectiveness. The manner in which teachers and caregivers manage learning experiences, arrange the environment, and engage in working with the children forms the types of interactions that can be assessed. The opportunities they provide for children and the manner in which they guide language, social behaviors, routines, and work and play experiences are important indicators of the quality of the teaching role. The qualifications the teacher brings to the teaching role are equally important for evaluating the teacher (NAEYC, 2001; NAEYC & National Association of Early Childhood Specialists in State Departments of Education, 1991). The appropriate training in early childhood education that was obtained as a prerequisite for employment should be nurtured with opportunities for further ongoing training throughout each school year.

**SUMMARY**

Preschool early childhood programs have both a historical and a theoretical heritage. The various types of preschool settings that are currently in operation reflect a combination of many influences that affect the type of instructional program used. In addition, individual teachers also reflect the various influences and experiences that have shaped their perception of how to organize an early childhood classroom.

When designing a model for a preschool program of the highest quality, developers also consider the historical heritage and current knowledge based on research in development and learning. The best of the influences are retained and incorporated into the new model that is conceptualized and used with today's young children.

No model can be transferred intact into all preschool settings. In addition, teachers are likely to incorporate other influences into their teaching practices. To enable teachers to plan and manage instructions in a variety of settings, suggestions were made as to how to plan and manage instruction using added developmental-theme curriculum as well as how to adapt the process in a variety of types of preschool settings.

There are logical steps in planning thematic or integrated curriculum. Moreover, there are different ways that the curriculum can be incorporated into a daily schedule. Preschool teachers must carefully plan what activities will best meet their objectives for the
unit as well as what resources they will need to carry out the learning activities. Planning with children for unit activities is essential, as is rearrangement of the classroom environment to accommodate materials, activities, and long-term projects that will be accomplished over a period of days or weeks.

Specialists in early childhood education in the preschool years believe that young children learn best when they can see the purpose and connections in learning. The learning experiences provided for them in preschool classrooms should provide opportunities for the cognitive connections to be made through active interaction with new concepts. Developmental-thematic learning facilitates reconstruction of knowledge by young children in various types of learning settings that are developmentally appropriate. Ongoing evaluation of the curriculum, of student learning, and of teaching strategies helps the teacher further improve and refine instructional activities for future students.

Assessment is further conducted for the preschool program as a whole. Strategies for assessment of overall development and learning of children throughout the year help guide program planning and communication with parents. Assessment of the environment provides feedback on how well the environment, both indoors and outdoors, supports the child's development and learning. The teacher and teaching role are also part of program assessment. The teacher's ability to provide developmentally appropriate equipment, materials, and activities is an indicator of teaching effectiveness. The curriculum used in the classroom should reflect effective use of developmentally appropriate activities and materials with students. The teacher's training in preparation to teach young children should also reflect a solid foundation in child development and the components of a quality educational program for preschool children.

STUDY QUESTIONS

1. How do contemporary models affect the nature of today's early childhood programs?
2. Which two theorists do you believe have the most influence on the development of programs for preschool classrooms? Explain your choices.
3. Why do individual teachers vary in their perception of what constitutes a good early childhood program?
4. Why does it take many years for an innovation to be implemented in some early childhood programs?
5. Why do classroom teachers find it difficult to carry our new approaches to instruction in their own teaching?
6. How does Piaget's theory of cognitive development influence current programs that are developmentally appropriate?
7. Why does the Piagetian construct of the learning process in young children support integrated curriculum development?
8. What is meant by meaningful or purposeful learning?
9. What is the process used to design and set up a cognitive-developmental curriculum?
10. Regarding the concept of active reconstruction of knowledge, what are the ingredients of active learning?
11. Why does the learning environment in the preschool classroom need to be flexible in arrangement?
12. How does a cycle of plan, do, and review facilitate the child's reconstruction of knowledge?
13. How does the developmental-thematic curriculum incorporate an integrated approach?
14. How can a developmental-thematic curriculum be used in different types of early childhood programs?
15. Why is it helpful to use a webbing process that includes both developmental and content area categories of integrated curriculum?
16. How is student input included in the planning process of a developmental-thematic curriculum?
17. How can a brainstorming web be a vehicle for organizing early childhood curriculum?
18. Why is it important to carefully plan activities and room arrangement before beginning a thematic unit?
19. What is the role of assessment in a thematic curriculum?
CHAPTER EIGHT

Preschool Curriculum: Ages 3 to 5
Language and Cognitive Development

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Explain how young children develop language.
2. Explain how young children can have language differences.
3. Describe how teachers plan for language development using listening, speaking, writing, and reading.
4. Describe how teachers plan curriculum for expressive and receptive language.
5. Define emergent literacy as contrasted with reading readiness.
6. Discuss how the environment supports language and literacy.
7. Describe examples of activities that promote reading and writing.
8. Explain how young children develop concepts.
9. Discuss how the teacher plans for concept development.
10. Explain the roles of the teacher, environment, and play for cognitive development.
11. Describe learning experiences for mathematics and science.
12. Discuss how integrated curriculum can be designed for language.
13. Discuss how cognitive curriculum is designed for children with disabilities.
INTRODUCTION

Chapter 4 introduced the nature of language development—how theorists and researchers who study the way in which humans acquire language have described the process babies and young children go through in learning to talk. It also discussed how infants and toddlers accomplish the first steps in learning to talk and what parents and other caregivers do to encourage the use of language. This chapter again emphasizes why it is important to understand how language develops, not only for designing a program for language development but also for extending or expanding the process to include literacy.

There was a period in early childhood education, from the 1930s to the 1970s, when educators believed that the process of learning to read began in the first grade. Using Gesell's maturational theory (Gesell, 1923) as a guide, it was believed that children were ready to learn to read when they were 6 years old. Preschool and kindergarten teachers were advised not to introduce formal reading instruction before the students were mature or "ready."

Newer theories of child development and learning results of studies conducted in the 1950s and 1960s began to cast doubt on the maturational approach to the process of beginning reading. Studies demonstrated that children play an active role in oral language acquisition. Language development is similar to cognitive development as proposed by Piaget (1953). The child constructs language just as the child constructs knowledge (Bloom, 1972; Brown, 1973; Carden, 1972; Chomsky, 1965). Further research extended this theory to involve acquisition of reading. As researchers studied acquisition of literacy, they determined that young children also learn written language through constructing their own rules and relationships. Understanding how young children learn to talk helps us to also understand how they learn to write and read (Dyson, 1985; Goodman, 1986; Snow & Tabor, 1993; Sulzby, Barnhart, & Hirshman, 1989).

In this chapter, we will be studying how young children's cognitive development helps them acquire language and literacy and mathematics and science concepts in the preschool years. Curriculum for cognitive development will include experiences in mathematics and science in addition to language and literacy.

CURRICULUM FOR LANGUAGE DEVELOPMENT

How Young Children Develop Language

As was discussed in Chapter 4, there are various theories of how children acquire language. The behaviorist position is that language is learned through reinforcement (Skinner, 1957). Adults selectively reinforce the child's utterances; moreover, behaviorists propose that the child learns language through imitation. Speech is learned first, followed by grammar.

Researchers such as Slobin (1966), McNeil (1970), and Chomsky (1968) support a different theory that proposes that humans are biologically equipped for language acquisition; we have an innate capacity to learn language. Proponents of this view believe that children do not imitate or reproduce what they hear. Instead, children learn a set of rules that they use to create their own utterances. They continue to try out their language and use this process to refine and elaborate their language. The rules for the language are finite, but children can generate an infinite number of sentences using the rules (Jewell & Zinn, 1986; Spodek, 1985).

The interactionist, or constructivist, approach to language is based on both maturation and interaction with language. Proponents of this theory believe children develop the ability to speak as they mature and respond to the language in their environment. Interaction with language enables them to hypothesize and try rules for communicating. Piaget (1955) believed language development paralleled the child's ability to use thought. As children progress through the sensorimotor, preoperational, concrete operational, and formal operational stages, they use their own style of thinking and language interactions to learn language.

Vygotsky also agreed that language and thought are related in the child's acquisition of language; however, he proposed that language precedes though (Vygotsky, 1967). Children first become conscious that they can
communicate through speech. According to Vygotsky, human consciousness is developed through words. He stressed the importance of the adult’s role in determining the directions for the child’s concept and language acquisition. Through interactions with adults, children develop their understanding of the rules and functions of language. Verbal discourse with adults supplies the context for concepts.

Although various theorists have contributed to how we understand language acquisition, there is another important element to be considered: communicative competence. Not only does the young child need to learn language, but she also must learn to use language appropriately. Communicative competence includes the ability to speak appropriately in different social situations and to use knowledge of linguistic rules to communicate (Genishi & Fassler, 1999). In the next section, we will look at types of linguistic rules and how the child learns to use them.

**Forms of Language**

Although much about the nature of language acquisition remains a mystery, we know that there are certain elements of language that all children acquire: phonology, syntax, semantics, and pragmatics. The phonology of the language is the sound system. The individual sound units are phonemes that are combined into meaningful utterances. The syntax of the language is the grammar. The child must learn the rules for how morphemes (the smallest units of meaning) can be combined in a sentence. The semantics of the language transmits the meaning of the communication. The child learns the cues in language that bring meaning to its spoken and written form. Every child lives in a unique community where language is used as a tool for communicating. Regardless of the variations in children’s language communities, whether they are slight differences in a local English dialect or more significant, non-English-language differences, the order in which children learn the forms of language remains the same.

Pragmatics is another form of language that refers to what the speaker intends to communicate. The same utterance can convey different meanings, depending on differences in inflection, body gestures, and facial expressions. For example, a person eating a very spicy food might say, “I wish this food had more seasoning.” Accompanied by an exaggerated rolling of the eyes, the speaker really intends to communicate that the food is excessively spicy.

Pragmatics is also related to effective communication. The preschool child learns how to communicate through being polite and using courteous language. When a child is told to “Say ‘thank you’” for a gift or the teacher suggests, “Ask Larry if you can play with that truck,” these are examples of how the child learns to use correct types of conversation in social contexts (Snow & Tabors, 1993).

Children must understand pragmatics if they are to become competent language users. Pragmatics also includes how to take turns in a conversation, how to enter a conversation, and how to change the topic of a conversation (Christie, Enz, & Vukelich, 1997).

**Language Differences in the Preschool Years**

By 4 or 5 years of age, young children have acquired a basic mastery of the language spoken in their home. Although complete mastery is still to be developed, these children are well on their way to using fully grammatical sentences and pronouncing words correctly. Genishi and Fassler (1999, pp. 65-66) summarize the process:

1. Language is an enormously complex system through which people construct and convey meaning. Its main components are semantics (the system of meanings), phonology (the sound system), syntax (the rules for combining morphemes in sentences), and pragmatics (the rules underlying conversations).

2. Imitation is not the key to acquiring language. The active, thinking, meaning-seeking, and meaning-constructing child, in interaction with people and things, gradually figures out for herself the intricacies of language and communication.

3. All normal children develop communicative competence within their own communities. Different communities’ ways of talking and
communicating may vary widely, and researchers are just beginning to study these ways in communities that are not middle-class. Thus, we cannot make judgements about what social contexts are “better” than others or what specific features in the contexts are essential for children’s communicative development to occur.

It is important to note that although many children come from diverse cultures and cultural communities, they have their own beliefs about how their children learn to talk, children from all backgrounds and cultures learn the social and linguistic rules used therein.

Some children live in homes where a dialect different from standard English, the language used at school, is spoken. Children may thus come to school speaking a different dialect, such as Black English, which has a different structure than standard English. Once thought to be an inferior form of standard English, Black English has been found to have a sophisticated grammatical structure (Labov, 1970).

Speakers of Black English use verbal games of wit that are not part of standard English. Speakers of Black English need to acquire standard English as a second language, as do other children who may speak a regional or subculture dialect of English. These children can maintain their home dialect and learn to determine when it is appropriate to switch to standard English.

Helping Young Children Bridge Black English and Standard English

Ms. Raney helps young African American children who speak Black English to differentiate between their dialect and standard English. Further, she provides opportunities for young students to use and understand the two types of language.

One strategy Ms. Raney uses is to videotape children in different speaking situations. Subsequently the children can hear themselves using less or more formal dialects in their classroom activities.

Dramatic play is also used to highlight the differences between dialect and standard English. Children are asked to intentionally use standard English when they are dramatizing plays. They can then compare how they use language in less formal situations when Black English is the norm.

Ms. Raney’s goal is not only to have children practice using standard English, but to help children think about
when more formal standard English is appropriate and when Black English is appropriate (Genishi & Dyson, 1984, p. 201, as cited in Genishi & Fassler, 1999).

Children who come from a home where a language other than English is spoken will also need to learn standard English. The most common non-English language spoken in the United States is Spanish. Other languages are spoken as well. It is not uncommon for elementary schools in urban and rural areas to have students who speak five or more different languages; moreover, they may speak different dialects of the languages. Within the past few decades, demographic shifts have resulted in language-minority students being the majority in many major cities in the United States. In spite of recent efforts at school reform, language-minority children continue to be at risk for success in school (Gutierrez, 1993).

Many young children who speak a language other than English are currently served in bilingual programs that currently focus on a transition into English, although there are also programs where the child's first language is used with the addition of English into the instruction. Other children are served in classrooms where English is a second language is taught. The success of bilingual programs is controversial and has been eliminated in a few states, primarily California. Parents also have differing views of bilingual education for their children. Although some parents find the use of both languages in bilingual programs to be desirable, other parents are more concerned that their children learn English. They reject having their children in bilingual programs (Wong-Fillmore, 1991). Regardless of the type of program serving language-minority children, there are differences in the rate at which they learn English and their willingness to learn English (Hudelson & Serna, 1997).

A more complex challenge for the teacher is the child who is limited in verbal skills and is not fluent in any language. Such a child may come from a home where adult-child interactions are very restricted. Bilingual children may be limited in their home language as well as in English. Children who are lacking in speaking skills need special consideration, first to determine the cause of their limited language and then to provide special activities to help them develop language. The lack of language also may be traced to social immaturity, difficulty in feeling secure and comfortable in school, a hearing impairment, or a developmental delay. Whatever the source of the problem, an appropriate preschool program is begun as early as possible to provide intervention and remediation.

Some children experience fluency disorders. They have difficulty speaking rapidly and may speak either too fast or too slow. Stuttering is one manifestation of a disfluency. Other children have articulation disorders; they have problems with pronunciation. One cause of articulation problems is loss of hearing or a brain trauma (Christie et al., 1997). The program for language development in the preschool years facilitates language abilities in children with various types of language differences and refines the same skills in children who have already developed a rich language before entering school.

What is the best type of program to develop language in all preschool children in order to include those with cultural and language differences? If a program is to meet the needs of every child, it will have to be balanced and provide many types of experiences. Although a constructivist approach is appropriate, in itself it is not considered adequate by some. The balance needs to include direct teaching of skills along with holistic and discovery language activities. The next section will discuss preschool program elements that can facilitate language development and describe curriculum experiences that can be planned for young children.

**PLANNING FOR LANGUAGE DEVELOPMENT**

The curriculum for language development has as its first purpose to extend the child's acquisition of oral language. The most active period of development of the ability to communicate through speech occurs from the ages of 3 through 5. During this period, the
child is also continuing through the first steps of acquisition of written language. In planning for language development, the teacher conceptualizes a program that encompasses both oral and written literacy. In the following sections, we will explore the role of play and the teacher's role in language development. Then we will learn how the environment facilitates language and literacy in preschool classrooms.

The Role of Play in Language Development

We understand that play is the vehicle for the young child's development and learning. This is particularly true for the development of language. Children use oral language in all facets of play as they communicate with each other and with adults, and they use language to express themselves in play. Younger children may verbalize their activities to themselves in solitary play. While engaged in social play, they may use metacommunication, or talk about a play event interpersonally with others to negotiate or revise a play theme (Davidson, 1998; Worsham, 2005). In her research of sociodramatic play, Smilansky (1968) found that children from higher-income homes played a richer form of dramatic play that resulted in more successful learning later in school. She also found that adult involvement in play could extend and expand the fantasy play of children from low-income families (Johnson, Christie, & Yawkey, 1999).

Language has an important role in play, but play has an equally important role in the development of language. Language is used for make-believe, as an imitation of adult speech, and for management of play activities. Frost (1992, p. 40) cited Levy's (1984) research on the role of play in language and cognitive development as follows:

1. Play stimulates innovation in language (Bruner, 1983; Garvey, 1977).
2. Play introduces and clarifies new words and concepts (Chukovsky, 1971; Smilansky, 1968).


Berk (2001) further explained how Vygotsky believed play facilitates language development. First, Vygotsky proposed that social experience influences how the child thinks. Further, language is the primary channel for communication between children. Play, particularly representational play, provides the milieu of make-believe that encourages social experience and language. According to Berk, research on sociodramatic play suggests that preschoolers who spend more time at sociodramatic play are more socially competent and are advanced in intellectual development.

The Role of the Teacher in Language Development and Literacy

The teacher acts as facilitator, instructor, and model for language development. The teacher facilitates language development through setting up the indoor and outdoor environments to support children's play. Opportunities to develop oral and written literacy are encouraged through the availability of materials for creative expression, construction play, motor play, and dramatic play. The teacher serves as an instructor through teacher-directed activities and structured experiences that incorporate concepts and vocabulary development and provide opportunities for written language. The teacher is a model for language development through all verbal interactions with children. Opportunities to extend play and language are afforded through observation of children's language during play. The teacher suggests ways to extend dramatic play themes and models how to increase language and written literacy experiences into play episodes (Johnson et al., 1999; Morrow & Rand, 1991; Worsham, 2005). The teacher plays alongside children in play episodes and models written language through reading, writing, and taking dictation from children within the play experience (Fields & Hillstead, 1950). The teacher provides a variety of
meaningful activities that will promote both oral and written literacy (Fields & Spangler, 2000).

The Role of Parents in Language Development

Parents play a major role in their child's development of language. Many families have an abundance of books in their home for themselves and their children, provide writing materials, talk extensively to their children, and read storybooks to them on a daily basis.

There are many things that teachers can do to motivate all parents to establish a literacy-rich home environment. Written communications and parents' workshops and classroom meetings can be used to help parents become familiar with how they can help their child learn language by reading and telling stories and engaging in conversations with their children. Teachers can also establish classroom libraries with books that can be shared with parents. Audiocassettes for read-along activities can be sent home so that the parents and children can listen and follow along in the book as the audio tape is read.

Snow (1983) has reported research on the relationship between storybook reading and oral language development. Parents can learn specific strategies, including storybook reading, that can facilitate language development. Tracey (2000, pp. 50–51), suggests 10 ideas that parents can use with their children:

1. Get your children to talk! Children learn by talking and asking questions . . .
2. Help your children understand the story. Sometimes children don't understand what is happening in a book. Check regularly to see whether your children understand the story . . .
3. Praise your children. Children love to be told nice things by their parents. Let your children know that you are proud of them when they ask a good question, say something interesting about a book, or read well.
4. Relate the book to your life. Use the book as a jumping-off point to tell your children about something interesting in your life . . .
5. Ask your children good questions during storybook reading. Questions that will help your children the most are those that require them to talk a lot to answer . . .
6. Wait for answers. After you ask a question, give your children time to answer . . .
7. With younger children, point to words when you read. Pointing to words when you read to young children will help them learn what the words are, that we read from left to right, and that we turn pages only after we have finished reading all the words on a page . . .
8. With older children, take turns reading.
9. Choose books carefully. Many books are enjoyable, but to help your children the most it is important to choose books that are not too easy and not too difficult . . .
10. Have fun! Above all, try to keep the book-sharing experience enjoyable!

The Role of the Environment in Language and Literacy

The preschool classroom has been described as an inviting environment for young children. It is arranged into learning or activity areas that provide for creative, constructive, dramatic, and manipulative play. The centers are arranged with materials that permit children to work on projects, express themselves through art and writing materials, and engage in pretend or role play as well as in dramatic play, including puppetry and story reenactment. Some of the activities that can be experienced in learning centers are selected by children in their own planning for work and play. Other activities are planned by the teacher and may involve the teacher's direction or indirect facilitation.

The classroom has both social and physical aspects. The physical component of the environment includes the arrangement of space and materials. The social component of the environment includes the teacher, who serves as a mediator, and the verbal and nonverbal interactions between the children. Ostrosky and Kaiser (1991, p. 124) describe four
steps in providing an environmental arrangement that will prompt language as follows:

1. Focus on making language a part of children’s routines.
2. Provide access to interesting materials and activities.
3. Provide adult and peer models who will encourage children to use language and respond to their attempts to do so.
4. Establish a contingent relationship between access to materials or assistance and use of language.

When considering use of the environment for language development, steps are taken to make the total area “print rich.” According to Freeman and Hatch (1989), the term print-rich environment implies that print should be everywhere in the form of labels, lists, signs, charts, and posters. Print materials are available in play centers to support literacy in children’s play. The dramatic play center includes literacy materials consistent with changing play themes. When the play or study theme involves a grocery store, for example, the center includes empty food containers with familiar labels and paper and pencils for making grocery lists and pricing items (Fields & Hillström, 1990). A social studies theme on the post office includes mailboxes for the children, envelopes, stamps, and greeting cards (Hatch & Freeman, 1988). The art center has writing materials for writing or dictating stories about pictures and other artwork.

The library or language center is obviously the major area to support literacy development. It contains materials for all components of the language curriculum, including listening, speaking, writing, and reading. The writing area of the center has a variety of writing materials, including paper, pencils, markers, crayons, and pens. The reading area has shelves to house a large supply of picture concept books, picture storybooks, realistic literature or real-life storybooks, easy-to-read books, informational books, books with fables and folktales, wordless books, and books of poetry. Some of the shelving can be used to store a large number of books, and other shelves are open faced, allowing children to be attracted by the covers of the books (Morrow, 2000). At least one shelf is reserved for books specific to the theme of study. Big books previously read by the teacher are also available for rereading by the children.

A listening center with cassette tapes of recorded books and a copy of the book for each headset provides opportunities for children to listen to stories throughout the center activity periods. The center might also house a rocking chair and include soft seating areas with cushions, carpeting, beanbag chairs, and other arrangements that invite individuals and groups of children to browse and read.

The language center is enhanced by language experience charts, typewriters, a computer, and materials for making books. An alphabet chart is useful for children who are beginning to recognize and use letters, and a message board hung at the children’s eye level can have examples of functional messages related to the school.

The teacher’s role in the environment is to read to the children, engage in conversations about topics being studied, involve children in dictating contributions for language experience charts, discuss and share books and stories, and use poetry and finger plays with the children. The child’s role in the environment is to write on a daily basis, explore new books, review familiar books, listen to stories, engage in pretend and dramatic play, dictate stories, and discuss work and play activities (Burns, Griffin, & Snow, 1999; Freeman & Hatch, 1989; Gorchard & Russell, 1990; Teale, 1987). More about these activities and the language development curriculum is described in the following sections on language and literacy.

DESIGNING CURRICULUM FOR LANGUAGE DEVELOPMENT

Although the teacher is interested primarily in oral language development when planning curriculum for language development, he is also keenly aware of activities that will facilitate the transition into written language. The curriculum for oral language development
can be organized into activities that will promote the child’s expressive and receptive language. Expressive language is a combination of the phonetic, syntactic, and semantic and pragmatic elements that the child is able to use when speaking. Receptive language includes elements that the child has heard and understood but cannot yet use in her expressive language.

Literacy is developed when the child is able to use written language that includes writing and reading. In the preschool years, the language development program provides activities that will form the foundations for literacy. The teacher selects activities that encourage children to be actively involved in reconstructing their understanding of literacy. Children progress in becoming readers and writers through child-initiated and teacher-directed activities that lead to their making sense of how spoken language can be written and read.

Experiences That Promote Expressive Language

Expressive language development is promoted through activities that motivate the child to use oral language. When the child is engaged in play and work activities that necessitate using descriptive language and communicating with adults and other children, expressive language is being expanded and extended. Morrow (1997, p. 101) has developed objectives for the development of expressive language as follows:

1. Give children opportunities to use their own language freely at any stage of development. This could be a different dialect or mixture of English and Spanish. Their desire to communicate will be encouraged, accepted, and respected.
2. Encourage children to pronounce words correctly.
3. Help children to increase their speaking vocabularies.
4. Encourage children to speak in complete sentences at appropriate stages in their development.
5. Give children opportunities to expand their use of various syntactic structures, such as adjectives, adverbs, prepositional phrases, dependent clauses, plurals, past tense, and possessives.
6. Encourage children to communicate with others so that they can be understood.

7. Give children the opportunity to use language socially and psychologically by interpreting feelings, points of view, and motivation and by solving problems through generating hypotheses, summarizing events, and predicting outcomes.
8. Give children opportunities to develop language that involves mathematical and logical relations, such as describing size and amount, making comparisons, defining sets and classes, and reasoning deductively.
9. Give children the opportunity to talk in many different settings.

Arranging the classroom environment into centers for learning and play and providing generous blocks of time to engage in center activities are fundamental tasks for teachers involved in oral language development. Children use expressive language to discuss activities with their peers and the teacher and to plan and engage in play themes in the housekeeping or block center. Experiences in the art center, such as painting or working with clay, lead to expressive language as children share their ideas or reflect on the process they are using to create a piece of art. Expressive communication occurs when children interact in the manipulative or science-math centers, asking for directions, giving suggestions, and describing activities. The teacher is a major player in center activities as he asks questions, engages in dialogues with children who are working and playing in various centers, and offers suggestions about extending activities and thematic play.

Playing “Doctor”

“Let’s play house.”
“Now, I wanna play doctor.”
“OK, this is where the doctor lives.”
“Yes, and the hospital’s over here.”
“You be the mother.”
“I don’t wanna be the mother. I’m the doctor.”
“Let’s both be doctors!”
“Yeah!” (Shee & Goldhaber, 1990, pp. 70-71)

Dramatic play within the housekeeping center or elsewhere offers possibly the most important opportunity for child-initiated expressive language. As children design and carry out play themes, language is used as the primary communication tool to facilitate...
the enactment of the fantasy or pretend play (Spodek, 1985). It should be remembered that outdoor play is essential as well. Although girls tend to engage in play focused on family themes indoors and outdoors, boys use pretend play more in outdoor than indoor environments as they engage in their preferred play themes, which include superheroes (Johnson et al., 1999).

Teacher-directed or teacher-facilitated activities also stimulate expressive language. Class discussions during sharing times and conversations about planned or completed activities require expressive language. Teachers can encourage children to retell stories or tell about important events that have occurred. Reenactment of stories involves expressive language in dramatic play (Ishii & Goldhaber, 1990). Teacher-led discussions using wordless books likewise encourage children to use their own language to construct and describe stories to go with the pictures in the books (Raines & Isbell, 1988). Puppetry also provides a medium by which the teacher can encourage expressive oral language.

**Experiences That Promote Receptive Language**

Opportunities to hear language modeled are also important if the child is to extend and expand language to more closely approximate adult language. The child's receptive language will reflect the nature of the adult language that is heard. Parents and teachers who pronounce words carefully and spend time in dialogue and explanation will provide the child with models of language that can extend the child's current ability to express herself verbally. Morrow (1997, p. 101) provided objectives for the development of receptive language as follows:

1. Provide children with an atmosphere in which they will hear language frequently.
2. Children should be able to associate the language that they hear with pleasure and enjoyment.
3. Children are given the opportunity to discriminate and classify sounds they hear.
4. Children should hear a rich source of new words on a regular basis.
5. Give children the opportunity to listen to others and demonstrate that they understand what is said.
6. Provide children with opportunities for following directions.

When children enter a school setting, they spend more time listening than they do in less structured environments. It is through listening that they will acquire additions to their receptive language that will also become part of their expressive language. Teachers and parents can use many types of activities to add to the child's language.

Telling and reading stories are major activities used with young children to help them develop listening skills and receptive vocabulary. Not only are the children being exposed to new words, but they are also acquiring new information (Goreshi & Fassler, 1999). Opportunities to hear and "experience" stories can be enhanced through the use of cassette tapes and listening centers and videocassettes of stories. Reading poetry exposes children to a rhythmic flow of words, and finger plays add physical actions to poetry.

Teachers use conversation throughout the school day to inform, instruct, and share information with children. Language used as part of classroom routines adds to the opportunities to model language for children. Instructional activities led by the teacher add to oral language possibilities, as do dramatic play activities that involve the teacher as a player and director and informal interactions with children in indoor and outdoor play. Taking field trips to places that are informative and interesting to young children and listening to classroom guests who relate their experiences provide additional opportunities for children to hear language modeled by adults.

**DEVELOPING FOUNDATIONS FOR LITERACY**

What is literacy? When does it develop? Literacy is a continuous process that begins at birth and develops as children strive to understand and use oral and written
language. Having an interest in books and stories and in using conversations to communicate is part of the process. Adults serve as facilitators for oral and written literacy when they talk to children, read to them, tell them stories, model the process of writing, point out environmental print, and encourage children's interests and efforts (International Reading Association and National Association for the Education of Young Children, 1999; Tisle & Yokota, 2000).

The first part of this chapter stressed the importance of language in acquiring literacy. Language is one important component of the child's development and contributes to success in becoming literate. In this section, we will look at other equally important factors that contribute to current practices used with preschool children to promote literacy. First, however, we must understand a continuing controversy over how and when children should be guided and taught in the beginning stages of reading and writing.

Resolving the Issues in Beginning Literacy Instruction

At the beginning of the chapter, I described the instructional practices that were prevalent from the 1950s through the 1970s when a child's maturation or readiness was considered to be important before beginning formal reading instruction. I also discussed how newer research into language and literacy acquisition reflects a constructivist approach to beginning reading and writing. This approach reflected the view that readiness for reading was a product of experience and that the child has a major role in acquiring literacy.

By the late 1980s, the reading readiness view was challenged by the concept of emergent literacy. This approach rejected the position that children must proceed through a reading readiness program before receiving formal reading instruction. Advocates of emergent literacy proposed that children begin the process of becoming literate very early in life; moreover, the process is a combination of reading and writing that develop in a complementary, interrelated fashion. Further, emergent literacy results from the child's active engagement with the world and through meaningful or purposeful activities involving oral and written communications (Tisle & Yokota, 2000).

Whole language was another movement in the 1980s that emerged to replace traditional basal reading materials that were based on phonics and other reading skills taught in isolation. The view of the whole-language approach was that reading and writing are learned best by engaging in purposeful activities rather than in exercises. Phonics and other skills were to be taught when the need became apparent for specific children rather than systematic instruction for the whole class. By the mid-1980s, new basal series that were literature based became available to schools.

A reaction to the whole-language approach began early in the 1990s. A series of research studies conducted by the National Institute of Child Health and Human Development (Lyon, 1998) stressed that there was a need for instruction in phonological awareness and phonics in reading. This was reinforced by a comprehensive review on how children learn to read, the National Reading Panel: Reports of the Subgroups (National Institute of Child Health and Human Development, 2002). The Reading Panel report stressed instruction in phonemic awareness skills, phonics skills, and reading comprehension strategies for children to become good readers. The report was challenged by a paper commissioned by the National Reading Conference (Pressley, 2001). Pressley concurred with much of the research done by the National Reading Panel but felt that it was too narrow in focus. He proposes that effective reading instruction balances skills teaching and holistic literature and writing experiences. Others also believe that a balanced curriculum that incorporates systematic instruction within a constructivist approach forms the basis for a quality program in beginning reading (Roskos, Christie, & Richgels, 2003; Snow, Burns, & Griffin, 1998).

The approach that has been taken throughout this text supports a constructivist approach that includes skills instruction and emergent literacy in a balanced reading program. The role of the teacher to guide, instruct, and scaffold remains, as does the role of the child to encounter, experience, and represent accomplishments in beginning literacy.
What Does the Young Child Need to Know to Develop Literacy?

Although a stronger emphasis on skills such as phonological awareness and phonics is important in beginning literacy instruction, research reinforces the complexity of the literacy process (Gambrell & Mazzoni, 1999; Pressley, 2001). There are various literacy elements that the young child must know to become a successful reader and writer, including vocabulary, alphabetic knowledge, phonological awareness, phonics, concept of word, and reading for meaning.

GOALS FOR LITERACY

From what we know about what children need to know to be able to acquire literacy, what should be included in a quality early literacy program? Eight essentials of early literacy instruction and activities that promote these essentials provide a framework of goals and activities of a developmentally appropriate, balanced program for young children (Roskos et al., 2003).

Essential Early Literacy Teaching Strategies

Effective early literacy instruction provides preschool children with developmentally appropriate settings, materials, experiences, and social support that encourage early forms of reading and writing to flourish and develop into conventional literacy. These basics can be broken down into eight specific strategies with strong research links to early literacy skills and, in some cases, with later elementary-grade reading achievement. Note that play has a prominent role in strategies 5, 6, and 8. Linking literacy and play is one of the most effective ways to make literacy activities meaningful and enjoyable for children.

1. Rich teacher talk

Engage children in rich conversations in large-group, small-group, and one-to-one settings. When talking with children,

• use rare words—words that children are unlikely to encounter in everyday conversations;
• extend children’s comments into more descriptive, grammatically mature statements;
• discuss cognitively challenging content—topics that are not immediately present, that involve knowledge about the world, or that encourage children to reflect on language as an object; and
• listen and respond to what children have to say.

2. Storybook reading

Read aloud to your class once or twice a day, exposing children to numerous enjoyable stories, poems, and information books. Provide supportive conversations and activities before, during, and after reading. Repeated reading of favorite books builds familiarity, increasing the likelihood that children will attempt to read those books on their own.

3. Phonological awareness activities

Provide activities that increase children’s awareness of the sounds of language. These activities include playing games and listening to stories, poems, and songs that involve

• rhyme—identifying words that end with the same sound (e.g., Jack and Jill went up the hill);
• alliteration—recognizing when several words begin with the same sound (e.g., Peter Piper picked a peck of pickled peppers); and
• sound matching—deciding which of several words begins with a specific sound (e.g., show a child pictures of a bird, a dog, and a car and ask which one starts with the /d/ sound).

Try to make these activities fun and enjoyable.

4. Alphabet activities

Engage children with materials that promote identification of the letters of the alphabet, including

• ABC books,
• magnetic letters,
• alphabet blocks and puzzles, and
• alphabet charts.

Use direct instruction to teach letter names that have personal meaning to children. (“Look, Jennifer’s and Joey’s names both start with the same letter. What is the letter’s name? That’s right, they both start with J.”)

5. Support for emergent reading
Encourage children to attempt to read books and other types of print by providing
• a well-designed library center stocked with lots of good books,
• repeated readings of favorite books (to familiarize children with books and encourage independent reading),
• functional print linked to class activities (e.g., daily schedules, helper charts, toy shelf labels), and
• play-related print (e.g., signs, menus, employee name tags in a restaurant play center).

6. Support for emergent writing
Encourage children to use emergent forms of writing, such as scribble writing, random letter strings, and invented spelling by providing
• a writing center stocked with pens, pencils, markers, paper, and bookmaking materials;
• shared writing demonstrations in which the teacher writes down text dictated by children; and
• functional writing opportunities that are connected to class activities (e.g., sign-up sheets for popular centers, library book checkout slips, "Do not touch!" signs).

7. Shared book experiences
Read big books and other enlarged texts to children and point to the print as it is read. While introducing and reading the text, draw children’s attention to basic concepts of print, such as
• the distinction between pictures and print;
• left-to-right, top-to-bottom sequence; and
• book concepts (cover, title, page).
Read favorite stories repeatedly and encourage children to read along on the parts of the story they remember.

8. Integrated, content-focused activities
Provide opportunities for children to investigate topics that are of interest to them. The objective is for children to use oral language, reading, and writing to learn about the world. Once a topic has been identified, children can
• listen to the teacher-read topic-related information books and look at the books on their own;
• gather data using observation, experiments, interviews, and so on;
• use emergent writing to record observations and information; and
• engage in dramatic play to consolidate and express what they have learned.
As a result of such projects, children’s language and literacy skills are advanced, and they gain valuable background knowledge.

In the sections that follow, more information is provided about emergent writing and emergent reading as well as activities that support the eight essentials of early literacy.

_Emergent Writing_

We know that developing literacy is an ongoing process that begins at birth and continues throughout the early childhood years. Morrow (2000) explains that the developmental process begins with learning to communicate first nonverbally and then verbally. Symbolic play follows, and then drawing emerges.

The process of using written language begins by playing with it before it is used to communicate. First attempts at writing consist of making marks on paper without understanding that the alphabet is used to symbolize speech. Later, children understand that letters are used to encode speech and that writing represents language (Ferreiro & Teberosky, 1982).

Research is being conducted to establish how children move through stages of understanding and use writing to communicate. Two groups of researchers (Fields & Spangler, 2000; Sulzby et al., 1989) have characterized these stages in different ways; both characterizations of the development of written literacy are helpful in understanding how a child learns to write.

Sulzby and colleagues (1989) have established six categories of writing, rather than a developmental sequence, that demonstrate ways that children attempt to write:

1. Drawing
2. Scribbling
3. Making letterlike forms
4. Reproducing well-learned units (i.e., letter sequences that are familiar, such as those that spell the child’s name)
5. Invented spelling
6. Conventional spelling

Dyson (1993) takes the position that there is no linear progression in writing development. She posits that emergent writing is part of a larger process where the children explore how to organize their world within a total symbolic repertoire. This repertoire includes opportunities to use the arts, including drawing, playing, dancing, and singing. Dyson believes children and their curiosity about the world should be the center of the curriculum, not literacy.

Although the categories are not considered stages, the categories reveal the evolution of understanding written language and the way in which children use writing experiences to express themselves.

Fields and Spangler (2000) describe the progression of written literacy in terms of written forms. Figure 8.1 is a list of these forms with explanations of their characteristics.

Activities for Promoting Emergent Writing
Children between the ages of 3 and 5 are at different levels in their progress toward written literacy. Some will be engaged in scribbling, whereas others will be interested in copying words and using invented spelling. The teacher makes available activities that

<table>
<thead>
<tr>
<th>Form</th>
<th>Characteristics and Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scribbles</td>
<td>Random marks with no differentiation between drawing and writing</td>
</tr>
<tr>
<td>Drawing</td>
<td>Illustration tells a story</td>
</tr>
<tr>
<td>Linear-repetitive</td>
<td>Marks in a line, fairly uniform in size and shape (repetitive); looks like longhand</td>
</tr>
<tr>
<td>Copying standard writing</td>
<td>May or may not be linear but contains elements of actual words</td>
</tr>
<tr>
<td>Memorized forms</td>
<td>Frequently used and important words: love, Mom, Dad, own name, etc.</td>
</tr>
<tr>
<td>Letterlike forms</td>
<td>Contains elements of actual letters, looks like letters; no more than two similar forms next to one another</td>
</tr>
<tr>
<td>Quantitative principles</td>
<td>The number of letters is significant</td>
</tr>
<tr>
<td></td>
<td>Reflects hypotheses about number of letters necessary for a word</td>
</tr>
<tr>
<td></td>
<td>Big things have big names</td>
</tr>
<tr>
<td></td>
<td>Progresses to reflect number of oral language syllables</td>
</tr>
<tr>
<td>Qualitative principles</td>
<td>Which letters are used is significant</td>
</tr>
<tr>
<td>Beginning invented spelling</td>
<td>Reflects hypothesis that letters make the sound of their names</td>
</tr>
<tr>
<td>Letter names as sounds</td>
<td>One letter per word or per syllable; only major sounds, few vowels</td>
</tr>
<tr>
<td>Simplified phonics</td>
<td>Attempts to regularize sound–symbol relationship; uses vowels; becomes readable</td>
</tr>
<tr>
<td>Advanced invented spelling</td>
<td>Self-correction to match standard spelling models</td>
</tr>
</tbody>
</table>

FIGURE 8.1 Emergent writing forms.
encompass levels of ability within the group as well as materials that will appeal to individual interests. In addition to providing writing opportunities and materials in the environment, planning is conducted for teacher-directed and child-centered activities. The teacher can use specific strategies to demonstrate how to write and use writing to communicate. The teacher will model writing by using it in a meaningful context the children can observe several times each day on the chalkboard or an experience chart. Dictation is taken from the children daily both individually and as a part of group activities. Some dictation can be in the form of writing down experience chart stories, whereby children in a small group take turns contributing items for the chart following an interesting classroom discussion. The teacher can write notes to individual children and make the children aware when notes are being written to parents or school staff (Hayes, 1990; Morrow, 2000). Sulzby (1993) provides some tips for taking children's dictation, as demonstrated in Figure 8.2.

In addition to ensuring that written language is being modeled in various contexts throughout the day, the teacher can conduct other activities with the children. Suggestions for some activities are included in the following sections.

Both teacher-planned and informal opportunities that occur during play are used for written language. Birthday cards and stories are used as part of the celebration of a birthday. Children can write or dictate thank-you notes after a special class event such as an outing or a party. Constructions or projects can be labeled, as can record keeping of work as part of integrated learning activities (Hayes, 1990). The teacher and children are constantly alert to the possibilities for using writing during classroom routines and learning experiences.

**Emergent Reading**

How do 3-, 4-, and 5-year-olds engage in the lifelong process of learning to read? From the time that an infant is propped up on her mother's lap to share a picture book, the reading process has begun. The young child engages in the problem-solving process of understanding the relationship between speaking and the symbols that appear on a page each time a book is read. Teale (1982) proposed that the child's involvement in reading activities in a social context with a significant person is a key to acquiring literacy. He also concluded that reading and writing are learned in real-life settings when the child participates in activities where reading and writing are used in a meaningful context (Teale, 1986). In the preschool years, the child observes parents reading, is read to daily, sees adults writing and reading notes and letters, and begins to understand the purpose for written language.

There is evidence that understanding the purpose for written symbols comes as an early age. Toddlers become fascinated with environmental symbols; they are able to identify the golden arches of McDonald's restaurants and the graphics on the package of their favorite cereal. Understanding of environmental print and symbols expands rapidly as children are bombarded with visual symbols both inside and outside the home. Investigators have determined that children as young as age 3 are able to read common words in the environment (Fiebert, 1986; Mason, 1980).

Children who are read to frequently between the ages of 3 and 5 make significant progress in learning to read. In addition to understanding how print is organized and used, they learn about books and how they are used. Wizenman and Robeck (1983) described book knowledge that young children acquired from reading experiences as knowing the difference between the beginning and the end of the book; where to begin reading, how to turn pages, and the difference between pictures and print in addition to having an awareness that print moves from left to right.

What do parents and teachers do that nurtures the acquisition of reading? Jewell and Zints (1986) described factors that occur in the home and are associated with developing the ability to read. First, not only were the children read to but the mothers also engaged in incidental reading and pointing out environmental print throughout the day; they drew the children's attention to food labels and to familiar products advertised on television. Second, there were
**Taking a Child’s Dictation**

When it comes to making sense out of print, what could be more helpful to children than seeing their own thoughts written down? That’s why dictation—writing children’s words exactly as they say them—is so important. It allows children to see the relationship between the words they say and the words that appear on paper. They begin to understand that print is “talk written down.”

Dictation makes writing and reading meaningful and compelling to children. By working one on one to record preschoolers’ words and stories, you let them know their ideas have value. Plus, because print is permanent, children see that it can be used to help them remember thoughts, feelings, and experiences. They can also see that dictation gives them a way to communicate with people who aren’t near enough to hear what they say. By dictating their words, children find they can send messages to people in other rooms, at home, or even to faraway friends and relatives.

Finally, dictation gives you concrete examples to use as you observe children and talk with families about their children’s development. Family members also treasure dictation because it offers them a peek into their children’s thoughts and feelings while they’re in your care.

**Dictation Tips**

Here are points to keep in mind when doing dictation:

- Use open-ended questions to invite children’s dictation, such as “Tell me about that,” or “What should I write?”
- Record children’s words exactly as they say them.
- Match your writing speed to children’s speaking as much as possible. If you can’t keep up, ask children to wait a moment so you can write all their words.
- Be patient. Give children plenty of time to compose their ideas and change their minds.

**When to Take Dictation**

The best way to show children that print is useful is to incorporate it into their everyday activities. When it’s used this way, dictation is a meaningful—not isolated—experience.

- **Help children solve problems.** Ask children how they made a collage, designed a block structure, or figured out how to work a new puzzle. Then record their explorations and invite them to illustrate their words. Over time, show children how they can use their dictations to remind them of past ideas and situations that can be helpful in new situations.

- **Encourage young authors.** Listen to the stories children invent during free play, at snacks and meals, and on the playground. Wait for a time when you won’t be interrupting and offer to record their stories. You might write them on chart paper, put them on a few sheets in book form, or even type them. However you do it, you’ll help validate children’s imaginations. Invite your authors to illustrate their stories and share them with the group.

- **Expand communication.** Talk with children about their paintings and drawings to help them further express thoughts and feelings. Maximize children’s control over the experience by letting them decide where—and if—you’ll write words on their artwork.

- **Record observations.** Science activities provide natural opportunities for dictation. Write children’s words on experience-chart paper as they make observations, predictions, and discoveries. Hang the charts in your science area and refer to them as you continue your investigations.

- **Remember fun experiences.** Keep special feelings alive by writing down memories of a shared group experience such as a field trip or celebration. Invite four or five children at a time to dictate their favorite things about the event. Then gather together and read the dictation back to the whole group. (Doing group dictation with a few children at a time ensures that no one has to wait too long for his or her turn.)

- **Get organized.** To plan an event such as a trip to the grocery store or an indoor picnic, gather in a group and make shopping and “things-to-do” lists. Then use your lists to help you get ready and carry out your plans.

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**FIGURE 8.2** Tips on taking a child’s dictation.

My Very Own Word

Each day, the child is invited to determine the important word of that day. The teacher writes the important word at the top of a large piece of manila paper. The child draws a picture about the word. The child then returns to the teacher and dictates a story about the picture. The important word is also written on a file card to be put in the child’s favorite-word box or bank. When 10 to 15 word pictures are completed, they are stapled into a book. Word cards are used for reviewing favorite words, copying, or recoding on a word list on the computer. The child can reread the dictated stories.

Today’s Plans

Each morning during planning time, the teacher writes the day’s plans on an experience chart as the day’s activities are discussed. The teacher and the children read and reread the plans. Later, the experience chart is placed in a convenient place for easy access by the children who might wish to use it for their own writing and reading. They might choose to copy words or rewrite the sentences on their own sheet of paper.

Journals

This process is normally used with older students but is adaptable for younger children. Each child is given a booklet of blank pages of paper that form a journal. Every day, children and teacher write in their journals. Over a period of time, teachers and children review their entries in their journals. Young children may start with drawings and gradually develop writing skills and the use of letter forms and invented spelling.

Class Books

Class books are a collection of writing and drawing efforts that are created as a result of a thematic study or special class event or project. The illustrated writing effort of each child is collected into a book and put into the library for all to enjoy. A title for the book is selected by the class to go on the book cover.

Thematic Prop Boxes

Collections of materials and objects for thematic play are organized into prop boxes. The boxes contain writing and reading materials needed for the particular dramatic play theme. Morrow and Rand (1991) suggest a newspaper office setting, with writing paper, newspaper, telephones, telephone directories, maps, typewriters, and pens and pencils to stimulate writing efforts in the dramatic play center.

Sentence Strips

Sentences from group and individual stories are written on a tagboard sentence strip. The strip is then cut apart. Children can reassemble the sentence and copy it. They can also write more sentences using the first sentence as a model.
reading materials for both parents and children in the home; books of all types—from storybooks to nursery rhymes and fairy tales—were read and reread to the children many times. Third, the parents served as reading models; parents read frequently, allowing children to observe that reading was an important, positive activity for them. Fourth, writing materials were readily available to the children; they learned to move between reading and writing as they progressed in their knowledge of letter forms and the use of letters to communicate ideas. Fifth, persons in the environment responded to and encouraged the child’s attempts at reading and writing; parental help was provided not as a formal, systematic process but rather in response to incidental questions and requests for help.

The same types of experiences found in the home that nurture the acquisition of literacy are used with preschool children in group settings. The foundations for the acquisition of reading are developed through interactions with many types of books and stories and extensive experiences with environmental print.

DESIGNING LANGUAGE CURRICULUM FOR CHILDREN WITH DISABILITIES AND LANGUAGE DIFFERENCES

Emergent literacy is a process of literacy acquisition that is flexible and adaptable to various levels of development. Its flexible nature is applicable to children who have special needs for learning in the preschool years. Little modification is needed in many classroom experiences because no set level of participation is required. For example, Mills and Clyde (1991) describe a child with mental retardation in a preschool classroom who used paper and pencil in the housekeeping center to engage in pretend play about cleaning a house. He used his own level of writing skills to make an inventory of the contents of the house.

Adapting the curriculum for children who are hearing impaired or deaf requires more planning and thought because sign language differs from oral
**Story Reenactments**

Story reenactment is a form of retelling a story. Story dramatization encourages oral communication as children discuss the plot, the sequence of events, and the characters' roles. Listening skills are enhanced because the children must pay careful attention to the content of the story before planning the reenactment (Han, 1991). By acting out a story, children strengthen their comprehension and memory of the story. Reenactment is a form of sociodramatic play that includes guidance and direction from the teacher. The teacher thus should help the players use fantasy play in their reenactment of the story (Ishee & Goldhaber, 1990).

A familiar story is used with this form of thematic-fantasy play. "The Three Bears" and "The Three Little Pigs" are two familiar stories commonly suggested for reenactment. The teacher has an important role in making sure that the story has been shared frequently and is well understood by the children. Props and costumes are important. The teacher determines which props are important to the story narrative. The teacher and players review the sequence of the story. During the fantasy play experience, the teacher prompts and cues as the children are guided through the sequence of the story (Johnson et al., 1998). Because children develop their reenactment skills through practice, the reenactment is repeated several times. The teacher continues in the role of director, narrator, and actor but modifies each role as the children become more accomplished in the process (Ishee & Goldhaber, 1990).

Story reenactment helps foster social skills because children must plan and act together. They have to take turns and negotiate their parts just as they do in self-initiated fantasy play. They learn how to cooperate and participate in a group effort (Han, 1991).

**Big-Book Activities**

Big books are enlarged versions of books that are appropriate for young children. They serve the same purposes as any storybook; however, because of their size, they are especially suited to group activities because all children can see the pictures and print. After the text is read, the books can be used for follow-up activities similar to those applicable to dictated group stories. When the book is read and reread, the teacher follows the text with a hand, allowing the children to make the relationships between the story and the written words. As the story is reread frequently, the teacher can highlight different print conventions (such as punctuation), point out letter-sound relationships, refer to spoken and written word relationships, and test comprehension skills, such as the ability to predict what will happen next in the story. For example, when rereading a big-book story, the teacher might do one or more of the following:

1. **Call attention to punctuation marks.** Teacher and children can compare the use of periods, question marks, and exclamation points.
2. **Identify letters and words.** Given a file card with a letter or word written on it, the child can match it with the same letter or word on a page in the story.
3. **Identify letter sounds in the story.** The teacher can point out an important word on a page and help the children identify the beginning and ending sound of the word and the letters that make the sounds.
4. Develop book knowledge. Children can identify such things as where reading begins on a page, when to turn a page, and where the front and back of the book are (Cassady, 1988).

5. Identify uppercase and lowercase letters. Given a card with both uppercase and lowercase forms of a letter, the child can find each form on a page of the big book. Discussion of the uses of uppercase and lowercase letters can be a part of the activity.

**Dictated Stories**

The same strategies that are used with big books can also be used with group-dictated stories. Following re-readings of the dictated story, the teacher can select the print knowledge characteristics that are addressed in the story and conduct activities that will develop the child’s awareness and understanding. Any activities that can be used with big books can also be used with dictated stories. Because both use a large-size format, they are useful for group activities.

**Predictable Books**

Predictable books and stories have a pattern that can be chanted by the children as the teacher reads the story. The predictable pattern can also be used by the children in their own story writing. Two examples of books with predictable patterns are *The Three Billy Goats Gruff* and *Chicken Soup with Rice* (Sendak, 1962). In the poem “Over in the Meadow” (Keats, 1971), the repetitive pattern includes the sequence of numbers from 1 to 10. Through repeated readings of such poems and stories, children learn the rhythm of the poem or sentence patterns and enjoy participating in the reading. When using a repetitive pattern for their own writing, they can exercise their creativity and vocabulary in making their own repetitive statements.

language. The musical features of rhymes are lost when translated into sign language. Dowd (1991) recommends the substitution of physical actions and visual picture clues to help children with hearing impairments make sense of Mother Goose rhymes.

Children whose first language is not English and who are limited in their ability to speak English are in the process of learning English as a second language. Because research literature supports the theory that children use the same process to learn a second language as they do to learn the first, the same emergent process to achieve literacy can be used with them (Abramson, Seda, & Johnson, 1990; Hudelson & Sema, 1997). Activities that integrate reading, writing, and language development will help these children acquire language and literacy in a meaningful context. Dictated stories, journal writing, and the use of books and stories are equally important. The teacher needs to be sensitive to limitations in language among these children and to accept the more limited vocabulary and syntax in their early efforts. Time is needed in oral conversations for these children to consider how to respond in the new language.

Children with language differences are not always provided with literacy strategies found in classrooms where children speak standard English. Misperceptions held by teachers can cause this practice. One belief is that children with language differences need remediation through structured language or skills instruction. Another perception is that these children are unready or unable to engage in emergent literacy activities because of their language limitations. There may also be the perception that there are
few literacy experiences in the child's home environment that will help promote literacy activities at school (Gutierrez, 1993).

Children from diverse backgrounds benefit from the same literacy experiences as other children; however, teachers need to be knowledgeable about the child's language strengths and what kinds of literacy activities are familiar. Grocery lists, notes to friends and family, and functional reading activities might be used in the home. In addition to the regular literacy activities discussed in this chapter, teachers can focus on lessons on the functions of literacy that might be familiar from the home environment. Working with food labels and environmental print are examples of how functional literacy opportunities can be included in the curriculum (Au, 2000).

In a bilingual program in southern Texas, a family literacy project involving young children utilized a whole-language approach to achieving literacy in English. Parents who were Spanish speakers were engaged in an effort to achieve English and literacy simultaneously. The designers of the project used the same strategies that have been described in this chapter and included integrated themes in the learning process. Parents and children worked together in their writing of stories. The authors stressed the need for the acceptance of code switching (i.e., the use of both Spanish and English in language efforts) as this population of learners grew in their ability to write, speak, and read English. Code switching is a natural part of the process of mastering and using the English language (Quintero & Huerta-Macias, 1990).

The thematic curriculum used in the project follows a sequence. The theme study begins with a discussion of the topic. As part of the discussion, parents are given information on how to have meaningful conversations with the children and expand their use of the language. A learning activity following the discussion permits the parents and children to work together in a hands-on activity. Next, a language experience activity engages parent and child in writing projects. The child may dictate a story or write a message. The parent's own level of literacy will dictate how much support will be needed from
the teacher. Story reading is a fourth activity, and an activity for parent and child to take and do at home ends the activities for the session. Because these activities are suitable for children who have limited use of English, they can also be used in preschool classrooms with special attention to adapting teacher language and expectations to the child’s language ability. Abramson et al. (1990) propose that the teacher must use caretaker speech similar to the simplified speech used with infants and toddlers to assist the developing speaker through labeling, clarifying, and extending efforts to speak.

With careful planning, teachers can use the language curriculum with all children. The child’s level of participation will vary or may have to be modified for a specific language difference, but the process and philosophy remain the same. The teacher tunes in to the individual child’s stage of learning and individual combinations of abilities and limitations and finds the activities that the child can take part in to achieve literacy.

CURRICULUM FOR COGNITIVE DEVELOPMENT

In the preschool years, young children are expanding their knowledge about the world. They construct their understanding through encounters with the world. Between the ages of 3 and 5, the child’s thinking process changes as the sensorimotor period proposed by Piaget is left behind and preoperational thought is used to understand experiences the child has in the world. Young children are developing their cognitive capacities in problem solving, reasoning, and abstract concept formation during the years from age 3 to 5 (Bredekamp & Copple, 1997). In this section, I will explore the nature of cognition between ages 3 and 5 and the way in which educators structure the environment, activities, and behaviors to foster cognitive development. I will discuss cognitive development as it applies to science and mathematics. (Social development, or cognitive development, as it is reflected in the content area of social studies, will be discussed in Chapters 9.) I will also consider an example of integrated, thematic curriculum that features language and cognitive development.

It is urgent that a quality cognitive curriculum is introduced to young children in the preschool years. Because students in the United States compare unfavorably in mathematics and science with students from other industrialized countries, there is a national effort to improve the curriculum in these areas. Moreover, the gap in learning appears as early as kindergarten and first grade (Price, 1989; Stevenson, Lee, & Stigler, 1986). The implication for educators of children in early childhood programs is that cognitive development, particularly the study of concepts in mathematics and science, should be a strong component of the preschool curriculum.

How Young Children Develop Concepts

Chapters 4 describes developmental progress in cognition in the early childhood years. The preoperational child has entered a period that includes symbolic thought; the child is able to mentally represent objects and events. Children are controlled by what they see or perceive. Because they focus on one characteristic or attribute of an object at a time (i.e., centrarity), they are unable to organize objects using true classification. For example, if a child is asked to study two sets of objects to determine if they are equivalent, the physical size or arrangement of the objects, rather than just the number of objects in the two sets, will affect the child’s response (Dutton & Dutton, 1991). The child lacks the ability to process multiple comparisons and to conserve.

The process used by the child to construct understanding of concepts involves hands-on interactions with concrete materials. Between the ages of 3 and 5, children develop their schema about concepts through repeated experiences with a variety of materials to explore the possibilities those materials present. An explanation of concept development that reflects Piaget’s theory is that when the child encounters new information, the disequilibrium or cognitive conflict that occurs will challenge the child’s current understanding. However, cognitive limitations in preoperational children might prevent the child from resolving
or clearly understanding new aspects of the concept. The child’s innate capacities are not enough to resolve contradictions between what is known and the new information. Preschool children need scaffolding and other adult guidance, plus interactions with other children, to organize a coherent system of understanding (Landry & Forman, 1999). To engage in this process, children need adequate time to explore, investigate, and reflect, as is demonstrated in the learning cycle in Figure 3.3 (p. 62). The child needs skillful intervention by the teacher who uses the range of strategies described in the teaching continuum in Figure 3.4 (p. 62). Children also need to work in a social context where children and teachers learn as partners as exemplified by the Project Approach and the Reggio Emilia schools (Landry & Forman, 1999). Finally, children need to be introduced to and have experiences with relevant language and symbols that are part of the study of science and mathematics.

Planning for Cognitive Development

To teach 3-year-olds, 7-year-olds, or any other age group, educators must understand how children have acquired the knowledge they already have, and how this knowledge is related to that of adolescents and adults. The only theory in existence that shows this development from birth to adolescence is Piaget’s (Kamil & Ewing, 1996, p. 261).

Extensive research has been conducted on how children acquire concepts in the preoperational period. In addition, information is available about the sequence of concept development in mathematics and science. In setting curriculum goals for cognitive development, educators must become familiar with the nature of progress in cognitive development, the way in which this understanding helps us organize instruction for cognitive curriculum, and the goals and objectives for preschool children.

Children acquire concepts through manipulation, observation, and discovery. According to Piaget, an understanding of concepts is acquired through physical knowledge—the child’s physical interaction with information (Kamii & DeVries, 1993; Piaget & Inhelder, 1969).

Vygotksky believed that social transmission affected both the content of knowledge and the child’s thinking process (Bodrova & Leong, 1996). Both Piaget and Vygotsky believed that children construct their own understanding from their own manipulations and discoveries. The individual child’s schema of concepts varies in content and rate, depending on frequency and context of experience. The child’s ability to understand concepts related to mathematics and science in the preoperational period is developed through discrimination, classification and one-to-one correspondence. Although the child lacks the ability to conserve or process multiple comparisons, she can focus on attributes and make global comparisons. The child can use discrimination to compare shapes, sizes, and colors. Discrimination of characteristics can be used to group objects and to determine what belongs or does not belong to a group.

One-to-one correspondence is a prerequisite to being able to count, add, and subtract. Matching sets of objects precedes the understanding of numbers, whereas seriation leads to the ability to order by size, texture, quantity, and other attributes. Although the child is functioning at a perceptual level, skills are being developed for higher-order cognitive development in science and mathematics.

For preoperational children, learning how to count is a major step in understanding numbers. The child moves through a succession of steps or stages in learning to count. First, the child learns that she needs to use the same number of counting words, or tags, as there are objects even if the counting word order is unconventional. Next, the child understands that the sequence of counting words always follows the same order. The child can then make the connection between numbers and the process of counting (Copley, 2000; Gelman & Gallistel, 1978).

Mathematics experiences prepared for preschool children should take into account the child’s cognitive limitations and present a minimum of perceptual difficulties. Durron and Durron (1991) advise that concrete materials must be made available to manipulate, act on, arrange, and classify. They propose that the available objects should be familiar
from the child’s daily life. Buttons, keys, bottle caps, marbles, and rocks are examples of objects from the child’s environment that provide meaningful mathematical experiences. Children need to use manipulative materials in a variety of ways. Time should be allowed for children to experiment and use trial-and-error approaches. Likewise, the teacher should encourage children to find different uses for the materials and make suggestions but should resist giving them answers to problems (Blake, Hurley, & Arenz, 1995; Copley, 2000).

Learning in science results from a store of concepts that can be used when thinking about or understanding relationships between objects, events, or situations. Through observing and discriminating, children begin to categorize their experiences. First, broad categories are developed, followed by subcategories. Thus, all four-legged animals may be identified as dogs before the child understands the category of animal and subcategories of dogs, cats, cows, horses, and so on. Through discrimination of similarities and differences, the child determines what does or does not belong in a category.

Once the child has a broad base of concepts and can see relationships among concepts, generalizations can be made. The three processes of forming concepts—differentiating, grouping, and labeling—enable children to make sense of the hands-on encounters with the environment. Daily encounters with the environment and concept-building experiences with the teacher and peers are the foundation for acquiring concepts in science (Scull, Seefeldt, & Barbour, 2003).

Likewise, science concepts are learned through discovery and exploration and with experiences that are scaffolded by the teacher. Preoperational children develop a familiarity with the phenomenal world that builds a foundation for later scientific learning. As children explore and experiment with their environment, they acquire the processes of scientific thinking—forming concepts and problem-solving—at the same time that they acquire knowledge about the products of science (biological and physical sciences) (Kami & DeVries, 1993; Landry & Forman, 1999; Worth & Grollman, 2003).

Goals for Cognitive Development: Mathematics and Science

Mathematics is a science of numbers and their operations. For preoperational children, working with math is a process of constructing knowledge about mathematical concepts and engaging in problem solving. Through exploring, grouping, and sorting objects, and making comparisons, young children develop understanding of numbering and its relationship to measuring quantity. The primary goal is for children to acquire understandings that evolve from established standards for mathematics (Campbell, 1999). The National Council of Teachers of Mathematics (2000) has developed standards for mathematics for prekindergarten through second grade. The categories included in the standards are (a) numbers and operations; (b) patterns, functions, and algebra; (c) geometry and spatial sense; (d) measurement; and (e) data analysis and probability.

In 2003, the National Association for the Education of Young Children and the National Council of Teachers of Mathematics issued a position statement regarding how to provide a good beginning in mathematics for young children between the ages of 3 and 6. In a subsequent article (National Association for the Education of Young Children and National Council of Teachers of Mathematics, 2003) examples of knowledge and skills are described in the categories of number and operations, patterns/algebraic thinking, geometry and spatial sense, measurement and displaying and analyzing data (Figure 8.3).

Cognitive development in science follows a slightly different process. Children construct a framework of understanding that is based on observing, thinking, and reflecting on experiences they have engaged in with phenomena in the environment. In the scientific process, children use their experiences to form hypotheses, collect data, make decisions about the hypotheses, and make generalizations about their information. The scientific process includes the following (Brewer, 2004; Scully et al., 2005):

• Observing: Children look for actions or information.
• Classifying and comparing: Children compare and contrast information and group or classify.
<table>
<thead>
<tr>
<th>Content Area</th>
<th>Examples of Typical Knowledge and Skills</th>
<th>Sample Teaching Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Geometry and spatial sense</td>
<td>Begins to match and name 2-D and 3-D shapes, first only with same size and orientation, then shapes that differ in size and orientation (e.g., a large triangle sitting on its point versus a small one sitting on its side). Recognizes and names a variety of 2-D and 3-D shapes (e.g., quadrilaterals, trapezoids, rhombi, hexagons, spheres, cubes) in any orientation. Describes basic features of shapes (e.g., number of sides or angles).</td>
<td>Introduces and labels a wide variety of shapes (e.g., skinny triangles, fat rectangles, prisms) that are in a variety of positions (e.g., a square or a triangle standing on a corner, a cylinder &quot;standing up&quot; or horizontal). Involves children in constructing shapes and talking about their features.</td>
</tr>
<tr>
<td></td>
<td>Uses shapes, separately, to create a picture. Makes a picture by combining shapes.</td>
<td>Encourages children to make pictures or models of familiar objects using shape blocks, paper shapes, or other materials. Encourages children to make and talk about models with blocks and toys. Challenges children to mark a path from a table to the wastebasket with masking tape, then draw a map of the path, adding pictures of objects appearing along the path, such as a table or easel.</td>
</tr>
<tr>
<td>Describes object locations with spatial words such as under and behind and builds simple but meaningful &quot;maps&quot; with toys such as houses, cars, and trees.</td>
<td>Builds, draws, or follows simple maps of familiar places, such as the classroom or playground.</td>
<td></td>
</tr>
<tr>
<td>Measurement</td>
<td>Recognizes and labels measurable attributes of objects (e.g., I need a long string; Is this heavy?). Begins to compare and sort according to these attributes (e.g., more/less, heavy/light; This block is too short to be the bridge).</td>
<td>Tries out various processes and units for measurement and begins to notice different results of one method or another (e.g., what happens when we don't use a standard unit). Makes use of nonstandard measuring tools or uses conventional tools such as a cup or ruler in nonstandard ways (e.g., It's three rulers long). Uses comparing words to model and discuss measuring (e.g., This book feels heavier than that block. I wonder if this block tower is taller than the desk). Uses and creates situations that draw children's attention to the problem of measuring something with two different units (e.g., making garden rows &quot;four shoes&quot; apart, first using a teacher's shoe and then a child's shoe).</td>
</tr>
</tbody>
</table>

FIGURE 8.3 Examples of typical knowledge and skills in mathematics.
<table>
<thead>
<tr>
<th>Content Areas</th>
<th>Examples of Typical Knowledge and Skills From Age 5 and Age 6</th>
<th>Sample Teaching Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pattern/ algebraic thinking</td>
<td>Notices and copies simple repeating patterns, such as a wall of blocks with long, short, long, short, long...</td>
<td>Encourages, models, and discusses patterns (e.g., What's missing? Why do you think that is a pattern? I need a blue next). Engages children in finding color and shape patterns in the environment, number patterns on calendars and charts (e.g., with the numerals 1–100), patterns in arithmetic (e.g., recognizing that when zero is added to a number, the sum is always that number).</td>
</tr>
<tr>
<td>Displaying and analyzing data</td>
<td>Sorts objects and counts and compares the groups formed. Helps to make simple graphs (e.g., a pictograph formed as each child places her own photo in the row indicating her preferred treat—pretzels or crackers).</td>
<td>Invites children to sort and organize collected materials by color, size, shape, etc. Asks them to compare groups to find which group has the most. Uses “not” language to help children analyze their data (e.g., All of these things are red and these things are NOT red). Works with children to make simple numerical summaries such as tables and bar graphs, comparing parts of the data.</td>
</tr>
</tbody>
</table>

**FIGURE 8.3 (continued)**

- Measuring: Data are collected through some type of measurement.
- Communicating: Children share their observations and data collections.
- Experimenting: Children manipulate conditions (e.g., trying a new way to ride a tricycle or experimenting with ways to construct bristle blocks).
- Relating, inferring, and applying: Children draw relationships or determine cause and effect.

Designing programs in science to use the scientific process with preschool children can include topics such as the following: animals, plants, space, water, air, and light. Science curricula can also be organized by categories of science: biological, physical, and earth science. Whatever scheme is used to plan the curriculum, it is organized in a meaningful, child-centered context that encourages young children to discover, explore, reflect on their experiences, and represent their understanding of what they are learning.

Worth and Grollman (2003) have described the characteristics of a high-quality science program. They summarize these characteristics as follows:
- It builds on children's prior experiences, backgrounds, and early theories.
<table>
<thead>
<tr>
<th>Content Area</th>
<th>Examples of Typical Knowledge and Skills From Age 3</th>
<th>Age 6</th>
<th>Sample Teaching Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number and operations</td>
<td>Counts a collection of 1 to 4 items and begins to understand that the last counting word tells “how many.”</td>
<td>Counts and produces (counts out) collections up to 100 using groups of 10.</td>
<td>Models counting of small collections and guides children’s counting in everyday situations, emphasizing that we use one counting word for each object: “One ... two ... three...” Models counting by 10s while making groups of 10s (e.g., 10, 20, 30, ... or 14, 24, 34 ...).</td>
</tr>
<tr>
<td></td>
<td>Quickly “sees” and labels collections of 1 to 3 with a number.</td>
<td>Quickly “sees” and labels with the correct number patterned collections (e.g., dominos) and unpatterned collections of up to about 6 items.</td>
<td>Gives children a brief glimpse (a couple of seconds) of a small collection of items and asks how many there are.</td>
</tr>
<tr>
<td></td>
<td>Adds and subtracts non-verbally when numbers are very low. For example, when one ball and then another are put into the box, expects the box to contain two balls.</td>
<td>Adds or subtracts using counting-based strategies such as counting on (e.g., adding 3 to 5, says “Five ... six, seven, eight”), when numbers and totals do not go beyond 10.</td>
<td>Tells real-life stories involving numbers and a problem. Asks “how many” questions (e.g., How many are left? How many are there now? How many did they start with? How many were added?). Shows children the use of objects, fingers, counting on, guessing, and checking to solve problems.</td>
</tr>
</tbody>
</table>

**FIGURE 8.3 (continued)**

- It draws on children’s curiosity and encourages children to pursue their own questions and develop their own ideas.
- It engages children in in-depth exploration of a topic over time in a carefully prepared environment.
- It encourages children to reflect on, represent, and document their experiences and share and discuss their ideas with others.
- It is embedded in children’s daily work and play and is integrated with other domains.

- It provides access to science experiences for all children. (p. 14)

In summary, cognitive development does not occur in isolation. Just as mathematics and science cannot be separated, cognitive development cannot be separated from physical, social, and language development. Developmental learning is integrated; furthermore, cognitive development as reflected in science and mathematics is best learned within real-life experiences that also promote other skills and
opportunities to represent and express relationships and learning.

The Role of the Teacher in Cognitive Development

The adult's role in facilitating cognitive development includes making plans for including both teacher-directed and child-directed activities and experiences. Using center time, small-group and large-group time, and other scheduled components of the day, opportunities are planned for children to engage in activities that will help them develop and expand concepts. Keeping in mind the processes that young children use to learn, the teacher will consider how to include experiences that will permit observing, manipulating, hypothesizing, testing, inferring, and other procedures that will promote scientific thinking and exploration with mathematical concepts (Worth & Grollman, 2003).

The teacher has a role in supporting or scaffolding the child's learning using the zone of proximal development (ZPD). The ZPD has been described as the difference between what the child can do independently and what the child can do with assistance. The teacher uses various strategies to give the child the needed assistance.

Assisted performance can come from an adult or a peer. It can result from an interaction when another person provides clues, asks questions, or demonstrates for a child. Support can come through setting up the environment with activities that will assist the child. The teacher can physically model a desired skill for a child or provide practice opportunities.

Children have individual needs for assistance using the ZPD. Some children may move ahead rapidly with minimal support, while others may need extensive support to make small gains. The teacher will use different types of structure or assistance depending on the child's strengths and interests.

The ZPD is dynamic. As the child progresses from assisted performance to independent performance, the level of the ZPD is raised. The child is now assisted at a higher level. According to Bodrova and Leong (1996), "What the child did only with assistance yesterday becomes the level of independent performance today. Then, as the child tackles more difficult tasks, a new level of assisted performance emerges" (p. 37). The teacher will also want to keep in mind the sequences of learning that are developmentally appropriate for children in the preschool years and are logical for curriculum planning. The sequence of concrete to abstract ensures that the child will begin exploring a concept using manipulative materials or real phenomena such as plants, animals, and food items. The sequence of simple to complex will be maintained so that learning experiences follow a logical hierarchy that will guide the child's understanding of new information. For example, in working with mathematical concepts, the teacher will first include many experiences with number before adding numeral names. Likewise, the children will need to have confidence in both number and numeral names before counting and combining sets of objects and using the correct numerals with the sets.

The teacher will want to include many opportunities for children to use the sequence of experiencing and representing, particularly in working with concepts in science. Experiencing is part of the scientific process of observing, manipulating, ordering, and classifying. The child first needs to directly experience the concept. Representing is the child's opportunity to reflect on what is being understood. In science terms, inferring from data or making a decision about a hypothesis are methods of using representation to reflect knowledge being acquired. The child can use representation in math activities to practice or apply what is being learned.

The teacher will also consider how best to organize learning experiences. When is it best to plan teacher-directed activities for exploration, and when can children freely explore on their own? How much teacher guidance is needed for children to experiment with a concept? For example, if children are learning about plants, how much adult guidance is needed in planting seeds and monitoring the watering cycle? Which teacher-directed learning activities are best for small groups, and when are large-group times more effective? The processes for child-centered learning that are developmentally appropriate are combined
with the unique characteristics of concept development in science and mathematics to plan meaningful, interesting activities for the children.

**The Role of the Environment and Play in Cognitive Development**

If children are to actively explore concepts in science and mathematics, then the environment is an essential element. The classroom needs to have a center for exploration of mathematical and scientific materials. The center needs to have a multitude of common objects for working with numbers. Collections of many different objects from the community can be used for work in mathematics. Buttons, bottle caps, dried beans, nuts, shells, and other natural objects can be used as resources for the math center (Perry, 2004).

The science center can include insect cages, small animal cages, magnifiers, a terrarium, microscopes, aquarium, rock and mineral collections, plants, and many other resources (Barufaldi, Ladd, & Moses, 1984). A changing array of additional items can be introduced as part of thematic units throughout the year. Physical science activities should be a part of the environment. Children need opportunities to explore physical properties of objects through explorations of water, sand, things that roll, and blocks (Sprung, 1996).

Parron and Kokoski (1996, p. 59) suggest that quality early childhood environments should include evidence of science, mathematics, and technology. They list the following essentials:

- A science–mathematics center
- A clearly defined library/resource center rich with science, mathematics, and technology information and literature
- Live plants and animals
- Construction materials and supplies accessible to your children and in sufficient quantities (i.e., wood chips, fabric scraps, boxes, paint, glue)
- Computers, calculators, microscopes, hand lenses, and multimedia available and in use throughout the day
- Student projects, inventions, and constructions displayed

- Running water, sinks, and sufficient electrical outlets
- A productive hum and children planning, negotiating, and moving about the room in purposeful engagement

Copley (2000) recommends that the following be part of the environment and mathematics materials in the preschool classroom:

The physical environment, including the math materials available to children, is basic to the mathematics curriculum. Math materials include concrete manipulatives (e.g., blocks, counters, base-10 blocks, pattern blocks, attribute blocks, two-color counters, plastic people, a variety of containers, measuring materials, tangrams), symbolic materials (dice, dominos, number lines, graphs, specific computer programs, and other visual models), and more abstract representations (plastic numerals, 100 chart, price tags from store items, grocery store lists, building plans, calculators, computers, and telephone books). (p. 15)

Absent from this list are natural and found materials described earlier. A materials-rich environment would include natural items of all types that can be counted, measured, weighed, and organized using classification schemes.

Not to be forgotten is the significance of the outdoor environment. If science and mathematics are to be understood as part of the child's world, the outdoor environment should be an extended classroom where much of the work can take place (Perry, 2004). A study of the weather would incorporate many outdoor activities. Children could explore weather phenomena such as wind, rain, sun, clouds, and weather changes (Huffman, 1996). The nearby community can also be explored for materials that expand the child's encounters with concepts.

If children are to learn through free exploration, then play is an essential ingredient in cognitive development. Much of what is learned is the result not of planned experiences but of incidental circumstances that occur during play. Children learn about weather when they observe leaves blowing in the wind or when a rain shower moves to the playground. Children
playing at a water table indoors learn about the qualities of water and what objects will sink and float in water through experimentation during a play experience.

Guided discovery of concepts can also achieve a similar result. The teacher can guide water table play and discuss the concepts of floating and sinking as items with which to experiment are introduced and observed. Guided observation of wind movement can be accomplished with a group activity using paper streamers on a windy day. The point is that not all concept development occurs as a result of teacher planning. Concepts are being learned through play in all indoor learning centers and outdoors during unstructured play. The teacher can use serendipitous play opportunities to guide awareness and understanding of nature and other components of science. More significant is that the outdoor environment should be perceived as the most important location for scientific knowledge to develop.

THE INTEGRATED CURRICULUM

The activities that have been described thus far for language and cognitive development in mathematics and science are examples of developmentally appropriate activities for 3-, 4-, and 5-year-old preschool children. They have also been offered to exemplify the content of language and cognitive development curriculum that forms the preschool program for preoperational children. These activities demonstrate the nature of experiences that young children can engage in to acquire new concepts. The activities require active interaction on the part of the child; moreover, they involve hands-on manipulative materials or experiences with realia or artifacts. Nevertheless, the activities as described are isolated or independent, with no necessary relationship to other components of the curriculum.

A more productive approach to developing curriculum is to place experiences into meaningful contexts. Opportunities to move from simple to complex, concrete to abstract, and experiencing to representing what has been learned result from a series of connected activities that permit the child to explore and reflect on information through a variety of encounters. In this section, I will examine how interrelated experiences that focus on language and cognitive development can encourage children to explore and understand the connectedness in learning. In a broader sense, I will discuss how all domains of development are interrelated and integrated into curriculum. Creativity is likewise an important element in integrated curriculum. Integration of curriculum through thematic units using various components of the curriculum is enhanced by activities that also promote creative expression.

Development and Integrated Curriculum

In this part of the chapter, we are thinking about how domains of development can be combined or integrated within projects or thematic units. We need to remind ourselves at this point that all domains of development are interrelated. A child's language development affects social interactions. Likewise, fine
MATHEMATICS EXPERIENCES THAT PROMOTE COGNITIVE DEVELOPMENT: MEASUREMENT

Pretty Ribbons
Checklist Skill: Level III, Identification, Discrimination, and Classification Skills
Objective 7: Discriminates differences in the size of object (big/little, long/short)
Cut six to eight different ribbons into two lengths, one obviously shorter than the other. Introduce the activity to the child by identifying one ribbon as being long and the other as short. Ask the child to find another short or long ribbon. After experiences with finding short and long ribbons, ask the child to put all the long ribbons together and all the short ribbons together.
Materials Needed: Six to eight ribbons cut to two lengths

Measuring Hands
Checklist Skill: Level IV, Quantitative and Problem Solving
Objective 6: Compares differences in dimension (taller/shorter, longer/shorter, thinner/wider)
Make handprints of children using tempera paint or have the children trace an outline of their hands using crayons. Identify the handprints and have the children cut them out. Use the prints to compare widths of hand spans. Children can compare two or more handprints to determine which is the widest and narrowest. A group of handprints can be ordered from narrow to wide. Handprints can be used to measure books or other classroom items.
Materials Needed: Paper, tempera paint or crayons, scissors

Ruler Activity
Checklist Skill: Level V, Quantitative and Problem Solving
Objective 11: Compares distance (height, width, length) to an independent object
This activity is designed to acquaint children with measurement using a ruler. The ruler is introduced to the children, and markings for measurement are discussed. A collection of items are compared with the ruler. The children must determine if each item is longer or shorter than the ruler.
Materials Needed: 12-inch ruler, 5 to 10 items that are longer or shorter than 1 foot (Tinkertoy sticks, pencils, lengths of string, paper strips, etc.)

Walking and Measuring
Checklist Skill: Level V, Quantitative and Problem Solving
Objective 11: Compares distance (height, width, length) to an independent object
Show the children how to make large measurements using walking strides. On the playground, have the children practice measuring distances between two objects such
as two jump ropes or stones that have been placed several yards apart. Once the children are familiar with counting strides between two objects, have them compare distances. They can compare distances between trees, playground equipment, or other objects that have been placed different distances apart.

**Materials Needed:** Items that can be measured using walking strides

**MATHEMATICS EXPERIENCES THAT PROMOTE COGNITIVE DEVELOPMENT: NUMBER**

**Egg Counting**

**Checklist Skill:** Level III, Quantitative and Problem Solving

**Objective 2:** Counts by rote from 1 to 5

Using plastic Easter eggs, place one to five small items in each egg. Have children take turns opening an egg and counting the number of items. As an alternative, give children a set of eggs up to five and have them count their eggs.

**Materials Needed:** Plastic eggs, small items such as beans or dried corn to put inside the eggs

**Concentration**

**Checklist Skill:** Level IV, Quantitative and Problem Solving

**Objective 7:** Demonstrates one-to-one correspondence

Use a set of cards that have pairs of pictures. Place them face down and let the children take turns trying to turn two cards over to match a pair.

**Materials Needed:** Set of 10 to 20 cards with pairs of identical pictures

**Counting Steps**

**Checklist Skill:** Level IV, Quantitative and Problem Solving

**Objective 1:** Counts by rote from 1 to 10

As you climb a set of stairs, count each step with the children. Vary how many steps you climb or descend. Once the children are familiar with the process, place an item on one of the stairs and let the children take turns counting the number of steps to the item. Let the children take turns placing the item on a step for another child.

**Materials Needed:** Stairs, large item such as a unit block to serve as a marker

**Comparing Clothes**

**Checklist Skill:** Level V, Quantitative and Problem Solving

**Objective 7:** Compares elements of unequal sets (more than/fewer than)

This activity combines one-to-one correspondence, counting, and graphing. Select items of clothing to compare. Have all the children wearing blue pants stand. Using
beads and shoelaces, have a child string a bead for each blue pair of pants. Count the number of beads on the string. Repeat with other colors of pants, shirts, styles of shoes, and so on. Use a different color bead for each string. When each string is completed, hang them on a coat hanger or rod. Label each string. Let the children compare which string has the most, least, and so on. The strings can be ordered to make a graph demonstrating the comparisons in number. A similar activity could be conducted using stacks of 1-inch blocks of different colors.

**Materials Needed:** Beads, strings, paper labels, marking pen, coat hanger or wooden rod

**Egg Carton Numbers**

**Checklist Skill:** Level V, Quantitative and Problem Solving

**Objective 2:** Demonstrates the concept of numbers through 10

Place numerals in random order in the bottom of an egg carton. Give the children beans, dried corn, or other small objects to count out for each number.

**Materials Needed:** Egg carton with numerals to 10 in random order; beans or other small counters

**Two, Four, Six, Eight**

**Checklist Skill:** Level V, Quantitative and Problem Solving

**Objective 6:** Groups objects into sets of equal number

Organize objects into sets of equal number up to 10. Give the child one of the sets and ask the child to make two sets with the same number. Ask the child to count each set to make sure they both are the same. Repeat with other even-numbered sets.

**Materials Needed:** 10 objects

**MATHEMATICS EXPERIENCES THAT PROMOTE COGNITIVE DEVELOPMENT: GEOMETRY**

**Sorting Shapes**

**Checklist Skill:** Level III, Concept Development

**Objective 6:** Discriminates differences in the shape of objects (round, square, triangular)

Make a collection of classroom toys, blocks, and the like that are round, square, and triangular. On pieces of construction paper, make a large drawing of each shape. Encourage the children to examine the objects and place them on the appropriate shape picture.

**Materials Needed:** Classroom objects that are round, square, and triangular
My Shape Book

Checklist Skill: Level IV, Concept Development
Objective 1: Points to basic shapes (circle, square, rectangle, triangle) on request.
Make each child a booklet in the shape of one of the shapes to be learned. Supply the children with magazine pictures that have the desired shape. Have the children cut out the shape pictures and put them in the appropriate book. As an alternative, let the children draw pictures that include the shape.

Materials Needed: Shape books, scissors, paste, crayons

Bead Patterns

Checklist Skill: Level IV, Concept Development
Objective 5: Identifies likenesses and differences in two or more objects (shape, size, color)
Have a string and collection of beads for each child. Demonstrate how to make a pattern of beads. Ask the children to duplicate your pattern. When the children are familiar with the process, let them take turns making the pattern to be copied.

Materials Needed: Strings and large assortment of wooden beads of different shapes and colors

EXPERIENCES THAT PROMOTE COGNITIVE DEVELOPMENT: MATHEMATICAL REASONING

Making Stairs

Checklist Skill: Level V, Concept Development
Objective 12: Seriates (arranges) objects by size
Give each child a handful of pieces of paper 1 inch square. Show them how to make a stair by making a series of lines of squares, each one longer than the one before. The same activity can be conducted using wooden cubes.

Materials Needed: Pieces of paper cut into 1-inch squares; wooden inch cubes

Sorting Nuts

Checklist Skill: Level V, Concept Development
Objective 8: Classifies foods (fruits, vegetables, meats)

Make a collection of different types of nuts (walnuts, peanuts, pecans, etc.). Ask the child to sort the nuts by type (all the pecans, peanuts, etc.). Then ask the child to determine a criterion for sorting (size, texture, etc.) A similar classification activity can be conducted with a collection of shells with more complex possibilities for classification.

Materials Needed: An assortment of nuts in their original shells
The Button Game
Checklist Skill: Level V, Concept Development
Objective 11: Identifies and classifies common objects by shape (circle, rectangle, triangle, oval, square)
Make a large collection of buttons. Begin the game by making a set of buttons based on shape, size, or color. Ask the children to guess the common characteristic of the set. Make another set using another criterion, such as number of holes or texture of the buttons. Encourage the children to take turns making sets using different characteristics of the buttons.

Materials Needed: Large collection of buttons

Science Experiences that Promote Cognitive Development: Observing
The activities that follow are described using the categories of science processes described earlier (Scully, Seefeldt & Barbour, 2003) and are not coordinated with a checklist skill. In addition, they are suitable for preschool children ages 3 to 5 with some adaptation.

Mud Puddles
On a rainy day, take the children where they can observe puddles forming in the soil. Discuss why puddles form in some locations and not in others. If the rain continues for some time, the size of the puddles can be measured and compared. After the rain is over, the puddles can continue to be observed and measured as the water evaporates. The children can also be guided to observe the drying process of the ground, trees, and so on.

Materials Needed: Yardstick to measure length and width of puddles

Watching the Clouds Go By
Take the children outdoors to a location where they can lie down and watch the clouds go by. Let them observe the cloud movement on a fairly windy day so that they can see the clouds changing. They can repeat the observation several times and note differences in types of clouds, numbers of clouds, and the way clouds look when it rains. Names of types of clouds can be discussed with older children. If clouds are observed daily, a calendar might be used to record the type of clouds observed over a period of about 2 weeks.

Materials Needed: None
Outdoor Sounds

Take the children for a walk outdoors. Draw their attention to the sounds that they can hear. Discuss the difference between types of sounds such as bird or natural sounds versus man-made sounds from vehicles, machinery, and so on. After the walk, let the children contribute to a group-dictated story or let each child draw a picture of something observed during the walk that made a sound and dictate a story about the picture.

Materials Needed: Paper for dictated stories, marking pen, crayons

SCIENCE EXPERIENCES THAT PROMOTE COGNITIVE DEVELOPMENT: CLASSIFYING AND COMPARING

Sorting Types of Animals

Use a collection of pictures of different types of animals such as zoo animals, farm animals, and animals that are pets. For 3-year-olds, discuss one type of animal. After discussing each animal in a group such as farm animals, mix a few farm animal pictures with zoo animal pictures. Encourage the children to decide which are farm animals and which are not farm animals. Repeat with more pictures.

For older children, three sets of animals may be compared. After discussing each set of animals separately, combine all the pictures and ask the children to sort them into their appropriate group. Give them a picture clue of each type of animal to guide the classification.

Materials Needed: Sets of animal pictures for zoo animals, farm animals, and pet animals

SCIENCE EXPERIENCES THAT PROMOTE COGNITIVE DEVELOPMENT: MEASURING

Measuring Plants

Plant rapidly growing plants such as beans. Cut different colored strips of cardboard to measure 3 inches, 6 inches, 9 inches, and 12 inches. After the plants have sprouted, measure the plants once a week. Chart the growth of the plants until they have grown to 12 inches. Individual plants can be compared as to rate of growth. Children can try the different size measures to determine which is the closest to the plant’s height on the day it is measured.

Materials Needed: Bean plants; measures for 3, 6, 9, and 12 inches
SCIENCE EXPERIENCES THAT PROMOTE COGNITIVE DEVELOPMENT: EXPERIMENTING

**Making New Colors**

Place shallow containers of tempera paint of the three primary colors where the children can reach them. Give each child small clear plastic cups and a spoon. Show the children how two primary colors can be mixed to make a new color. Show them how to make different combinations in their cups. Encourage them to observe and compare their color mixtures with the mixtures made by other children. Guide them to discuss why their colors are not the same. Follow up the activity with opportunities for the children to easel paint using the primary colors for further experimentation.

**Materials Needed:** Three containers of paint in primary colors, small plastic cups, spoons

**Cooking Tools and Machines**

Collect a hand electric mixer, blender, manual egg beater, and a potato masher. Explore what the children know about the use of these kitchen appliances and tools. Plan to make some scrambled eggs or mashed potatoes. Prepare some eggs in the blender or electric mixer and the manual egg beater. Discuss how each mixes the eggs and how the electric machines are the same as and different from the manual egg beater. A similar discussion can be conducted comparing the electric mixer, blender, and manual potato masher. If both foods are cooked, the children can observe and discuss why eggs are mixed or whipped before cooking and potatoes are mixed or whipped after cooking.

**Materials Needed:** Hand electric mixer, blender, manual egg beater, potato masher, eggs, potatoes, facilities for cooking eggs or potatoes

**The Food Grinder**

Have available a piece of beef and ground beef. Discuss the texture of the two meats and discuss how ground beef is prepared before hamburgers are made. Help the children hypothesize how meat and other foods are ground as part of the process of preparing food. Show the children a manual food grinder that has not been assembled. Help the children assemble the grinder and predict the purpose of the different parts of the grinder. After the grinder has been assembled and attached to a surface, grind some cooked chicken or cheese to make sandwiches. Grind pickles or other ingredients as part of the grinding process. Let the children grind and mix the ground food with mayonnaise to make a sandwich spread.

**Materials Needed:** Hand food grinder, cooked chicken or cheese to grind, mayonnaise, mixing bowl and spoon, crackers or bread slices to make small sandwiches for sampling
motor development is related to emergent writing and engagement in thematic projects and activities. Each domain of development supports and benefits the other domains. Thus, integrated curriculum also encourages interrelated domains of development.

**Creativity and Integrated Curriculum**

Although this chapter focuses on language development and literacy and cognitive development, creativity and creative expression are also important facets in the integrated curriculum. Music, art, dramatic role playing, and appreciation of the expressive arts broaden our understanding of the terms interrelated and integrated. Thus, as we discuss projects and units as part of integrated curriculum in this and following chapters, we define it as inclusive of all domains of development and creative expression.

Integrated curriculum lends itself to many opportunities for creative expression. Art projects are common methods for children to reflect what they are learning. Murals, drawings, paintings, and construction of models are some examples of opportunities for creativity through art. Role playing in learning centers and stories related to thematic units promote expression through the dramatic arts.

Music serves as a wonderful vehicle for language, literacy, mathematics, and science. Research has found positive relationships between using music to teach multiplication tables and early literacy skills to include the alphabet and vocabulary (Standley & Hughes, 1997).

Songs, both new and familiar, are resources for integrated curriculum development. They are flexible in that they can be paired with physical movement and using the senses of touch and hearing to hear and play instruments. Music can foster creativity as children explore different rhythms and sing poems and nursery rhymes. The volume and speed of songs can be adjusted to match the needs of children with cognitive or language delays (Riggenberry, 2003).

Children’s storybooks are a common source that is used to develop thematic units. Some of these stories particularly lend themselves to story songs. Some examples are *Over in the Meadow* (Cabera, 1999), *Brown Bear, Brown Bear* (Marrin, 1996), and *Row, Row, Row Your Boat* (Goodhart, 1997). When added to vocabulary, dictation, art, and science activities, story songs developed from favorite stories and nursery rhymes can be important elements of an integrated curriculum.

**Using Thematic Units as a Focus for Integrated Curriculum**

A science-based curriculum called ScienceStart has been developed and field-tested in Rochester, New
York (Conzelo & French, 2002). The goal of the curriculum is for children to construct an integrated knowledge base about the world around them. Everyday experiences provide the source of science learning. One example is given of children learning about fall leaves and how rules help to gather them. Another topic was generated when a child painting at an easel accidentally discovered that blue and yellow mixed together made green. Through the process of exploring science topics, program developers hoped to expand receptive and expressive language skills as well as skills in problem identification, analysis, and solution. The developers further propose that an integrated curriculum based on science involves more complex language use and literature studies than when content is taught as separate curriculum areas. Head Start teachers using the ScienceStart curriculum noted the benefits to language and literacy (Conzelo & French, 2002):

- Nonfiction books become a powerful foundation for conversations with adults and peers.
- Vocabulary growth is supported by children’s prior knowledge and experiences of the everyday world, coupled with observations and hands-on activities.
- Receptive language (listening comprehension) is fostered as children listen to the teacher read aloud and talk about the science activity.
- Expressive language is fostered as the teacher leads children through a cycle of scientific reasoning and especially as the teacher supports the children in developing a report of their findings.
- Science helps children who are English language learners to participate in the classroom and learn English. (p. 16)

Finally, the Head Start teachers and program developers noted that science connects easily into an integrated curriculum that includes math, artistic expression, and social studies.

A Project Unit on Pizzas

A pizza project following the Project Approach (see Chapter 3) was developed to meet some of the state math standards in Illinois (Wootson, Beneke, & Helm, 2003). After the children voted on pizzas from a list of ideas, teachers and children mapped (or webbed) the topic to find out what the children knew about pizzas (see Figure 8.4). During this initial phase of the project, the children explored tools used to make pizza. The category of tools was added to the map after children had some experiences with them.

During this stage of the project, children used the tools for various purposes. They drew, constructed, labeled, and used the tools. Thus, they were engaged in art, writing, and experimenting (science). Children also explored various types of pizza toppings.

As the unit progressed, the children made two visits to pizza parlors. Children sketched machinery and used to grind sausage and grate cheese. They also made their own pizza pies.

In the classroom, the children converted the dramatic play center into a pizza parlor and constructed models of the grinding machine and pizza warmer. At the end of the unit, a pizza party was held for the children’s families. Parents watched videos of the field trips and looked at displays of drawings, writings, paintings, and constructions.

From the planning to evaluation stages, teachers were focused on meeting state standards in mathematics. In reality, they found that the integrated curriculum met early learning standards in all domains. The teachers recognized that integrated curriculum implemented through projects could be organized to meet many state expectations for children’s development and learning.

**DESIGNING COGNITIVE CURRICULUM FOR CHILDREN WITH DISABILITIES**

The nature of cognitive activities that are planned for preschool children makes them readily adaptable to a range of development levels. Because the activities are predominantly concrete experiences, children who are developmentally delayed can also benefit from interactions that permit them opportunities to use their senses and cognitive abilities to learn. The teacher
must be sensitive, however, to adaptations that might be necessary for children who have special needs.

Children who have visual limitations must substitute touch for sight. When studying a concept such as shape, they need many opportunities to trace or use tactile skills to experience the physical configuration of different shapes. Developmentally delayed children will need to spend more time engaging in experiences focused on a single shape, whereas other children, particularly 4- and 5-year-olds, may be able to work with more than one shape and discriminate between them.

Children with language differences will need opportunities to build vocabulary that accompanies new concepts. Children whose first language is not English may need to use their home language vocabulary at first and add English when they demonstrate competence with the new knowledge. All children will need many opportunities to discuss information related to cognitive learning, but children with language differences benefit from the teacher's awareness of progress they are making in acquiring targeted vocabulary. Whatever special needs the individual child may have, the teacher can be alert to adaptations that will make an experience more accessible.

Through an understanding of each child's strengths and learning style, the cognitive curriculum can be organized to be meaningful to all preschool children.

Two teachers in Indiana collaborated to develop thematic curriculum that would enhance language development for young learners who are at risk. One teacher, a language development teacher, worked with a kindergarten classroom teacher. The purpose of the combined curriculum is to provide support language and literacy growth for at-risk learners within the regular classroom environment.

An example of their thematic curriculum was a unit based on *There's a Nightmare in My Closet*, by M. Mayer (1968). One activity that was intended to assist children with limited language was to reread the story every day during the week with the result that children were verbally anticipating sentence endings. Some children were able to choral read the story from memory.
after a few readings. Another activity was for children to act out concepts in the book. The teachers developed prop boxes for dramatic play that reinforced concepts and events in the book. The teachers found that their own professional growth was advanced through their combined planning in an inclusive setting. They felt that their thematic curriculum approach was an effective avenue to meet needs of all children in the classroom while providing important experiences for children with language needs (Bergeron, Werneth, Rhodes, & Rudenga, 1996).

### SUMMARY

The curriculum for language and cognitive development in the preschool years is based on our understanding of how young children acquire concepts and language. Although educators used to believe that acquisition of literacy was based on the ability to master a sequence of readiness skills leading to beginning reading, the current understanding is that it is based on a cognitive developmental process within each child. The internal cognitive mechanism that facilitates acquisition of language and other forms of cognition also explains how the child achieves literacy.

There are contrasting theories of language acquisition. It is known that children develop the ability to use language by maturing and by receiving opportunities to hear and use language. They learn a set of rules that they use to create their own utterances. Within the first 3 years, they master the forms of language that are used in their language community.

The acquisition of literacy follows a similar pattern. Literacy begins in infancy when the child is exposed to stories, books, and examples of written language. The child’s progress into literacy is based on the language and literacy experiences that are available in the home environment.

By the time children enter preschool programs, they have acquired some level of language and literacy; however, they will differ because of the variations in circumstances in their home environment. The role of the teacher is to establish the school environment and curriculum to encourage further development. The teacher develops ongoing possibilities for children to use oral language and literature experiences. In addition, opportunities are provided and physical arrangements are made to encourage dramatic play, writing, art, and emergent reading activities.

The teacher uses similar planning processes to promote the child’s cognitive development in science and mathematics. Piaget’s cognitive development theory...
as it relates to the preoperational child is reflected in the categories of cognitive topics that are proposed for preschool children in mathematics and science.

The environment has an important role in the child's opportunities to learn about mathematics and science. Learning centers that offer a changing array of natural and man-made resources promote opportunities to explore, experiment, hypothesize, and reflect on phenomena and concepts in these two subjects. The outdoor area provides a natural learning center for planned and natural experiences. Weather, the path of the sun, and other elements of nature can be experienced on a regular basis.

The teacher organizes curriculum that includes a balance between child-planned and teacher-guided activities. Mathematics and science are explored within a milieu that includes a rich assortment of materials that incorporate all aspects of the curriculum.

Although individual activities that are developmentally appropriate are beneficial for learning, language and concept development experienced within an integrated approach is more meaningful. One approach to integrating curriculum involves using children's literature, another uses thematic topics as sources for curriculum development. If a book for young children serves as the stimulus for curriculum design, learning center activities and small-group and large-group activities are planned as extensions or expansions of the content of the book. A thematic unit, on the other hand, originates with a topic to be explored. The activities selected for the topic not only center on the knowledge related to the topic but also incorporate meaningful activities in all areas of development that permit application of concepts and skills. Cognitive development in language, literacy, mathematics, and science is part of this comprehensive approach to learning, which can be accomplished through adhering to integrated thematic units.

**STUDY QUESTIONS**

1. How do children acquire language?
2. How is acquisition of literacy related to the acquisition of language?
3. Why are there differences in children's abilities to speak in the preschool years?
4. What implications do these language differences have for the language curriculum in preschool programs?
5. What forms of emergent writing do preschool children use?
6. How is play an essential part of learning to speak? Describe the role of play in language development.
7. What kinds of roles can the teacher play in encouraging the use of expressive language? How does the teacher extend receptive language?
8. What kinds of language experiences lead to literacy in reading and writing?
9. What is the difference in philosophy between reading readiness and emergent literacy? What does each approach imply for the curriculum?
10. What is the difference between emergent writing activities in preschool classrooms and formal writing lessons?
11. What are the most significant activities in the home that promote literacy in the years between age 3 and age 5?
12. What do children learn about print as part of the process of acquiring literacy?
13. What is the nature of literacy development in bilingual children? Why do they have unique language and literacy needs?
14. Why are physical experiences with manipulative materials important in the cognitive curriculum designed for preoperational children?
15. Why are goals for mathematics similar to those for science in the preschool curriculum?
16. Why are both teacher-guided and child-planned activities important in the curriculum for cognitive development?
17. How does integrated curriculum support development in all domains?
CHAPTER NINE

Preschool Curriculum: Ages 3 to 5
Social and Physical Development

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Understand social development and life changes affecting social development.
2. Describe goals for social development in the preschool years.
3. List the components of social science.
4. Explain the role of the teacher, environment, and play for social development.
5. Describe curriculum designed for social development and social science.
6. Explain how integrated curriculum is designed for social science.
7. Understand physical development in the preschool years.
8. Understand the role of play, the environment, and the teacher in physical development.
9. Describe how to design curriculum for physical development.
10. Explain how physical development activities are designed for children with disabilities.
CURRICULUM FOR SOCIAL DEVELOPMENT

Understanding Social Development

The preschool years are very important ones for social development. During this period, young children make the transition to becoming social beings. As infants and toddlers, they focused on themselves and viewed the world from that perspective. In the preschool years, young children enter the world of social interactions and learn to make a place for themselves in the social world. The first tentative steps that the toddler took toward interacting with others now evolve further. The child develops an interest in being with other children and being accepted into social groups.

During the preschool years, children are experiencing the stages that Erikson (1963) termed autonomy versus doubt and initiative versus guilt. As the child seeks autonomy, he learns self-control and self-assertion. At age 4 or 5, the child becomes more interested in reaching out to the world. The child wants to use initiative to formulate ideas for dramatic play and wants to be a part of a group in play activities. Four- and 5-year-olds are developing leadership skills. They like to participate in making plans and decisions within a group; however, they are more likely to use their enthusiasm to initiate a project than to seek satisfaction from its completion (Hendrick, 1998).

Because these children are in the preoperational period, their social development is related to their progress in cognitive development. The egocentric nature of their thinking affects their social interactions. They may be unaware of the effects their actions have on others; they are easily confused by misleading cues. For example, a young child may have difficulty in initiating a play activity with another child because he uses inappropriate behavior to get the other child’s attention. The 3-year-old child may be surprised to find out that interfering with another child’s efforts to mold clay sand is not appreciated. As the child becomes less egocentric during the ages of 4 and 5, he becomes more sensitive to the thoughts and feelings of others. This awareness can be transferred into social successes (Santrock, 2002).

Older preschoolers are challenged to learn how to make and keep friends. Learning how to interact with others and to adjust their actions to fit individual expectations are major tasks in establishing friendships. Moreover, children have to learn that social interactions with adults are different from those with their peers. Peer relationships are reciprocal and dynamic. Friends must negotiate the relationship and cooperate in working out boundaries. When boundaries are crossed, the individuals must make accommodations if the friendship is to continue (Burk, 1996).

The child’s self-concept is an important component of social development in the preschool years. As they become less egocentric, young children develop a perception of themselves that is more stable. They have feelings about themselves and make self-evaluations about themselves that can be positive or negative. The goal is for the children to develop self-confidence and positive self-esteem. Social interactions and friendships affect the child’s perception of himself as competent and successful (Bredekamp & Copple, 1997).

Social development is centered on the child’s growing ability to become a part of group interactions; therefore, the use of the term curriculum for social development can seem awkward. Indeed, Hendrick (1998) reminds us that social development is not taught through artificially contrived group activities but emerges from the child’s daily experiences with peers and adults. Development in social skills is the major goal for children between the ages of 3 and 5 at this time they are also becoming able to understand the larger world in which they live. Curriculum for preschoolers can address both types of social development.

Life Changes That Affect Social Development

In Chapter 1, the idea of diversity in children was discussed. Different types of diversity were mentioned, including differences in families and change
in families that affect children. These life changes can affect the child's social development. Devall and Cahill (1995) categorized life changes into three categories: developmental change, critical change, and catastrophic change. Developmental change is normal and experienced by every child. Most children can cope with changes that occur because of development, such as entering school for the first time. Critical changes are those that cause a major adjustment in the child’s life. Moving to a new home or community or experiencing the arrival of a new baby is a critical change in a child’s life. Catastrophic change is a severe, unexpected event that seriously affects the child and family. Accidents, death of a family member, and experiencing violence are examples of events that result in catastrophic change (Jewett & Peterson, 2003).

Life changes may not be only negative. There are positive life changes that can also affect the child’s social development. The reality of working mothers has forced adjustments on children, but many fathers are now taking a more active role in the home and with their children. Households in dual-worker families are taking on more of the child-rearing responsibilities. Fathers who want to spend more time with their children and have a closer relationship are on the rise (Holcomb, 1994).

Not all children experience difficulties in social development because of life changes. There are major differences in how children react to significant changes in their lives. Many children are resilient; that is, they are not negatively affected by stresses caused by change. Personality characteristics affect resilience, as do the number of change factors the child experiences. The more risk factors, the more likely that a child’s development will suffer. The presence of a caring adult in an enduring relationship helps protect a child from the negative consequences of change.

Rapid social changes in our society have resulted in catastrophic life changes for children; however, Elkind (1992) believes that we are moving toward a more stable society exemplified by the "vital family." The vital family is more concerned about social and parental responsibility, especially for the young and less fortunate. Parents in the vital family still are concerned with career and their need to succeed; nevertheless, they are also concerned about the need for a healthy family and each member's need to love and belong.

Critical and catastrophic life changes do not affect all children, but many have become common in American culture. Among the serious events that can be categorized as critical or catastrophic are child abuse, violence, and serious illness or death in the family.

Child Abuse

Child abuse occurs in many forms that can have different effects on children's behavior. A child can be physically or sexually abused. Physical neglect and emotional maltreatment are also forms of abuse. Children who have been abused are frequently withdrawn and depressed. Physically abused children may be uncomfortable with physical contact and wear inappropriate clothing to cover their body. Sexually abused children may have poor self-esteem and be unable to interact with their peers. They may use inappropriate sex play and express seduction in their play.

Physically neglected children are frequently absent or tardy and regularly are listless or fatigued when they are at school. They might steal food when they are hungry or ask classmates for food. Emotionally maltreated children exhibit behavior extremes from passive to aggressive. They might have habit disorders such as sucking and rocking or might be inhibited in play activities. It is difficult to detect long-term effects of abuse and neglect. Although some causes and effects have been documented, such outcomes are complex and inconclusive (Starr, 1990). Nevertheless, teachers need to be alert to social difficulties and symptoms exhibited by young children. They can provide a safe school environment and can work to ease positive social development in young abused children.

Violence

Community violence has doubled since the 1950s. Young children in many inner-city neighborhoods are exposed to high rates of violence so that children’s
social and emotional adjustment in the classroom is affected. The presence of social support in the child's life is a positive factor in the child's adjustment. Children who have social support are less affected than children who do not have social support (Oddone, 2002).

Children may also witness or be victims of domestic violence. How much children witness this violence is unknown, but children in a home where the mother is battered are more likely to be physically abused as well. Young children are vulnerable to domestic violence because they witness assaults between parents. Children who experience violence are likely to exhibit distress, immature behavior, and regressions in development (Osofsky, 1995).

Young children who repeatedly experience violent situations may begin to show signs of post-traumatic stress disorder (PTSD). Children with PTSD experience recurrent flashbacks in which the threatening event is relived and the child becomes extremely withdrawn or exhibits acting-out behaviors. Children may blame themselves for the traumatic events and try to avoid triggering further events. Children suffering from PTSD also may suffer from sleep deprivation as a result of night terrors, hypervigilance, and frequent startle responses. Teachers working with traumatized children need to provide stability and predictability. These children need healing relationships that provide security and consistency.

Serious Illness and Death

Many young children experience a serious illness and must be hospitalized. Some young children also experience a serious illness by a family member or friend of the family. Serious illnesses are difficult to understand. Being in the hospital or visiting someone in the hospital might be frightening for the young child. Young children need to be informed and prepared about the nature and work of hospitals. This is true whether they will be hospitalized or visit someone who is very ill in the hospital.

Experiencing the death of a friend or loved one is even more difficult for young children. Preschool children ages 3 to 5 may not understand time and permanence and thus see death as temporary. Death may be linked with sleep. Children who have experienced death of a loved one may become anxious about separating from their parents, may be afraid to fall asleep, and may seek attention. They may want to stay home from school. If one parent has died, they might be afraid that the other parent will also die, and they do not want to be away from home (Westmoreland, 1996).

When a child dies, classmates and peer friends are affected. Many schools provide counseling and intervention for students who have experienced shock and grief because of the event (Hopkins, 2002). Goldman (1996) suggests that children and parents need to be informed about the facts about the child's death. They might benefit from the opportunity to participate in memorializing the child who has died.

In this chapter, I will address the means for fostering social development and the curriculum for social science. In the section that follows, these two aspects of the social science program will be described. Goals for planning for social development and for planning the social science curriculum will be discussed as separate parts of the program for social development.

Planning for Social Development

Social science is the study of people; through the study of the social sciences, children learn about other people (Jarolimek, 1996). However, before young children can understand and appreciate other people, they must understand themselves. Thus, social development is a prerequisite for appreciating social science.

Unless children develop positive views of self, they are not likely to develop positive views of others; unless children appreciate their culture they are not likely to appreciate another's culture; unless children have self-respect, they are not likely to have respect for others; unless children experience success and self-worth, they are not likely to perceive others as worthy. As children look into the psychological looking glass, whatever they see in themselves, they tend to view a similar reflection of others. These mirroring effects emerge as children interact
in the social world. (Schickedanz, York, Stewart, & White, 1990, pp. 282–283)

Success in social development is critical in the preschool years; consequently, the plans made for social development in the program for 3- to 5-year-olds can have a significant role. They can affect the child’s growth toward the development of autonomy and industry. The foundations established through experiences in social development in turn will make it possible for the developing child to appreciate other people in his expanding understanding of the world.

Goals for Social Development

Preschool children are in the process of learning ways to live in harmony with others, both adults and other children. Social learning, then, is related to understanding how to get along with others. In planning for social development, the teacher has to keep in mind the relationship between development and learning. The goals for social development are based on children’s developing social needs and might include self-concept, gender identity, socialization, and multicultural understandings and sensitivities.

Self-Concept. Young children need to develop a good self-image. If parents and teachers can nurture this characteristic in young children, many other kinds of development are enhanced. The child’s positive concept of himself results from successful encounters with the environment. The child who experiences success with people and events in life comes to value himself as an important person. Supportive adults in a supportive environment are the ingredients needed for the establishment of self-concept.

Gender Identity. Between the ages of 3 and 5, young children become very aware of their gender. Five-year-olds frequently discuss what boys or girls are “supposed to do.” The process begins with parental behaviors that identify with the gender of the infant. During the preschool years, children develop an awareness of the appropriate behaviors expected of males and females. Much effort has been expended in recent years to encourage nonstereotyped relationships between parents and their young children; nevertheless, the way that parents and other adults relate to the gender of their children affects personality and self-concept. The differentiated relationship that parents and teachers have with boys and girls results in different expectations and interactions.

Awareness of ethnic identity parallels knowledge of gender identity. As children realize they are boys or girls, they begin to recognize the behaviors and expectations that are held for them. Preschool children also become aware of their ethnic identity and what gender roles their individual family and culture expect of them.

In a multicultural world, gender identity is more complex. Gender expectations vary by ethnic and cultural groups. How preschoolers perceive their gender is affected by family, peers, and their social environment. Moreover, social changes are impacting all ethnic and cultural groups. Understanding gender and ethnic identity is a complex task for preschool children. This understanding is facilitated when gender roles are not rigidly and stereotypically defined in their environment (Berk, 2001; Trawick-Smith, 2000).

Socialization. Socialization, or the ability to get along with other people, begins very early in life. As children learn cooperation, sharing, and helping skills, they make progress in socialization. The child finds the adjustment to school or an early childhood center to be easily achieved when his socialization is compatible with the expectations of the school. If the child’s socialization does not conform to the group setting or school environment, he finds the expectations and adjustments very difficult. Successful socialization development in turn depends on other developmental skills, controlling and expressing feelings appropriately, developing empathy, and developing prosocial skills.

Very young children must learn to control and express their feelings in an appropriate manner. Infants and toddlers begin this process and refine it in the preschool years. The child from age 3 to 5 has the difficult task of learning how to express anger in
an appropriate manner and how to verbalize frustrating feelings to adults. In addition, the child must learn how to deal with another child's anger and frustration. Young children learn that they have many kinds of feelings: fear, happiness, anger, surprise, contentment. Being able to identify their feelings and act on them appropriately is part of the process of socialization.

As children become less egocentric and more sensitive to others, they become aware that other children may be feeling and experiencing differently than they are. Awareness and sensitivity lead to empathy. Very young children begin to develop a positive regard for others. In the preschool years, empathy can lead to generosity, compassion, and concern. Children who develop empathy are able to react appropriately to another person's feelings or circumstances. Thus, the preschooler can comfort a crying child or help a frustrated child complete a difficult puzzle. The child who can express and act on empathy is developing socialization skills.

Socialization requires additional abilities, frequently described as prosocial skills. Prosocial skills are strategies that enable the young child to enter and successfully interact with a social group. The child must learn how to ask for a toy, engage in successful sharing, gain acceptance in a group play situation, and deal with inappropriate behavior on the part of other children. The process that begins with toddlers continues into the elementary school years; nevertheless, it is during the preschool years that the pattern of success or failure in prosocial skills becomes important (Hendrick, 1998; Maxim, 1997).

Multicultural Understandings and Sensitivities.
Racial bias and misunderstanding can begin at a very early age; conversely, understanding and acceptance of ethnic and cultural differences can also begin very early. Preschool children can become accustomed to differences in skin color, ethnicity, and language. They can be nurtured to accept these differences as normal and equally valued by the teacher, other children, and society at large. The preschool setting should offer dolls, books, and other materials and activities that reflect diversity in a positive manner. Children can become sensitive to and appreciative of similarities and differences in children and their families (Pastrnak, 2003; Ramsey, 1987).

Research regarding acceptance of children of different ethnic groups is encouraging. Some studies report that peer acceptance is usually not related to ethnicity (Howes & Wu, 1990). It is thought that schools might be playing a positive role in this respect when they help children to understand each other and facilitate cross-cultural peer relationships (Trawick-Smith, 2000).

Goals for Social Science
Earlier, I mentioned that the goal for social development is for young children to develop the capability to understand and value themselves and get along with others. Social development is part of the foundation of understanding the social sciences. The major goal for social science in turn is to develop people who have self-respect and self-worth and who can become productive contributors to society. Achieving this broad goal is a lifelong process that begins with the socialization of the very young child.

In the primary grades, social science is understood within a content field that includes psychology, history, geography, economics, sociology, and anthropology. These areas of study continue throughout the years of formal schooling. Although preschool children cannot comprehend the specialized fields that are grouped within social studies, they can develop the foundations for understanding them.

Psychology.
Psychology involves the understanding of human behavior. For the young child, understanding relates to self-concept. Children can understand themselves as unique individuals who are competent. They can also come to understand that there are individual and group similarities and differences in homes, families, and individuals.

History.
History is the study of the events of the past and the forces and changes that caused the events. Young children are not able to comprehend the passage of time, but they can understand their own
history and past. They can learn about themselves and changes they have gone through in their development as well as interesting events in their family history. They are interested in hearing stories about the past and exploring artifacts from earlier times.

**Geography.** Geography relates to characteristics of the earth’s environment and the relationship between different environments and peoples. Young children cannot understand distant characteristics of geography, but they can relate to the more familiar and local characteristics. They can visit nearby environments and understand what is meant by geographic differences and what it means to travel from one location to another. They can become familiar with physical features and geographic differences in their community.

**Economics.** Young children cannot understand the comprehensive nature of a nation’s economy and the role of goods, services, and the monetary system as a vehicle of exchange; however, they can address economic concepts that affect their own lives. Young children can begin to develop an awareness of the purposes of commercials on television and other advertising media. They can come to understand the differences between acquiring things that are needed and those that are wanted. They can learn the way in which choices must be made, depending on how much money one has. They can also understand how people buy services and goods and how people depend on each other to acquire money for their needs.

**Sociology.** Sociology is the study of how people live in groups and communities. Young children cannot comprehend how people organize themselves into groups, communities, and nations and develop social classes and institutions. They can understand the social groups that are closest to their own experiences. They can understand the family as a social unit and extend the concept to relate to the school and immediate community near their home.

**Anthropology.** Anthropology is the study of cultures and diverse lifestyles; it is the study of the art, music, institutions, beliefs, dress, food, religion, and celebrations of different cultures. Although preschool
children cannot address the cultural differences of unfamiliar cultures, they can relate to cultural diversities within their own community. They can learn about cultural variety by experiencing many ongoing activities. In addition, they can engage in an appreciation of cultural and social differences and the contributions of different cultural groups in their community. Teachers can promote multicultural understanding to address and prevent prejudices, discrimination, and stereotypes that are prevalent in our larger society today (Santrock, 2002; Serfaldt, 2004).

Ultimately, the goals for social development and social science are very similar. The first focuses on the child and his social world; the second focuses on social groups and how the world of social groups function. Because the young child first relates to his immediate world and social group, social development and the study of social sciences emerge from that environment and world. In the sections that follow, I will discuss the role of the teacher and the environment in promoting social development. The importance of play as a socialization tool in the child’s environment will be described, especially those facets of play (such as dramatic play) that are vehicles for the child’s social development.

The Role of Play in Social Development

Although infants and toddlers are more likely to play by themselves or engage in parallel play alongside another child, children between the ages of 3 and 5 enter the world of true social play. They try out social interactions in all types of play—for example, when involved in physical play on complex climbing structures, playing with wheel toys, or exploring sand and water. The richest opportunities for learning social skills, however, develop through dramatic play.

When very young children develop the ability to use pretense in their play, they can engage in dramatic play. As they move away from egocentricity and cooperate with others in pretend play, they can interact with other children in sociodramatic play. Studies of the benefits of sociodramatic play have revealed a correlation between sociodramatic play and social and cognitive competence (Garvey, 1977; Smilansky, 1968). Through fantasy play with peers, children learn social skills; moreover, the amount and frequency of fantasy play predict social skills, popularity, and positive social activity (Connelly & Doyle, 1984; Johnson, Chrisrie, & Yankey, 1999; Worsham, 2005d).

Beatty (1992) described some specific benefits of sociodramatic play. When children are involved in dramatic play roles, they are learning socialization skills. Fantasy play episodes involve peer pressure for appropriate social behaviors as well as an understanding of the negative social effects of aggression. Children learn how to resolve interpersonal conflicts when observing other children using successful strategies. Role playing allows children to try on different roles, such as that of mother, father, sibling, or friend. As a result of engaging in planning and implementation of fantasy play themes, children learn both leader and follower roles. As they use their imagination and creativity to develop themes and roles for sociodramatic play, they learn the difference between fantasy and reality.

Sociodramatic play permits children to express how they feel. Preschool children are unable to verbalize their feelings. Through play, they can express positive feelings such as joy and contentment as well as aggressive feelings.

Play can be cathartic. Children use play to understand traumatic experiences by re-creating the event over and over until their intensity of feelings has been diminished. Likewise, children can express negative feelings of aggression through play and move beyond them when they have been resolved (Sandreuth & Hohmeyer, 1996; Worsham, 2005d).

There are individual differences in social competence and play in preschool children. Children who are less competent in peer interactions tend to have differences in sociability in elementary school. Variations in social competence have been traced to genetic differences, parenting style and effectiveness in child rearing, and effective peer relations (Rubin & Coplan, 1998).

If teachers are to provide opportunities for sociodramatic play for preschool children, they will have
to set up the environment to facilitate fantasy play themes and encourage appropriate social behaviors. In addition, they must become sensitive to their role in enabling children to develop social skills.

**The Role of the Environment in Social Development**

Because play is an important component for social development, the preschool classroom environment also has an important role in social development and the social science curriculum. Before children engage in sociodramatic play, space and materials must be available both indoors and outdoors. The homemaking or dramatic play center is the area most commonly thought of as the location for fantasy play themes; however, in reality, children engage in sociodramatic play in the block and truck center, art center, and other classroom areas. Outdoors, play themes can originate on the complex climbing structure or in a playground setting and then move to the playground as children act out the fantasy situation.

The arrangement of the environment can affect the development and use of social skills. If the classroom is organized so that children have access to play materials, then positive social behaviors are more likely to be used. Children need time and space to be able to interact appropriately; in addition, play opportunities and materials must continually challenge and interest them. Beasy (1992, p. 206) suggests that the following factors in the learning environment can cause inappropriate social behaviors:

1. Too few activities and materials
2. Activities and materials not appropriate for developmental levels of children
3. Too much room to run around
4. Activity areas not clearly defined
5. Classroom geared for total group activities rather than individual and small-group activities
6. No duplicates of favorite toys or materials
7. No change in old materials, books, toys

The daily routine or schedule can also encourage the use of social skills. Young children need the security of predictability in the routines from day to day. They are comfortable when they know what will be happening during the day. When normal routines are changed for field trips, holiday celebrations, and other special occasions, children are likely to react with excitement and difficulty in following normal expectations for behavior. When changes are unavoidable, children will respond more positively if they are prepared for schedule differences beforehand.

The need for predictability extends to classroom rules and expectations for appropriate behavior. When children know the kinds of behaviors that are acceptable for different classroom and outdoor activities, they are better prepared to demonstrate their cooperation with appropriate social skills. They need to have a voice in establishing classroom rules and frequent response to whether the rules are being followed successfully. Children between the ages of 3 and 5 need many opportunities to learn classroom procedures and benefit from reminders before their behavior gets out of control and firm measures must be taken to restore order. Young children want to use appropriate behavior. When the classroom is arranged to maximize active involvement in challenging activities and expectations for appropriate social behaviors are clearly understood, preschool children are more likely to respond positively with their developing social skills.

**The Role of the Teacher in Social Development**

The teacher has a direct role in helping children acquire social skills and make progress in social development. The teacher must prepare the environment for sociodramatic play and appropriate social behaviors, but young children also need help in controlling their behavior. The teacher will need to develop strategies for helping children manage their behavior, develop activities for fostering and improving sociodramatic play, and plan the social science curriculum (Garrett, 2002).

In spite of the teacher's best efforts to set the tone of the classroom to encourage pro-social skills, young children have difficulty in maintaining appropriate
behaviors. As a result, the teacher is forced to intervene when unsocial impulses cause a child to misbehave. When children break rules for appropriate behavior, the teacher must take steps to correct the situation. If a child attempts to use physical aggression to hurt another child, immediate steps must be taken to prohibit the child from making further attempts to use the behavior. To help the child acquire more long-term controls, the teacher can initiate steps that will lead toward the goal. The child can be reminded of the rule and the consequences for breaking it, redirected to a more appropriate activity, isolated and given the opportunity to discuss feelings, asked to indicate when he feels able to return to an activity and use appropriate behavior, or help to choose another activity (Hendrick, 1998). Children need to know what to expect when they lose control and feel assured that the teacher will take steps to help them stay within the limits for appropriate social behaviors.

Sometimes children use inappropriate behaviors because they do not know how to use prosocial skills. They do not know how to use positive alternatives to interact with other children. These children need direct suggestions for using successful behaviors. Children can be shown how to offer to contribute to a playgroup or play alongside a play activity until accepted into a group. They can be taught how to ask for a turn with a toy and to apologize when they are responsible for accidentally (or deliberately) hurting another child. The teacher shows approval and gives positive response when positive behaviors are used.

The preschool teacher's goal is to help students become socially competent. There are many strategies teachers can use to accomplish this goal to include making children aware of others' feelings and helping children enter ongoing discussions in an appropriate manner. Teachers can increase social competence by guiding children in improving their interactive skills in order to develop positive relationships. Children can also be taught to take turns, to negotiate with others, and to use positive language when rejecting a request by another child to play or engage in an activity together. Most important, teachers can work to minimize inappropriate forms of teasing and bullying (Guttrell, 2002; Katz & McClellan, 1997).

Similar direct and indirect teacher behaviors can be used to nurture and extend children's sociodramatic play. Although teachers should avoid excessive intervention in children's play, observation can indicate when children would benefit from adult involvement to extend and further develop their play. The teacher can join a play episode as a coplayer but can leave the children in charge of the play theme. Suggestions can be made about materials or equipment that could extend the play. The adult can model new approaches for dramatic play or tutor the children by demonstrating possibilities through questions or responding to children's actions and verbalizations. Most important, the teacher can encourage further sociodramatic play by showing approval of the play activity and demonstrating appreciation for the children's development of fantasy play themes (Johnson et al., 1999).

The teacher's role in developing the social science curriculum is also significant. Many teachers believe that preschool children are too young to learn about social studies because they lack the experience and cognitive abilities to relate to the components of the curriculum. Teachers of young children can involve them in social science at their own level, which will not only further their development as members of their immediate social group but also add to their experiences in the social world in which they and their family live.

*Designing Curriculum for Social Development*

**Fostering Social Development**

I have discussed the meaning of social development in the preschool years and the goals for social development in preschool children. I have also explained that the curriculum for social development is the social learning that young children acquire from daily experiences in their environment. There is no written curriculum or curriculum topic that teachers organize into group activities so that children can learn how to get along with others. There are, however, categories
of social development skills that teachers and children can address in the preschool classroom. Two major social accomplishments that young children must master in their social world are self-management skills and social participation skills. To this end, there are strategies teachers can use to develop these competencies in young children within group discussions and play experiences. Following are some activities teachers can use to foster social development in preschool children; these activities are based on research of preschool children's peer acceptance and social interaction (Kemple, 1991).

ACTIVITIES FOR FOSTERING SOCIAL INTERACTIONS

Fostering Social Skills
Children who are lacking social skills can learn them from children who are socially competent. The teacher can organize special play sessions where less effective children are paired with children who have acquired effective social skills. Through play experiences, the less skilled child can learn to play more effectively.

Overcoming Social Isolation
Some children may understand social skills but are unable to use them. Sometimes pairing these children with a younger child will give them the confidence they need. When socially isolated children are exposed to play sessions with younger children, they may become more socially involved because they feel comfortable with younger children.

Learning Social Alternatives
Many children use aggression because they do not understand alternative strategies to resolve conflicts. Planned activities can be used to teach children alternative strategies that are more successful than aggression. The teacher can initiate skits, puppet activities, and group discussions involving hypothetical situations. Children can become involved in the problem and in determining alternative solutions. Children are encouraged to increase the number of appropriate strategies they might try.

Learning Prosocial and Empathic Behavior
Children who are popular are helpful and cooperative. Many children are not helpful because they do not recognize situations in which they can be of assistance. Through observation, teachers can determine whether students are empathic and how they can be helped to cooperate and offer assistance. The teacher can create opportunities for a child to demonstrate helpfulness or point out situations when the child can be helpful to another child who is in need or in distress.

Can I Play?
Many young children have difficulty entering a playgroup. One solution may be for the teacher to guide the isolated child to a smaller playgroup or a more cooperative group.
The teacher can tutor the child to identify the play theme and think of a role that can be played that would contribute to the group's play.

**Improving Social Communication Skills**

Children who have difficulty maintaining a play episode are unable to communicate effectively with playmates. Teachers can provide guidance on how to clarify communication within the play episode. The teacher can instruct a child to be more specific in an explanation. An unpopular child can be guided to be sensitive to the negative emotional cues that indicate that another child does not like the unpopular child's behavior or actions.

**Helping Children Who Have No Friends**

Peers should not be forced to play with a child; however, there are ways that teachers can facilitate that child's acceptance into the peer group. The teacher can interpret the child's positive intentions to the other children and guide them toward helping the child successfully play with them. Teacher strategies can facilitate peer understanding and empathy for the child who has difficulty in making friends. The peer group can then help the child become more successful in play interactions.

**Designing Curriculum for Social Science**

In a previous section, I discussed the components of the social science curriculum and the way in which it applies to young children of ages 3 to 5. In this section, I will describe how these components are carried out into learning experiences that are developmentally appropriate. Because children have their own limitations in cognition and experience, there are certain criteria for curriculum design: (a) the curriculum should emphasize direct activities, such as taking field trips, utilizing resource persons, and examining real things, and (b) the curriculum should focus on the children.

Young children learn best about the social world in meaningful contexts; therefore, integrated curriculum is the best framework to use for planning. The teacher should plan units based on social science themes that permit young children to use their senses and receptive and expressive language to reflect on the information they are encountering. If the curriculum is to be based on the children themselves, the units of study should center on their life histories, families, homes, and feelings. They can also extend their social world to include their peers, the school, and the society of the community. Schickedanz et al. (1990) suggest that the social science curriculum be organized around two major categories: (a) understanding self and family and (b) understanding people and society. These two categories are further divided into major theme possibilities as follows:

**Understanding Self and Family**

Understanding Self
Each Individual Has Worth and Dignity
Personal History
Feelings Can Be Expressed in Acceptable Ways
Death as a Part of Life
Divorce and the Young Child
Coping with Crisis Situations

**Understanding People and Society**

The Family Unit Is Basic in a Society
People Have Rights
People Have Responsibilities
People Have Needs and Desires
Rules Are Necessary When People Live in Groups
People Live in Communities
People Produce and Consume Goods and Services
People Do Different Types of Work
People Travel in Various Ways and Send Messages
People Represent Many Cultures
Important People of the Past and Present
Understanding Cultural Diversity
Values, Customs, and Traditions

These topics would have to be further simplified to make them applicable for preschool children age 5 and younger; nevertheless, they represent many of the significant topics in the social science curriculum that have been discussed earlier. When planning a unit, the teacher will plan unit activities with the children so that all may express their interest in the unit and the kinds of information they would like to find out from working on unit experiences and activities. In the activities described next, examples are given of some of the topics related to the social world of children that will extend their understanding of social science concepts. Then, an example of an integrated thematic topic will be described to demonstrate how social science activities can be enriched by being integrated with other areas of development using direct experiences.

Designing Integrated Curriculum in Social Science

Social science concepts are learned best in a meaningful context. Preschoolers need to be involved in real experiences if they are to understand concepts about their social world. It is recommended that social science activities be closely related to their personal lives. One topic that is pertinent to young children is understanding themselves. In the integrated social science curriculum described next, the unit called “Beautiful Me!” (Strasser, 2000–2001), can be related to the social science topics “Understanding Self” and “People Represent Many Cultures.” A kindergarten teacher in a racially and ethnically diverse community developed the Beautiful Me! unit to help the children in her class recognize and appreciate the diversity in their physical characteristics. Creative writing and art projects support the theme of understanding diversity.

The first objective in the unit is to introduce picture books that encourage discussions about diversity and to develop descriptive vocabulary that they can use to describe themselves and their friends. The class discussed the picture books to consider stereotypes of race, ethnicity, and disabilities and to help them recognize their commonalities and appreciate their differences.

The main portion of the unit was devoted to opportunities for the children to depict themselves and their friends using paper, crayons, paints, and markers. Suggested unit-culminating projects can include life-size body tracings of each child, making puppets of family members, and creating individual books in which children can depict themselves, members of their families, and their friends. Other related activities can include the following:

- A photo book of children and teachers in the school showing differences in hair types and styles
- A collage of people who are physically different using old magazines and catalogs
- A graph of the eye colors and hair colors of children in the class
- Asking the students to make a Beautiful Me! book about themselves

Examples of picture books that support the Beautiful Me! unit are the following:

ACTIVITIES FOR SOCIAL SCIENCE

Understanding Historical Time
Preschoolers have a very limited understanding of past and future time. Because of their preoperational mode of thinking, they can understand past and future events only when they are described in relation to the present day. They can understand the passage of time based on the events of each day. Activities that include discussions of what happened earlier in the day and will happen later in the day help them attend to the nature of passing time.

Celebrating birthdays and marking a monthly calendar can help older children build an awareness of the passage of days. Children can develop a foundation for historical perspective by taking part in activities that include the ages of different members of the family and their ranks based on time that has passed.

Grandparents and Oral History
Children are interested in things that have happened to their family a long time ago. Children are fascinated by stories told of real-life experiences related to family history; resource people who can tell such stories are integral to this activity. If grandparents or surrogate grandparents can bring artifacts that represent their earlier life and share them with young children, the children gain a meaningful awareness of their social heritage. For example, a grandmother in Iowa brought a butter churn to the classroom. She demonstrated with the children how it was used to make butter. She showed a picture of the house she lived in when she was a little girl. The children were able to discuss how homes today compare with their grandmother’s house; they could also compare the way we get butter today at a store with the way the grandmother had to churn her own butter when she was a child.

Death and the Life Cycle
Even young children need to understand that there is a cycle in life that ends in death. Many young children have experienced the death of a pet or seen a dead insect or plant. An experience with growing plants can help them to understand the life cycle. Teachers and children can plant seeds, nurture the growing plants, and enjoy the flowers that bloom when the plants are mature. Children need to experience the rest of the cycle, when the plant dies and decays. They can discuss what has happened to the plant and how seeds can be harvested from the flowers to make future plants. They can have a similar experience with a gourd or melon vine or a potato plant.

Understanding Transportation
All children notice different types of vehicles that pass their school, child care center, or own home. They can learn the transportation purposes that different kinds of vehicles serve. Children can discuss the different types of vehicles that pass a corner for a given period of time. The teacher can record the names of the vehicles or photograph
them. The children can then study the photos and determine what was transported in the vehicle. They can decide whether the vehicle’s purpose is to transport people or some type of goods or is used to perform a service.

**Neighborhood Structures**
A similar activity can be conducted with buildings in the neighborhood. Children can note the types of buildings they see on a brief walk and decide whether they are homes or stores or serve another purpose. They can discuss the many kinds of buildings in a community. As a follow-up activity, they might construct their own community structures with blocks or make models out of cardboard boxes.

**Understand Change**
One way to teach children what happens with the passage of time and how people live together in a community is to provide them with activities that show how things change. Children might take a walk near the school or center and note locations that are in the process of being built or changed. Next, they might search for places that indicate wear and aging, such as cracks or potholes in the street or paint that is peeling from a building. Areas being remodeled or renewed can be identified. The purpose is for the child to understand that change is a part of life.

**Want and Need**
Children need to differentiate between things that they want and things that they need. After a discussion of the difference, children might look through magazines for pictures and make a collage of things they would like to have on one side and things they need on the other side. As an alternative activity, a group mural could be constructed.

**School Workers**
Children can become aware of the different people who provide a service for them at their school or center. The teacher can take them to visit workers and observe what they do. The worker can then visit the classroom and discuss how the children are served through their efforts. The children can dictate stories about each worker and illustrate the story. A class book can be made of the stories.

**Designing Integrated Curriculum for Children’s Life Changes**
The integrated curriculum described here includes the concept of multiple types of family groups. It is sensitive to the reality that many children do not live in the traditional family unit composed of father, mother, and children. Other variations in children’s lives must also be accommodated into integrated curriculum. Such a unit for social science is described by Wellhausen (1996). A study of homes is an appropriate topic for young children; nevertheless, children live in many types of homes. Some children are homeless and
live in a shelter. A web used to demonstrate how children from diverse home settings can understand the concept of home includes types of homes and who lives in homes. In Figure 9.1, types of homes include shelters, mobile homes, and condominiums. This is one example of a curriculum topic that incorporates life changes that children experience.

I have also discussed in previous chapters that integrated curriculum units should originate with children's interests and needs. Curriculum should be centered in children's planning rather than always being planned by the teacher. Unit topics can focus on life changes that children in the classroom are encountering. Themes of study can emerge from critical events in the students' lives. Devall and Cahill (1995) have developed thematic projects that can use play as a focus for experiences. In Figure 9.2, different life changes are listed in the first column. Suggestions for child-centered activities for each project or topic are listed in four columns.

Integrated units in the preschool years can have their origin in any category of development; however, as has been pointed out several times, other types of development are also interfaced with integrated curriculum. This is especially true of physical development. Preschool children are physically involved when they are learning and playing. Nonetheless, the preschool program should include curriculum for physical development that extends beyond self-initiated or informal play activities to include activities that involve gross and fine motor skills. The next section discusses the nature of physical development in the preschool years and appropriate curriculum to encourage physical activities.

![Diagram of a sample web on homes](image_url)

**FIGURE 9.1** A sample web on homes.

<table>
<thead>
<tr>
<th>Project topics</th>
<th>Dramatic play props</th>
<th>Literary props</th>
<th>Display ideas</th>
<th>Field trips and visitors</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>The children themselves Babies—the birth of a sibling</td>
<td>Crib, doll, changing table, diapers, clothes, bottles, baby food, bathtubs, washcloths and towel</td>
<td>&quot;Parenting&quot; books with photos, baby announcement cards</td>
<td>Baby photos of children and teachers</td>
<td>Invite parents with infants to share care routines; visit nursery at local hospital</td>
<td>As with all dramatic play, allow children to choose own roles</td>
</tr>
<tr>
<td>The children themselves Families—marriage, remarriage, and adoption</td>
<td>Items from a variety of traditions: candles, bouquets, &quot;fancy&quot; clothing, music, foods</td>
<td>Paper for writing invitations and thank-you cards</td>
<td>Photos of family adoption ceremonies; wedding and anniversary celebrations</td>
<td>Field trip to hospital; tour facility; ride gurney; meet the staff</td>
<td></td>
</tr>
<tr>
<td>Local community—Healthy community Hospital—going to the hospital</td>
<td>Stethoscope, bandages, gowns, surgical outfits, dolls, food, toys, bed, flowers, &quot;X-ray machines&quot;</td>
<td>Get-well cards, prescription pads, &quot;medicine bottles with written directions, receptionist materials</td>
<td>Photographs of children's doctors, nurses and dentists and of interior and exterior of local hospital</td>
<td>Visit kindergartens at local schools; ride school bus; invite last year's class to talk about kindergarten</td>
<td></td>
</tr>
<tr>
<td>Local community—Elementary school—transition to a new school</td>
<td>Construct a school bus from large boxes and chairs; bus driver outfit; backpacks, lunch boxes</td>
<td>Class roster for taking attendance, map of local school route, &quot;school&quot; props</td>
<td>Photographs of local elementary school, various kindergarten classrooms, kindergarten teachers</td>
<td>Visit a local veterinary office or animal hospital</td>
<td>Reenactment of pet funeral; only if idea emerges from children</td>
</tr>
<tr>
<td>Local community—The vet's office—death of a pet</td>
<td>Stuffed animals, leashes, blankets, bandages, stethoscope, strip thermometer, &quot;X-ray machines&quot;</td>
<td>Prescription pad, telephone, phone books, message pads, calendar, appointment book</td>
<td>Photographs of family pets, favorite animals</td>
<td>Visit a local veterinary office or animal hospital</td>
<td></td>
</tr>
<tr>
<td>Place Neighborhood—moving to a new home</td>
<td>Suitcases, cardboard boxes, tape, paper for wrapping items</td>
<td>Markers, labels for identifying boxes, change-of-address cards</td>
<td>Photographs of homes of children and teachers; pictures of all types of homes</td>
<td>Invite local moving company to bring moving van, dolly, etc.; simulate a garage sale; construct a moving van</td>
<td></td>
</tr>
</tbody>
</table>

*Adapted from project topics suggested by Kazé and Chard (1990).

**FIGURE 9.2 Projects and activities on life changes.**

CURRICULUM FOR PHYSICAL DEVELOPMENT

Peter Paul and Amos

Peter Paul and Amos are sitting under a tree enjoying a glass of lemonade. They have been playing chase around the trees in the backyard of Peter Paul’s house and are thirsty. They are munching on peanut butter cookies that Peter Paul’s mother brought them for a snack. When Amos is finished, he pulls himself onto a low limb and looks for more limbs he can use to climb. “I can climb very high,” he announces to Peter Paul. Not to be outdone, Peter Paul abandons his lemonade and runs to another nearby tree.

“I can, too,” he calls to Amos.

“Not as high as I can,” challenges Amos.

There is silence for a few minutes as each boy slowly makes his way up a few feet more.

“I am as high as a jet,” Amos calls to Peter Paul. “I am as high as the sky,” Peter Paul responds.

The preschool years are significant for physical development. The emerging locomotor skills practiced by infants and toddlers are improved and refined during the preschool years. Preschoolers spend many hours in active play that exercises gross and fine motor skills. They need abundant time for play, both indoors and outdoors. In this part of the chapter, I will discuss how physical development is part of the curriculum for 3- to 5-year-olds and how the teacher can prepare the environment and plan opportunities for children to exercise their bodies to develop physical abilities.

Understanding Physical Development

Physical development is referred to as motor development because the young child is using fine and gross motor movement in physical activities. It is also described as perceptual-motor development because there is interdependency between perception and motor skills. Motor behavior and changes in motor abilities follow perceptual actions.

In Chapter 4, I described the characteristics of physical development in 3- to 5-year-olds. The Frost-Wortham developmental checklists describe major milestones in fine and gross motor skills at each developmental level. In this chapter, I will address physical development as it involves perceptual-motor development. As the child develops the capacity to manage more complex sensory input, more skillful motor behavior follows (Jambor, 1990). The components of these interactive elements of sensory and physical actions constitute perceptual-motor development.

Components of Perceptual-Motor Development

Fundamental movement skills are developed during the preschool years. Frost (1992, p. 46) describes these movement skills as follows:

- Gross motor activities: Throwing, catching, kicking, jumping, swinging
- Fine motor activities: Cutting lace, hammering, buttoning, pouring
- Body awareness activities: Naming, pointing, identifying, moving, and performing tasks using body parts
- Spatial awareness activities: Moving, exploring, locating, comparing, and identifying using walking, running, catching, rolling, and going through tunnels and mazes
- Directional awareness activities: Moving, stationing, pointing, identifying, and imitating using body objects and apparatuses
- Balance activities: Walking, bounding, and clapping using balance beams and boards, trampoline, and springboards
- Integration activities: Hitting moving ball, tracking moving objects, matching visual and motor responses, responding to auditory signals
- Expressive activities: Working with art, music, dance, and dramatic play
These categories of skills can be further explained as follows (Gallahue, 1993):

Gross motor skills: Locomotor skills; movements using large motor abilities

Fine motor skills: Skills using fingers and hands that promote development of strength and flexibility in the fingers

Body awareness: The capacity to discriminate among the parts of the body and to understand how the body works—what parts of the body can do

Spatial awareness: Perceptual-motor development that permits children to orient themselves in space; includes understanding how much space their body occupies and how to locate themselves and objects in space

Directional awareness: Refers to directionality and laterality; the child is able to understand location and direction as it relates to the position of his or her body (left and right, up and down, front and back); also refers to the ability to see or understand direction in space; children must be able to perceive directionality of print on the page in the English language to be able to read

Temporal awareness: Refers to the relatedness between the body and time; related to physical coordination; rhythm, synchrony, and sequencing necessary for coordinated physical performance

Children's ability to control their bodies affects all other areas of development. The ability to use fine and gross motor skills affects the child's feeling of competence and is carried over to other areas of development. Self-image is related to mastery of physical skills. Children who perceive themselves as having good physical abilities can use their success for gaining confidence in addressing social and cognitive activities.

Gallahue (1993) proposes that young children follow a developmental progression in the acquisition of their motor skills. Failure to properly develop these skills in the early childhood years can lead to later failure in games and sports. He believes that the motor and perceptual development cannot be left to chance.
Fundamental movement skills are basic to the motor development and movement education program for young children. Developmental sequences for these fundamental movement skills form the framework for the program in physical development. Young children vary in the acquisition of fundamental movements depending on the kinds of physical experiences they have had as well as hereditary factors. Therefore, the developmental movement programs should emphasize sequential movement skill acquisition and increased physical competence that is individualized to the individual developmental level of each child.

Planning for Physical Development

Children vary in their rate of physical development, just as they do in language, cognitive, and social development. Teachers need to be aware of these differences when planning environment arrangements and experiences for physical development. A range of experiences should be planned for perceptual-motor and movement activities that will promote physical development in young children.

Although children acquire many motor skills through normal working and playing activities in the indoor and outdoor environment, the teacher also plans for comprehensive physical development. The teacher identifies current levels of physical abilities in individual students and selects specific fine and gross motor skills that can be addressed in planned daily activities. Thus, the teacher might decide to put out boards, blocks, or a walking beam to help children develop balancing skills; or the teacher might plan a cutting activity to practice using scissors. Attention is given to both fine and gross motor skills that are developmentally appropriate for preschoolers.

When planning activities that provide for gross and fine motor skills, the teacher might make a choice from a list of activities such as the following (Beatty, 2000):

- **Large Motor Activities**
  - Walking
  - Throwing, catching
  - Balancing
  - Hopping, jumping, leaping
  - Running, galloping, skipping
  - Climbing
  - Crawling, creeping, scooting
  - Using wheeled vehicles

- **Fine Motor Activities**
  - Zipping, buttoning, tying
  - Twisting, turning
  - Pouring
  - Cutting
  - Holding and printing, tracing, painting
  - Inserting

Large motor skills activities for preschool children should be provided indoors as well as outdoors. Obstacle courses, indoor climbing equipment, and flexible motor skills apparatuses can be arranged for use in the activities to be included in the daily schedule. Other center activities, teacher-directed lessons, and small-group activities planned for the day or week can be analyzed for the type of fine and gross motor skills that will be used. Through a combination of planned activities and natural play opportunities during the day, children can have a balance of perceptual-motor experiences that permit them to refine and extend physical development (Hendrick, 1998).

The Role of Play in Physical Development

Play has an important role in all categories of development; however, its benefits for physical development may be more obvious for most teachers and parents. Physical exercise is associated with outdoor play, and traditional play-ground equipment used throughout most of the 20th century has been designed to exercise motor skills.

For our concerns, the role of play for preschool children is more than that for providing gross motor exercise. Fine motor skills are considered as well within the understanding the importance of play. Three- to 5-year-olds spend much of their day in
play. If they are in a caregiving or preschool setting, indoor and outdoor play periods should be alternated with more structured activities. During play opportunities, children combine language practice, socialization, and cognitive exploration with fine and gross motor activities. The child selects the play activities; thus, play events are self-directed or group-directed. Some children take leadership roles in play, and the physical activities engaged in are supportive to the child’s purpose for the play activity.

The Role of the Environment in Physical Development

The quality of the play environment affects the benefits of physical play. A primary concern is that the playscape is safe (Frost, 2003). Beyond consideration for safety of design and construction of equipment for physical play, the child’s play activities are related to the type of space where the play takes place, the materials that are available for the play, and the way in which the play space is arranged (Johnson et al., 1999).

Children play differently indoors than outdoors. Large motor play is more likely to occur outdoors, where there is more space and where play equipment encourages gross motor activity. Construction play is more frequent indoors, where there is an abundance of blocks, manipulative materials, and art and writing activities. Boys and girls play differently indoors and outdoors. Preschool boys prefer playing outdoors more than do girls; moreover, they engage in more make-believe play outdoors. Girls, on the other hand, prefer to play indoors. They engage in more dramatic play indoors and are more likely to engage in fine motor activities than are boys (Johnson et al., 1999).

The Indoor Environment

A well-planned indoor environment is well stocked and arranged for both gross and fine motor activities. Materials and ideas for fine motor activities are always available in the art center, language center, and manipulative center.

In the art center, all activities will nurture fine motor skills. Painting, cutting, and pasting; molding play dough; constructing collages; and working with chalk and crayons are examples of expressive activities that nurture many fine motor movements. Hands and fingers are exercised and used differently for each of these activities.

The manipulative center also can facilitate varied fine motor actions. Puzzles, bristle blocks, Legos, and other such construction materials help develop fine motor coordination as children explore possibilities for working with the materials. The sensory nature of Montessori materials makes them particularly useful for fine motor experiences. Lacing, zipper, buttoning, and using snaps can be practiced in activities that teach dressing skills. The manipulative nature of Montessori materials for cognitive activities also incorporates physical manipulation of curriculum experiences.

The language center in a preschool classroom provides opportunities to use fine motor skills. Writing activities require fine motor exercise, as do emergent literacy games.

Gross motor skills should also be nurtured indoors. In addition to the portable climbing equipment and temporary obstacle courses mentioned earlier, gross motor activities can be engaged in through playing with sand and water and with different sizes of blocks and vehicles in the block center. Workbench activities also attract both girls and boys to opportunities for sawing, hammering, and drilling, using both gross and fine muscle skills.

Beery (1952) recommends that the indoor classroom have a large motor center where activities can be planned for gross motor skills. She suggests that changing equipment arrangements be placed in the center to encourage specific gross motor exercises. Teacher-directed activities to promote large motor skills can supplement the options for child-initiated gross motor play.

The Outdoor Environment

Many gross motor activities can be planned and encouraged indoors; nevertheless, the outdoor environment is where all gross motor actions can take
place naturally. Outdoors, preschool children can run, jump, gallop, and so on most freely. The freedom of a large space permits many gross motor activities. In addition, equipment and design features provide more variety in physical activity opportunities.

A complex climbing structure, or superstructure, is a central feature of the playscape for physical exercise. The structure contains decks and attached apparatus that provide for a range of gross motor actions; such apparatus can include slides, fireman’s poles, steps, clutter bridges, trampoline bar, and ramps. The opportunities offered by complex climbing structures include options for both upper-torso and lower-torso exercise. Swing sets are another standard piece of equipment that provides enjoyable gross motor activity. A path where vehicles can be ridden or pushed and pulled is also important on preschool playgrounds.

Natural features can also provide possibilities for climbing, running, sliding, balancing, and rolling. The site can be planned to include mounds, small hills, tree stumps, and large dead trees; other natural features arranged in a large open area also encourage vigorous movement in play (Frost, 2003).

Preschool playscapes should also include opportunities for fine motor activities. Many art and craft activities are enjoyed in the outdoor environment. Outdoor sand and water activities promote both fine and gross motor movement, as do gardening and some dramatic play activities.

Both the indoor and outdoor environments for preschool children should include provisions for perceptual-motor development. Some activities will occur naturally as a result of having the facilities and materials available in the planned environment. Other experiences will require conscious planning on the teacher’s part.

The Role of the Teacher in Physical Development

Perhaps the most important responsibility the teacher assumes when considering how to plan for physical development is for carefully planning how
the learning environment and outdoor play area will nurture gross and fine motor skills. As described earlier, the teacher's understanding of the role of play in physical development and the effect of the environment on exercising emerging physical abilities must be translated into physical arrangements indoors and outdoors that will encourage the range of physical movement in preschool children.

The second important responsibility of the teacher is to be informed of the physical development needs of individual children. Through daily observation when children are at play, the teacher is alert to the physical skills the children are mastering. For example, the teacher may note that a child is having difficulty with play equipment or a locomotor skill; demonstration, modeling, and guided instruction can enable a child to try the fireman's pole or climb a ladder to the complex climbing structure. Similarly, the teacher can show a child how to hold a plastic bat to hit a sponge ball off a tee and can monitor the child's efforts to hit the ball successfully. The teacher needs to be actively involved in large and small motor activities to provide guidance and encouragement when needed.

The teacher's third responsibility is to plan curriculum activities. Some will be planned to be carried out indoors, whereas others will take place outdoors. Some activities will be planned for a motor activity period, and others will be integrated with activities in other developmental areas. The significant factor is that the teacher is sensitive to the importance of motor development and does not relegate outdoor free play periods as the only options for physical exercise. The preschool teacher who is enthusiastic about incorporating language, social, and cognitive experiences in integrated, thematic curriculum can be equally competent and interested in incorporating physical development into planned units. The section that follows discusses how the teacher can set up perceptual-motor experiences for preschool children.

Despite the important role that teachers play in promoting physical development, it is important to remember that preschool children need abundant amounts of time for free play, particularly outdoor play. Children need time and space for spontaneous, natural play that will permit them to engage in play activities alone or with their friends. In addition, they need to engage in social, socio-dramatic, and cognitive elements in play that are possible within physical play. Because many preschool children are in structured after-school settings while their parents work or cannot play outdoors because the outdoor environment is dangerous, it is particularly important that pre-school settings provide for free play time as part of their overall physical development program (Wortham, 2005).

**DESIGNING CURRICULUM FOR PHYSICAL DEVELOPMENT**

(Teachers may be very familiar with the materials and equipment they need for cognitive and language development in the classroom.) They may also be secure in their understanding of how the block and manipulative centers promote gross and fine motor skills. However, they may be less knowledgeable about how to carry out a comprehensive program with activities needed for gross and fine motor development. Beatty (2004) discusses an array of activities and equipment in the following categories: throwing/catching, twisting/twisting, pouring, cutting, printing/tracing/painting, wheeled equipment, inserting, and zipping. Figure 9.3 shows some of the skills children develop from a comprehensive motor development program.

Jambor (1990) describes perceptual-motor activities for young children that are intended to promote kinesthetic and sensory development in outdoor experiences (Figure 9.4). He describes activities and equipment needed for locomotion, balance, body and space perception, rhythm and temporal awareness, rebound and airborne movement, and projections and reception movement. Although most of these suggestions for physical development are best conducted outdoors, many are also suitable for indoors.
| Child in large motor center                                      |
|-----------|-----------------|
|           | Balances on a board |
|           | Goes up and down steps easily |
|           | Runs without falling |
|           | Climbs easily |
|           | Gets down from high places easily |
|           | Jumps with both feet over an object |
|           | Rides wheeled equipment with ease |
|           | Throws a ball/beanbag |
|           | catches a ball/beanbag |

| Child in manipulative/math center                               |
|-----------|-----------------|
|           | Stacks objects with ease |
|           | Fastens and unfastens buttons |
|           | Fastens and unfastens zippers |
|           | Threads objects on a string |
|           | Laces shoes or a lacing frame |
|           | Makes puzzles easily |
|           | Traces around an object |
|           | Crayons inside a space fairly well |
|           | Stays with activity until finished |

| Child in art center                                             |
|-----------|-----------------|
|           | Handles materials without assistance from teachers or other adults |
|           | Paints with brushes |
|           | Does finger painting |
|           | Plays with dough/clay |

| Child in outdoor playground                                     |
|-----------|-----------------|
|           | Uses swings without adult help |
|           | Uses slides with confidence |
|           | Climbs to top of monkey bars |
|           | Gets down from high places without help |
|           | Runs without falling |
|           | Participates with others in play |

**FIGURE 9.3 Activities and skills for motor development.**

Locomotion

- Rolling in various directions on flat and sloped grassy areas with arms in different positions
- Creeping, crawling, and walking on or across textured surfaces (to increase sensory input)
- Crawling through "space-holes": barrels, open-ended boxes, single mounted tires, tire tunnels, low playhouse windows
- Crawling across a wide plank
- Climbing on hills, ramps, stairs, platform levels, connected tire formations, rope nets, ladders, multipurpose structures, low limb tree branches, overhead and multidirectional ropes
- Stepping up on graduated levels: platforms, logs, tires, stumps, large wide blocks
- Jumping/bouncing on flat springboards, large flexible horizontal tires, inner tubes, mattresses (trampolines are considered dangerous and not recommended)
- Jumping from varying heights: tires, wooden platforms, stone/earth ledges, stumps, spring boards
- Hurdling over "natural" objects, objects prepared by adults (e.g., a horizontal bamboo pole between two adjustable vertical support points)
- Hopping in place with both feet, then with one foot at a time; hopping, back and forth over lines, between rungs of a wooden ladder on the ground
- Running and walking across bridges, up and down natural slopes and man-made ramps, in open grassy areas
- Chasing and "tag" games that utilize most play apparatus and available space
- Crossing "hand-over-hand" on overhead ladder
- Pumping a swing
- Pulling or pushing a wagon
- Wheel toys that coordinate alternate pumping and steering with feet and hands; obstacle course routes that challenge the coordination of perceptual and motor skills

Many of these actions and activities, as well as those that follow, can be controlled and enhanced by listening for music cues for stopping, starting, and intensity of action.

Balance

- Standing and balancing (both feet, then only one) on walking beam, vertical in-ground tire, moving bridge, suspended horizontal rope with overhead hand support; close eyes for added sensation
- Walking various heights, widths, and spans of wooden beams, vertical in-ground tires, large diameter rope and fire hose (with overhead supports to keep upright)
- Walking on wide beams with arms extended holding a weighted object in one hand or both

FIGURE 9.4 Outdoor activities for perceptual-motor development.
Walking on a line or thin diameter rope configuration on ground
Walking with one foot on and one off a ground-level beam, on a curb edge, on an edge of a ladder lying on ground, around the edge of a large-diameter horizontal tire
Following the leader on a spontaneous or preplanned obstacle course throughout playground

Body and Space Perception
- Large mirror area for viewing self and specific body parts and experimenting with ways these parts can function
- Identifying body parts and relating them to a function of movement activity
- Responding to requests to use a body part(s) on climbing or balancing apparatus
- Coordinating body parts to perform physical feats of strength and agility in play spaces and on equipment
- Using arm and leg movements to create "snow/sand angels"
- Pushing someone on a swing
- Fitting into spaces; boxes, large tire opening, wagon, playhouse, play boat or car, across a bridge span, on a swivel tire, at top of a slide (number and size relationship concept)
- Coordinating running and movement activities within a limited space
- Climbing on, under, around, through, etc.; going to the left or to the right (body-objects relationships and directionality)
- Any activity requiring movement in space!

Rhythm and Temporal Awareness
- Recurring rhythm: swing (standard infant and strap seats, suspended tire or rope, swivel tire, vestibular platform, porch style); rocking boats, etc.; wheel toys
- Methodic, rhythmic bouncing on large tires, inner tubes, springboards
- Jumping over stationary rope or one swung in a quarter arc to a rhythmic beat
- Galloping, marching through playground to music, with rhythm instruments or hand claps
- Accelerating and decelerating physical movement to given tempo
- Running up or down diagonal ramps and hills
- Tossing, catching, kicking, dodging objects (e.g., various size balls, beanbags, balloons)

Rebound and Airborne Movement
- Bouncing on springboards, mattresses, large flexible tires, inner tubes (music varies the variety and tempo of action)
- Jumping onto a mattress or into sand, pea gravel, or other resilient ground base from varying heights
- Hanging by hands or legs from climbers, chinning bars, low tree branches, etc.
- Swinging on vertical rope; pushing off of objects to continue or vary movement

FIGURE 9.4 (Continued)
The Integrated Curriculum for Physical Development

Preschool teachers can use Beary's (2000) and Jambor's (1990) guides to develop a quality physical development program for preschool children; in addition, attention can be given to incorporating activities for physical development into the total curriculum. Many skills will be encouraged through ongoing center and teacher-directed activities in art, language, and mathematics and science. They naturally occur as part of the overall preschool curriculum. Other opportunities result from conscious attempts to correlate learning across developmental areas. The teacher deliberately uses physical activity options to help children integrate cognitive concepts; for example, perhaps an art activity is combined with emergent writing to address fine motor skills.

Trostle and Yawkey (1990) developed a handbook of integrated learning activities for young children. They classified integrated experiences into chapters and broad unit categories. One chapter, on transportation, provides particularly helpful advice for interrelating physical development with other curriculum components. Two integrated experiences in the chapter on transportation exemplify how physical development can be integrated with other areas of the curriculum. The activity titled “Wiggling Feet” (Figure 9.3) describes how naming and moving body parts is part of language arts. Moving their bodies to songs and then having discussions help children understand names of body parts, relationships between parts of the body, and the way in which the body moves.

The second activity, “Shape Jumping” (Figure 9.6) combines playing with shapes with jumping activities. To engage in a hopscotch shape activity, children must also use skills in patterning and sequence. Children use fine motor skills to make the shapes used in the activities. In addition, the children must use listening skills to follow directions and use divergent thinking skills to develop a transportation story.

Outdoor…nature study can integrate physical activities with all domains of development as well as environmental education. Science is also an integral part of a unit titled “Hopping Frogs and Trail Walks” (Woyke, 2004). The importance of being
WIGGLING FEET (Language Arts)

Overview: Children use body movements and practice movement as direction. In Target, they move parts of their bodies to soft and mood music. In Moving Ahead, they move their bodies to the rhythm of common, familiar songs.

Objective: Naming and moving parts of the body

Supplies: Audio recording of soft or mood music; audio recorder

Words You'll Like: movement, body, body parts, direction, music, soft, practice, connect, opposite

Getting Started

The children talk about and name their body parts, such as arms, toes, fingers, and so forth. After the discussion, the youngsters name several body parts of their choice and show how each part moves. The children invent and show new movements for each body part. For example, they shake their heads back and forth and swing their legs at the knees.

Target

The children lie on their backs on the floor and place their hands over their heads. The youngsters identify the body part opposite their heads. They wiggle their toes to show this point. The children think about the body part connected to their arms; then they move their shoulders. Repeat the questioning using different body parts as the youngsters demonstrate the appropriate movements. Try this activity while playing music. Introduce “Heads, Shoulders, Knees, and Toes,” a favorite movement song among children everywhere.

Moving Ahead

The children sing and practice familiar songs involving movement, such as the “Hokey Pokey” or “The Farmer in the Dell.” The children sing the song using the familiar body movements. Next, the children identify and practice several original movements to these songs using different body parts. Finally, the youngsters identify the new body parts they used in the movement songs. For example, using “Hokey Pokey,” the youngsters might substitute thumbs, wrists, ankles, knees, calves, and necks for the traditional body parts.

Let’s Talk

1. After the youngsters listen to and move their bodies to music or song, they describe their feelings as they performed these activities. Have them close their eyes as they perform. Compare differences in how they feel when their eyes are opened and closed.

2. Talk about fish and streams using nautical terms. If available, use a rocking boat (or use a rocking chair) for a fishing expedition. Provide poles and magnetic paper fish. As a variation, draw a body part on each fish. As children “catch” the fish, they name the body part drawn on it and move that body part. Others join in and “follow the leader” by also moving that body part.

FIGURE 9.5 Integrated curriculum for physical development.

SHAPE JUMPING (Physical Education)

Overview: Children draw shapes and use them in hopping exercises to develop muscles, movements, and coordinations. First, the youngsters draw and color shapes and then use them in a hopping activity. Then they hop to shapes in circular and other arrangements. They discuss transportation as it relates to these activities.

Objective: Jumping to shapes in various arrangements.

Supplies: Poster board, oak tag, or other durable material; ruler; crayons; tape

Words You'll Like: drawing, hopping, order, rectangle, circle, square, rhombus, ellipse, triangle, pretend

Getting Started

The children draw shapes, such as circles, triangles, squares, ellipses, and rectangles on pieces of poster board, oak tag, or other durable paper. After coloring the shapes, the children place the shapes on the floor to make a straight path about one inch apart. They help tape down the shapes to secure them while the youngsters are hopping. Have the children hop forward and back on the shapes, stating the shapes' names as the children go.

Target

Using more durable paper, the children draw two of each of the following: triangle, circle, square, rhombus, and ellipse. After outlining and coloring these shapes, they tape the shapes on the floor making a straight path about eight inches apart in the following order: triangle, circle, square, ellipse, rhombus, triangle, circle, square, ellipse, rhombus. The children stand at one end of the path on the triangle. Call out a series of shapes indicating to the children where they jump next. For example, call "circle, ellipse, rhombus."

Continue by changing the patterns where the children are jumping. The children can also identify jumping patterns. As the youngsters become more skillful, add rectangles and increase the space between the shapes. Finally, the youngsters jump from shape to shape and, as they land, add a new line to a pretend story about traveling. As they tell their stories, they give characteristics of their transportation vehicles and destinations.

Moving Ahead

The children arrange and secure all their shapes in one large circle in a specified order.

For example, the children arrange and jump from circle, to square, to rectangle, to ellipse, to circle, to square, to rectangle, to ellipse. Repeat each pattern several times. The children anticipate what shape comes next and identify jumping patterns. After they hop around a circle, try forming other shapes such as a large square or rectangle.

Let's Talk

1. The youngsters decide if they would like to always hop, jump, or fly rather than walk from one place to another. They talk about hopping, jumping, and flying forms of transportation. The children explain why they would or would not like to use these modes of transportation.

2. The children name several animals that primarily use hopping for transportation, such as the rabbit, frog, toad, grasshopper, and kangaroo. After naming the different animals, the children imitate the animals' movements. Try other types of animal movements and exercise, such as crawling, and follow the same steps.

FIGURE 9.6 Integrated curriculum for physical development.

outdoors and appreciating the environment is described (Woyke, 2004):

Environmental education teachers need to give children opportunities to use their senses—to go outdoors and see, feel, and smell, and listen to nature. In most settings children and teachers can feel the rain, splash in puddles, catch snowflakes on their mittens, listen to the wind, smell new grass or flowers, or frolic in fall leaves. (p. 83)

The Hopping Frogs and Trail Walks unit features many outdoor walks on nature study field trips. After observing and collecting natural items on their walks, the children can represent their experiences using creative and construction materials in the classroom. Woyke suggests how the classroom and outdoors can be used to integrate environmental education into the classroom (see Figure 9.7).

<table>
<thead>
<tr>
<th>Suggestions for Integrating Environmental Education into the Classroom</th>
</tr>
</thead>
<tbody>
<tr>
<td>• <strong>Manipulative area.</strong> Add puzzles, games, and small figures that relate to nature. For a fine motor activity, draw pictures of leaves, apples, or animals on cardboard and punch holes around the outlines of the images. Provide thick yarn or shoelaces for children to lace through the holes. Put pebbles, pieces of bark, small logs, trees, and blocks with pictures of animals and trees in the block area.</td>
</tr>
<tr>
<td>• <strong>Sensory table.</strong> In addition to sand and water, add dirt for worms; crisp, colorful fall leaves; a variety of pinecones; shells in the sand; and toy frogs in the water for a pond study. Offer funnels, magnifying glasses, and spoons for exploration and experimentation.</td>
</tr>
<tr>
<td>• <strong>Music area.</strong> For background listening, offer tapes and CDs featuring sound recordings of nature, such as wind in the trees, ocean waves, rain, and spring frogs. Use natural materials as musical instruments—items like tree pods and shells work well.</td>
</tr>
<tr>
<td>• <strong>Art area.</strong> Natural materials are free, real, concrete, and easy to use in prints, and rubbings. Search for colors on outdoor walks.</td>
</tr>
<tr>
<td>• <strong>Dramatic play.</strong> Transform a traditional house-play area into an animal hospital serving stuffed animals, a fall fruit stand, a garden shop, a hibernation cave, or a tent for wilderness camping.</td>
</tr>
<tr>
<td>• <strong>Language and literacy area.</strong> Include nature magazines such as <em>Your Big Backyard</em> (from the National Wildlife Federation); classroom books about nature experiences; catalogs of flowers, plants, and other natural items; animal puppets; flannel board animal characters and stories; and audiotapes with stories and songs about nature. Teachers can select books that foster a love for nature and have beautiful illustrations and photographs. A few examples are <em>A Tree Is Nice</em>, by Janice May Udry; <em>The Snowy Day</em>, by Ezra Jack Keats; <em>The Salamander Room</em>, by Anne Mazer; and any of the books by Eric Carle.</td>
</tr>
<tr>
<td>• <strong>Outdoor activities.</strong> Many young children are eager to explore the unstructured natural world. They want to splash in puddles and run their fingers through sand or dirt. Teachers should encourage these activities. Even sidewalks can provide opportunities to observe nature—a colony of ants or sprouting weeds.</td>
</tr>
<tr>
<td>Schools and child care programs can construct a natural area on their property, using bird feeders and baths or by bringing logs, rocks, dirt, tree stumps, and sand to the area. Children and teachers can plant flowers that attract butterflies or use commercial butterfly feeders. In smaller areas, children can plant vegetables and flowers in container gardens.</td>
</tr>
</tbody>
</table>

**FIGURE 9.7** Learning centers for integrated curriculum in environmental education.

Designing Physical Development Activities for Children with Disabilities

Children with disabilities experience difficulty in engaging in motor activities, especially physical play. Children with physical disabilities have restricted abilities to participate in motor activities; consideration must be made to accommodate activities to match the physical characteristics of individual preschool children. The play environment also must be adapted to individual disabilities. The adult may need to prepare the child for physical activities.

Children with visual disabilities can be helped to orient themselves to space and time and participate in motor activities, with attention being paid to their visual impairment. The following are suggestions for planning activities for children with disabilities (Wortham, 2005b):

- Adults can assist by planning a play activity with the child in terms of what is available: play materials, other children, special equipment.
- The playground should offer sensory clues such as different textures on walking surfaces that will guide the child to play opportunities. The teacher can help the child orient himself toward the equipment or materials the child wishes to use.
- Before play, the adult can help the child practice with materials or equipment that will be used.
- The adult supports and encourages the child during play activities.

Children with motor disabilities have difficulty participating in physical activities and using environments that have not been adapted for such limitations. In spite of restrictions in movement, these children are able to participate in some activities. The play environment should be modified to allow the child access to play experiences, so allow the teacher to physically locate the immobile child in a play experience, and to allow the teacher to develop broadened opportunities for the physically limited child’s physical development. The goal is to develop
Body Movement Rhythms

Introduce a simple body movement. Then have the children repeat it until they develop a rhythm. Examples include the following:

- stamp foot, clap hands, stamp foot, clap hands
- clap, clap, stamp, stamp
- clap, stamp, clap, stamp
- clap, snap fingers
- clap, clap, stamp, clap, stamp

Body Percussion

Instruct the children to stand in a circle. Repeat the following rhythmic speech:

- We walk and we walk and we stop [rest].
- We walk and we walk and we stop [rest].
- We walk and we walk and we walk.
- We walk and we walk and we stop [stop].

March

Play different rhythm beats on a piano or another instrument. Examples include beats that provoke hopping, skipping, gliding, walking, running, tiptoeing, and galloping. The children can move to the rhythm.

alternative ways for children with physical disabilities to participate in activities that require mobility. The play environment should be studied for accessibility. Accessibility considerations are different for children who use a wheelchair for mobility and those who are able to use a walker. Accessibility to play equipment and activities is adapted differently depending on the child’s physical limitations.

SUMMARY

Preschool children are busy becoming social beings. They are learning how to live in a world of many people who have their own feelings and ideas. Young children are learning that some of the ways they use to interact with others are more successful than others. They want to be accepted into group play and are feeling their way in developing successful skills to get along with their peers and in behaving appropriately to meet adult expectations.

One goal for the preschool curriculum for social development is to help children become comfortable with themselves and others. The social development curriculum is based on an environmental setting and activities that assist children in living and playing in harmony.

The child's socialization involves the ability to control and express feelings appropriately, develop empathy, and use prosocial skills. Children must learn how to understand their own feelings and how to act on those feelings in an acceptable manner. They learn to recognize similar feelings in other children and how to respond to those emotions. When they can respond to another child in a sympathetic way, they have begun to experience empathy.

The teacher has an important role in helping children develop social skills. There are certain strategies the teacher can use to make socialization easier. The
classroom, routines, and daily activities can be organized to facilitate harmony and minimize conflicts among children. However, because young children are just learning successful behaviors, the teacher has to take an active role in guiding them. Children who are angry or aggressive or otherwise behave inappropriately need adult intervention and redirection to learn the correct behaviors.

The teacher also has a role in guiding children to understand and accept multicultural differences. Because racial bias begins early in life, the teacher nurtures a sense of value toward different cultures. The preschool setting and social development curriculum reflect multicultural diversity in a positive manner.

Social development also encompasses the social sciences. Learning to get along with others is part of a larger goal of understanding and participating in the larger society. Foundations for later study of history, geography, economics, sociology, and anthropology are established through the social science curriculum in the preschool program. The social science curriculum is best learned in an integrated, meaningful context; therefore, experiences that are planned help extend the child's understanding of him- or herself and others and relate to the child's life and experiences. Learning about social science topics within thematic units enables children to understand their membership in society in more depth and breadth.

Great strides are made in physical development in the preschool years. Children between the ages of 3 and 5 are extremely active and energetic in exercising their bodies through play. Perceptual-motor development, which depends on the interaction of sensory and physical advances, results in more complex sensory input accompanied by more skillful motor behaviors.

The child's physical development involves gross and fine motor skills, body awareness, locomotor skills, and body, spatial, temporal, and directional awareness. Both the indoor and the outdoor environment should be planned and equipped for these kinds of perceptual-motor development to be encouraged. Also, the teacher plans activities to promote development, particularly in gross and fine motor activities. In addition to ensuring that children have substantial time for indoor and outdoor play, the teacher plans a balance of gross and fine motor activities as part of the physical development curriculum.

The teacher must be aware of the individual needs of children for physical activities. Because children vary in level of physical development and opportunities for physical activities outside the group setting, the teacher provides opportunities for physical exercise and practice that meet individual differences. Opportunities for fine and gross motor activities occur naturally during the day through participation in ongoing preschool activities. Motor skills are developed through center activities, play periods, and teacher-planned activities. Activities can also be planned within thematic units.

Special consideration needs to be given to children who have physical limitations. Outdoor play equipment needs to be accessible to children who have no mobility or must use a walker or wheelchair. Curriculum activities that require physical movement may need to be modified or adapted for children with physical disabilities. The teacher's goal should be to make it possible for the child with special needs to participate as much as possible in some capacity.

**STUDY QUESTIONS**

1. Why do preschool children need play experiences each day to help them develop social skills?
2. How do preschool children develop successful behaviors in interacting with others?
3. What is the nature of a "curriculum" for social development in the preschool program?
4. How does a good self-image affect development of socialization skills?
5. What kinds of behaviors do children use when they have developed empathy?
6. How does the teacher nurture multicultural sensitivity in preschool children?
7. Why is sociodramatic play important for both socialization and the social science curriculum?
8. What kinds of strategies can the teacher use to minimize or eliminate inappropriate behaviors?
9. Why do social science experiences need to relate to the child's life experiences?
10. What kinds of activities promote perceptual-motor development?
11. How can the indoor environment be arranged to foster gross motor skills?
12. What features need to be included in the outdoor environment to nurture gross motor development?
13. Why is teacher observation of children's play important when planning physical development experiences?
14. Can physical development activities be part of the integrated curriculum? Explain.
15. How should preschool teachers consider including children with physical disabilities in physical activities?
16. Why do children's individual disabilities make a difference when the teacher is planning how to modify a playground for children with physical limitations?
CHAPTER TEN

A Model for Programs for Children Ages 5 to 8

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Understand how developmental changes in the primary grades influence learning.
2. Understand the role of play in the primary grades.
3. Describe appropriate curriculum for developmental needs in the primary grades.
4. Describe components of models for children ages 5 to 8.
5. Explain the components of an ungraded primary model.
6. Explain the steps in designing thematic curriculum in the primary grades.
7. Explain how systematic instruction is a part of thematic instruction.
8. Describe the role of assessment in kindergarten and primary grades.
9. Explain the purposes of assessment in kindergarten and primary grades.
10. Describe types of assessments that can be used in kindergarten and primary grades.
In this chapter, the design and implementation of curriculum for students in the primary grades are considered. I have stressed throughout this book that development and learning are continuous, especially as children move from preschool into the primary grades. I have also described how an understanding of the course of development in children is particularly important as teachers plan curriculum that is developmentally suitable for students in the latter years of early childhood. In Chapter 4, I described these years as transitional because children are making important changes in areas of development as well as making the transition to a different level of schooling.

One might question why the age of 5 is included in both preschool and primary grade curriculum. There is a need to establish bridges across the preschool and primary years and to emphasize the continuity through the years of early childhood. In addition, different early childhood settings use one organization or the other; that is, either they have programs for 3-, 4-, and 5-year-olds or the 5-year-olds are in kindergarten before they enter first grade. Private and church-related settings frequently do not go beyond preschool. It is logical to place 4- and 5-year-old children together for those settings. Public schools, on the other hand, may have a variety of possibilities for organizing early childhood programs. For schools that do not have prekindergarten, kindergarten may be the level of entry into the school system. In this chapter, designing curriculum for the primary grades is considered as a continuum that begins in kindergarten. Although it is important to understand how developmental changes allow children to use more sophisticated and complex thinking, keep in mind that they are making a transition along a continuum in their development. Therefore, it is also important for teachers to deepen their understanding of how developmental advances help the use of broader possibilities for instructional strategies. Teachers need to be able to design curriculum that will be adaptable for individual differences in development to ensure success for all students. This chapter will explore how to provide a balance between systematic instruction and integrated, or thematic, curriculum. A model for a quality program in the primary grades, known as the ungraded primary, will be described; designing and implementing curriculum within the model are also described.

THE SIGNIFICANCE OF DEVELOPMENTAL CHANGES IN THE PRIMARY GRADES

Overall growth and development occur more slowly between the ages of 5 and 8 than during earlier years; however, significant developmental changes occur that permit acquisition of reading and writing skills during the primary grades. Because of the normal variations in development, children's individual timetables have implications for how teachers build in flexibility for curriculum and instruction.

Physical Development

Children entering the primary grades continue the process of developing control over their bodies. They are able to sit and work at tasks for longer periods of time. They become skilled in many physical games requiring gross motor skills, such as Frisbee, baseball, and soccer. Fine motor skills are developed through working with crafts, building models, and playing a musical instrument (Berk, 2001; Santrock, 2002).

Because primary-age children are in the process of continuing their development of motor skills, they need to be physically active during the school day. They need frequent opportunities for physical activities if their gross motor skills are to be refined (Bredekamp, 1987; Bredekamp & Copple, 1997). Daily participation in physical activities is essential for the development of motor coordination and body strength. In addition, physical activity helps in a general feeling of well-being. Current emphasis on academic skills has resulted in diminished attention to physical development. Schools in many parts of the country are restricting both physical education periods and unstructured free play or recess periods in favor of spending more time teaching reading and other categories of academic instruction (Manning, 1998).
At issue is whether school-age children need time for recess and unstructured play. Proponents of recess express concern that many children do not have opportunities for free play outside of school hours. They also believe they are social as well as physical benefits. Opponents of recess and free play describe concerns about aggression, bullying, and time away from academic curriculum (Smith, 1999; Worthing, 2002).

Involvement in organized sports should be approached with caution during kindergarten and primary school years. Although children become interested and adept at physical games, their bones and muscles are immature. Extensive stress can cause strain and injury to developing bones and muscles. Prolonged use of one area of the body can lead to injuries such as sprains and stress fractures or result in accelerated bone growth (Harvey, 1982; Stoner, 1978). Participation in games and sports by all children is important; nevertheless, overemphasis on competition in organized sports with extended practice periods can be damaging to gross motor development.

**Cognitive Development**

I have previously discussed how children gradually shift from preoperational to concrete operational thinking between the ages of 5 and 7. A major cognitive achievement in young children entering the concrete operational stage is the acquisition of the mental ability to think about and solve problems. As this mental ability, or metacognition, develops, children become able to develop systems to organize and remember information. When children are able to use metacognition, they can plan strategies for games, understand puzzles, and address how others think and feel. An appropriate primary-grade curriculum is designed with the understanding that cognitive change is gradual and subject to individual variations. These young students still need to actively reconstruct knowledge. The opportunity to use hands-on, manipulative materials allows them to have concrete reference points in their encounters with new information (Katz & Chard, 2000). Written assignments to supplement concrete materials should be designed for emerging writers in various stages.

The first years of school between kindergarten and third grade are also significant in the development of motivation to learn. Emerging cognitive abilities allow young children to assess and reflect on whether they are successful or experiencing failure in school. Children become quite aware of whether they are proficient students and whether they are able to control their success (Rozier, 1974). Children vary in how they perceive their competence and are also affected both positively and negatively by parental and teacher feedback in response to their learning efforts.

Inappropriate curriculum materials and teaching strategies that assume all children in first grade have achieved concrete operations put many students at risk for failure and an inability to perceive themselves as being in control of their learning. The curriculum in kindergarten and first, second, and third grades should help the shift from preoperational thinking; at the same time, opportunities to use manipulative materials should always be included as part of instruction to ensure that possibilities for successful learning are maximized for children who are making the transition in cognitive development at different rates (Berk, 2001; Santrock, 2002).

**Social and Emotional Development**

A major task for children in the primary grades is to be able to work and interact effectively with their peers. Children who are unsuccessful in establishing positive peer relationships tend to have low self-esteem and achieve less in school, and they may have more problems later in life. Teachers and parents play a significant role in the child's development of self-control and social skills between the ages of 5 and 8. Research has shown that adult intervention can be effective in helping children develop successful social relationships with their peers. Teachers who use positive guidance techniques can help children develop social competence. By modeling appropriate behaviors, involving children in developing classroom rules, and engaging students in cooperative group learning activities, teachers can have an active influence on student acceptance of self-control and responsibility (Katz & McClellan, 1997).
Failure to develop a sense of competence because of inappropriate teaching practices can also affect social and emotional development. When children are expected to learn skills beyond their ability, they experience failure because they have not mastered a skill as quickly as have other students. Moreover, they may develop low self-esteem because they perceive themselves as unsuccessful learners (Elkind, 1987).

According to Erikson's (1963) stages of psychosocial development described in Chapter 2, the child will develop either a sense of industry or a sense of inferiority during these years. Just as teachers need to incorporate flexibility in the learning program to adjust for variations in cognitive and motor development, they also need to respond to individual differences in social and moral development. Sensitivity to differences in social and emotional development in the primary grades can result in teaching and management practices that will support social competence in young students.

THE ROLE OF PLAY IN THE PRIMARY GRADES

As children progress through kindergarten and the primary grades, their cognitive, social, and physical development results in a shift in their approach to play. In the preschool years, sociodramatic play and preoperational thinking predominated. As children develop toward and into concrete operational thinking, their play interests gradually change. In earlier years, play on various structures supported physical activities and play themes. Mastery of physical skills was accomplished through play. As children move into the primary grades, games with rules and organized sports become more important.

There is a tendency in some elementary schools for teachers to perceive outdoor periods as a part of the daily curriculum. Structured physical education periods directed by an adult are considered enough for the child's physical development. However, teachers who share this perception ignore the purposes of play in a period of continuing development that goes beyond physical skills (O'Brien, 2003). Children's social and cognitive development during these years is also facilitated through play. Moreover, this is a period when peer relationships become increasingly important. Peer social groups develop and change as children participate in undirected play; in addition, such groups are the major socializing agent for children in the elementary grades (Coplan & Rubin, 1998; Hartup, 1985).

The peer culture is transmitted through play. Children learn from other children. Physical and social skills that are necessary for group acceptance are learned through play (Bodrova & Leong, 1996). The more experienced children in a peer group teach slang expressions, jokes, stories, riddles, and group games to new members of the group. Hughes (1991) reminds us that parents may teach their children how to ride a bicycle, but it is members of the peer group who teach them how to do "wheelies" or jump across a ditch.

Play can be a source of either positive or negative self-concept during these years. Children who do not excel in academic areas might be skilled in physical activities. Their emerging need for competence and acceptance might be fulfilled through outdoor play activities where their proficiency can be acknowledged by peers. The sense of competence gained from proficiency in physical activities can carry over to mastery of more difficult academic skills in the classroom. On the other hand, social acceptance or rejection in outdoor play can be based on physical ability. In a study of second-grade children, Barbour (1993) found that those with poor physical skills were not selected for teams in games organized by children. The importance of contribution to a group effort through physical skills needed for a sport or game had replaced acceptance based on social skills in the preschool years.

Adults working with children in the primary grades can take advantage of the emerging ability of children to teach each other through play, both indoors and outdoors. Opportunity to take leadership roles and work through cooperative planning can be nurtured through structured and unstructured play periods during the school day. Similarly, parents and teachers can be cognizant of the child's success or difficulty in play situations and facilitate improvement in peer acceptance. It should not be assumed that free play periods are no longer needed
for the child's development. Physical, social, and
cognitive development change in nature during the
later early childhood years, but each type is equally
important. Play that results from peer groups and is
not directed by adults during these years continues
to be significant and important (Wortham, 2005c).

DESCRIBING APPROPRIATE CURRICULUM FOR
CHILDREN AGES 5 TO 8

If we accept that variations in development in the
period between 5 and 8 years of age are normal, then
schooling for children between kindergarten and third
grade should reflect their developmental needs at those
ages. More specifically, curriculum in first-, second-, and
third-grade classrooms should accommodate develop-
mental differences rather than describe achievement
expectations within a narrow framework of required
skills. We also need to be able to extend our under-
standing of variations in development to include chil-
dren who have more extreme characteristics from the
norms. Gifted children are at one extreme, while chil-
dren with mental retardation are at the other extreme.
Children with physical disabilities also are beyond the
range of normal variations.

Teaching practices with children from ages 5 to 8
allow for the unique background and level of develop-
ment that each child brings to the classroom. Bredekamp
and Copple (1997) describe the sources for the complex decisions that teachers must make
when addressing complexity in development and
culture presented by their students. They base appro-
priate practices on the following:

1. What is known about child development and
learning—knowledge of age-related human charac-
teristics that permit general predictions within an
age range about what activities, materials, interac-
tions, or experiences will be safe, healthy, interest-
ing, achievable, and also challenging to children

2. What is known about the strengths, interests,
and needs of each individual child in the group to
be able to adapt for and be responsive to inevitable
individual variation

3. Knowledge of the social and cultural contexts
in which children live to ensure that learning expe-
riences are meaningful, relevant, and respectful for
the participating children and their families. (p. 36)

DESCRIBING A CURRICULUM FOR
CONTINUING DEVELOPMENTAL NEEDS

When describing developmental learning needs of the
young child in the primary grades, one can point out
many similarities among them. These students are
active learners who reconstruct knowledge through
individual involvement with information. They come
to school from various backgrounds and previous
experiences. They vary in physical, social-emotional,
and cognitive development. They have different learn-
ing and socialization styles. They may also have differ-
ent cultural backgrounds and family experiences that
affect their approach to schooling.

Most important, these children are moving through
the last years of early childhood. They are in the later
stages of preoperational thinking and moving into con-
crete operational thinking. Although they are develop-
ing skills in reading and writing, their individual
progress in the transition to literacy necessitates curri-
culum that ensures success for all. Children at this
stage of development are eager to succeed in school and
are becoming aware of limits in abilities. Their com-
parison of themselves with other children can be either
favorable or unfavorable and in turn affects their moti-
vation to learn (Hillis, 1986). They are acquiring dis-
positions about learning such as the desire to read or
motivation to use mathematics skills that they have
learned (Bredekamp & Copple, 1997).

Curriculum to meet continuing developmental
needs in the primary grades accounts for a range in
individual development. In addition, it facilitates
child-initiated experiences to provide for reconstruc-
tion of knowledge. As emphasized in the discussion
about preschool children, connections and relationships
in learning are stressed through meaningful and pur-
poseful activities. The relationships in knowledge are
developed through an integrated curriculum that provides a meaningful context for learning. At the same time, the integrated curriculum allows children to select activities that permit them to work cooperatively and independently so that their developmental differences are complementary rather than competitive.

Integrated curriculum can provide a supportive environment for students who are at risk. The classroom that includes integrated curriculum provides opportunities for developing a sense of community in children that can help children who are at risk for success in school. When students are engaged in cooperative learning through thematic projects, they are continually interacting and collaborating within small groups in a learning community (Wolk, 1994). The classroom can reduce the impact of life changes on children by providing necessary components that might be missing in the child's home life (Charbonneau & Reider, 1995).

Systematic instruction is also needed in the primary grades as a balance is achieved between child-initiated and teacher-directed instruction. Increasingly in the primary grades, it is necessary for children to acquire specific skills and knowledge (Seefeldt, 2004). Systematic instruction is composed of lessons planned by the teacher to introduce and practice specific skills and concepts. In some contexts, the skills and concepts are sequential or hierarchical; that is, there is an order in which they are learned. For example, children must have number and numeral concepts before they can address learning how to add. In other instances, the teacher is aware that children will need to understand a concept or skill as a tool to other learning. For example, in a third-grade social studies unit, students needed to be able to look up addresses in a phone book. The teacher conducted a series of lessons on alphabetical order using the telephone directory before implementation of the activity in the unit.

The teacher introduces systematic instruction to ensure that children are mastering skills that will enable them to progress. Through systematic teaching activities, the teacher maintains meaningful instruction and teaches related skills when they are relevant to achieving proficiency (Helm & Katz, 2001; Katz & Chard, 2000). The primary-grade curriculum achieves a balance between informal child-initiated instruction and systematic teacher-directed instruction within a meaningful context.

There are concerns, and rightfully so, that skills development might be neglected in constructivist classrooms. Advocates of integrated curriculum might feel that students will learn needed skills in context within meaningful curriculum. Although this might be true for some students, others require more extensive, structured instruction if needed skills are to be mastered. This does not imply that integrated curriculum should be abandoned in favor of teaching skills, but it does mean that both explicit instruction and integrated learning are appropriate (Harris & Graham, 1996).

Primary-grade teachers cannot assume that students can acquire all skills presented within thematic curriculum. The increasingly complex skills associated with reading and mathematics require specific planning and instruction on the part of the teacher. The teacher also continuously assesses student learning needs and teaches complex academic skills through teacher-selected tasks and instruction (Katz & Chard, 2000). Broekkamp and Copple (1997), in Developmentally Appropriate Practice in Early Childhood Programs, describe how teachers use a variety of strategies to ensure that all children in the classroom learn appropriately. Figure 10.1 shows appropriate strategies that can be used by teachers.

THE PRIMARY GRADES: MODELS FOR CHILDREN AGES 5 TO 8

Primary-grade teachers are experiencing continually rising expectations for student achievement in elementary schools as measured by standardized tests. In addition, states have established guidelines for curriculum objectives that should be mastered at each grade level. New restrictive teaching and learning requirements bring challenges to teachers who must accommodate developmental differences in their students. Problems encountered by children within this reform movement initiated by the No Child Left
• Teachers use a variety of strategies for ensuring each child's progress in accomplishing the expected, age-appropriate learning objectives. Teachers are aware of the continuum of learning in each curriculum area (such as literacy, mathematics, science, and social studies) and adapt instruction for individual children who are having difficulty as well as for those who are capable of more advanced levels of competence.

• To help children learn and develop, teachers use a variety of active, intellectually engaging strategies, including posing problems or discrepancies, asking thought-provoking questions, adding complexity to tasks, and engaging in reciprocal discussion in which they take children's ideas seriously. Teachers also use modeling, demonstrating, and explaining, and provide the information, coaching, direct instruction, and other assistance that a child needs to progress.

FIGURE 10.1 Teaching strategies for children ages 5 to 8.
Source: From Developmentally Appropriate Practice in Early Childhood Programs (Rev. ed.) (p. 65), by S. Bredekamp and C. Copple (Eds.), 1997, Washington, DC: NAECY. Copyright 1997 by NAECY. Reprinted with permission from the National Association for the Education of Young Children.

Behind Act of 2001 places many at risk for failing in the primary grades. Solutions to this problem vary.

The search for a solution to the issue of preventing children from being at risk in the primary grades now focuses on more effective ways to design curriculum and instruction between the ages of 5 and 8. The early childhood unit that groups preschool and primary classrooms as separate wings in a building or separate building is one alternative that is being used. Such organizational patterns can group children together in the early childhood years. Teachers and administrators can restructure curriculum to focus on the developmental nature of children in early childhood education and use developmentally appropriate curriculum materials to maximize learning.

Another alternative is to restructure the primary grades by removing grade levels. There is more than one possibility for restructuring the primary grades. Potential arrangements include a 2- or 3-year experience called looping, in which a class remains with a single teacher. Another possibility is multiage grouping, in which the class is composed of children of more than one chronological age. All the examples I will describe in the following sections have been in use in the United States as well as in other countries.

The British Infant School Model

British infant schools have had an ungraded structure for many years. Children enter school when they turn 5 and stay with the same teacher until age 7. A teacher has students ranging across the three age levels, loses some older students each year, and gains others when they have their fifth birthday. The teacher plans the curriculum for the needs of individual students by responding to their individual interests, development, and level of achievement. Small-group and large-group instruction and activities are conducted, but children are also able to engage in individual projects for portions of the school day. Using a concept called the integrated day, teachers relate the subjects by integrating content areas through topics of study. Large blocks of the day are devoted to the integrated curriculum (Rothenberg, 1989).

For the purposes of this chapter, an adaptation of this structure for an ungraded model in the primary grades has students enter a classroom and stay with a teacher or a team of teachers for 3 years. The age range is from 5 to 7 or 6 to 8. Children engage in thematic study for much of the curriculum, with activities designed for a range of development and achievement levels. Students work on projects and theme activities individually and in groups as interests and the characteristics of theme experiences permit. At the end of the 3 years, students are evaluated for their achievement relative to typical expectations for students completing third-grade curriculum. If a school follows a practice of continuous progress or outcome-based education, all children move to intermediate grades, with instruction adapted to their
current level of achievement. Retention would be a reality in schools where a minimum level of achievement must be attained for promotion.

Systematic instruction, both group and individual, is conducted to support the child's progress through required objectives of the curriculum. Additional planning requirements for teachers are offset by possibilities for peer teaching by students and small cooperative learning groups of students with mixed achievement and abilities. Peer teaching involves pairs of students discussing information and providing feedback about information being learned. In addition, a student who is more advanced than other students could conduct study sessions to practice skills. Cooperative learning groups are particularly useful in problem-solving activities, especially for thematic experiences. Mixed groups of students could work together to find and report on information about a topic. Groups plan and set up a unit project, with differentiated responsibilities determined under teacher guidance and supervision. There is a strong emphasis on student-initiated experiences and student responsibility in attending to learning and managing the environment.

**Team Teaching**

Teams of teachers can organize curriculum and instruction to better serve the learning needs of primary-grade children. Two or three classes are grouped together according to the team organization desired. Teachers share classroom environments and planning and teaching responsibilities for thematic and systematic instruction. Individual teachers focus on specific content areas for systematic instruction.

Some of the curriculum is designed through thematic units that incorporate topics suitable for various learning levels. Topics selected and skills taught incorporate learning objectives that would be the same for a single classroom; however, teaching responsibilities would focus on individual learning and developmental progress among all the students. Application of the skills and concepts for different learning levels are incorporated into thematic experiences supported by specific skills instruction.

Team teaching using integrated themes and systematic instruction that accommodates different achievement and ability levels is more time efficient than planning for separate classes. The teachers can
plan curriculum together for a broad range of student abilities. Moreover, teachers can attend to children experiencing learning difficulties to provide early intervention that will maximize possibilities for achievement.

**Multiage Grouping**

Multiage grouping places children of more than one chronological age together for a single year. In this pattern of organization, students are placed by developmental similarities rather than by chronological age. Curriculum is flexibly designed to facilitate achievement in learning on a continuum for a three-grade range rather than for a single grade level. This is especially important for children from diverse backgrounds. Opportunities are provided for children to learn at their personal rate rather than according to a set curriculum. Students are regrouped for each of the 3 years. The goal is to move the children through the curriculum objectives taught through systematic instruction complemented by ongoing thematic instruction. Students complete third-grade curriculum by the end of the third year; however, the emphasis is on matching the type of learning experiences selected with the shared developmental characteristics of the students. In any of the ungraded structures discussed, the issue of retention is not totally solved. Although development is more stable and evened out by third grade, there would still be some students who would not complete the third-grade curriculum with their peers. The school system would need to determine what would be done with students who need additional remediation or retention before moving into the intermediate elementary grades.

Team teaching could also be used for multiage grouping. Multiple classes are combined or teachers conduct cooperative teaching with separate classes. There are combined thematic activities and exchanges of students for systematic instruction to match individual learning needs. Groups are flexible, and frequent regrouping ensures that student progress is encouraged.

There is a precedent in U.S. education for both multiage classrooms and team teaching in addition to multiage groupings found in British infant schools.

One-room rural schools at the turn of the 20th century had multiple ages learning together. In the 1970s, multiage grouping and team teaching were used in open classrooms and conventional school facilities. Some schools retained these practices into the 1990s.

Some recent studies show that multiage grouping can have positive outcomes in student achievement, particularly when team teaching, cooperative groups, integrated curriculum, and developmentally appropriate strategies are used (Johnson & Johnson, 1994; Kinsey, 2001). Interaction among classmates can provide a support system for improved learning; however, the classroom teacher's intentional facilitation of cross-age learning activities is a key to successful multiage classrooms.

Cooperative learning groups and peer teaching could be incorporated into multiage grouping. Class groups are not organized by grade levels. The multiage groups engage in a continuous curriculum that cuts across grade levels. Thematic curriculum is the source of cohesion of instruction during the school year.

**CHARACTERISTICS OF THE PRIMARY MODEL**

Regardless of the organizational pattern found in the primary model, such a restructuring of the primary grades has common characteristics. One primary purpose of all styles of organizations is to provide developmentally appropriate curriculum to adjust for the normal variations found in primary-age children moving from the preoperational stage in cognitive development to the concrete operational stage. All such models adopt some form of continuity in curriculum that spans levels of ability. These common characteristics are described more specifically in the next section.

**Developmental Curriculum**

The primary model is characterized by a developmental curriculum, which takes into account the abilities of students between the ages of 5 and 8. Learning experiences include manipulatives, problem solving, creative activities, and other hands-on activities to facilitate the
child's role as an active learner. At the same time, these active experiences promote child-initiated learning and ensure success for children who vary in cognitive, motor, and social development. The learning experiences are open ended and flexible enough that children at various stages in the acquisition of reading and writing can work together successfully.

**Integrated Curriculum**

The primary model curriculum is integrated. Thematic units that include all content areas of the curriculum—reading, mathematics, science, social studies, health and safety, fine arts, and physical education—in meaningful contexts form a large part of the overall curriculum. Because this type of curriculum involves planning on the part of the students, experiences and activities incorporate student interests and competencies. Children gain an understanding of the connections between content areas rather than assuming they are separate, unrelated categories. In addition, the whole-language approach to the language arts enables students to use their own interests and ideas in reading and writing to develop their competencies in these areas. Activities completed within integrated curriculum minimize developmental differences between students and ensure successful involvement by all.

One route to success is through the use of unit projects. Students select the projects that they will complete. All students experience success because projects enable students of different abilities and interests to work in a complementary fashion. Because students have a choice in what they will explore, they are intrinsically motivated to engage in their projects (Wolfe, 1994).

**Systematic Instruction**

The curriculum also includes instruction in the content areas taught separately from thematic units. Although there are opportunities in thematic curriculum to gain information and learn skills related to the topic being studied, comprehensive instruction may also be indicated in content areas that require planning for instruction of skills in a sequential manner, such as mathematics and, in some instances, reading. For example, in mathematics there is a sequential or hierarchical pattern to how concepts are acquired. The student must master the concepts and skills related to addition before multiplication is introduced. The teacher uses systematic instruction to ensure that each concept is understood and practiced provided for mastery. The ungraded primary model includes scheduling for systematic instruction; the teacher plans activities to introduce and work with identified concepts and skills in teacher-directed lessons and then provides opportunities for students to practice and achieve competence. Skills instruction will be incorporated into integrated thematic curriculum as much as possible; nevertheless, because of the increasing quantity of specific concepts and skills that are part of curriculum objectives in the primary school, systematic instruction is included to ensure steady progress. Organized instruction is matched to individual needs and progress. Skills instruction in mathematics and reading combines planned instruction in skills and concepts that is compatible with contextual instruction within thematic learning. Whole-group systematic instruction is infrequent. Small-group and one-to-one instruction are more relevant for individual learning needs.

**Cooperative Learning Groups**

Cooperative learning is a practice whereby small groups or committees of students engage in accomplishing learning activities. Students with a range of achievement, learning styles, and abilities work together in a cooperative effort to solve and report on a learning objective. The group engages in brainstorming and problem solving before reaching consensus on the solution. For example, in the first grade, cooperative learning groups could brainstorm to come up with as many words as possible beginning with a consonant during a limited time period; in the third grade, groups could collaborate on finding locations on a map.

Students in the ungraded primary unit are capable of working together in learning activities. Because of the transitions occurring in their cognitive and social development, they are able to benefit from group
interaction to enhance their own learning and to be of assistance to others. Differences in ability to read and write can be used in a cooperative rather than a competitive manner as students use their emerging abilities for different tasks within group activities. Students who are more advanced in reading and writing skills can take a leadership role in reading and recording information. Students who are moving more slowly in acquiring literacy skills might take a leadership role in art projects or activities requiring organization of materials. Students will facilitate the learning of others as they work together in solving problems and completing projects and assignments. The teacher guides planning and implementation of activities so that all students have leadership roles and achieve success in cooperative activities.

Peer Teaching

Students in the ungraded primary unit can develop leadership roles by engaging in teaching responsibilities. Because students of different ages and developmental stages will be grouped together, they can use their competencies to serve as peer teachers. All students can take leadership roles according to their individual strengths; nevertheless, older students or students with more advanced skills in reading, writing, and mathematics can serve as tutors or guides for younger or less advanced students. Age differences are minimized as all students are encouraged to take responsibility for activities and tasks within their ability to perform.

PLANNING AND MANAGING INSTRUCTION

Earlier in this chapter, I discussed the need for both thematic and systematic instruction in the primary grades. In this section, I will discuss how to plan and carry out each type of instruction within an ungraded school structure. The roles of the teacher and students will be explained as well as how both thematic and systematic instruction still maintain the approach that learning must involve the student as an active learner who needs opportunities for self-directed or child-initiated choices. I will also describe the organization of the classroom environment for developmentally appropriate instruction.

The Role of the Environment

The classrooms that serve children ages 5 to 8 or some combination of these age ranges must have materials and resources that facilitate learning at several developmental and academic levels. Because the environment will be used for both systematic learning and thematic curriculum, organization of space must include provisions for all types of activities—group projects, individual work, small-group instruction, and large-group experiences. Flexibility in arrangement will accommodate changing needs as thematic units are designed and carried out.

Room Arrangement

There are various ways to describe the classroom environment. All the descriptions have characteristics in common that help the teacher understand the possibilities for arrangement to provide for activities that reflect student interests. Just as in the preschool classroom, the primary classroom uses spaces for students to work, play, and engage in teacher-directed lessons. The classroom can be arranged to take into account certain areas of interest, or learning centers can be set up so that various types of activities can occur simultaneously.

The importance of using learning areas or centers in the primary grades should be stressed at this point. Although centers have a long history in preschool classrooms, primary-grade teachers have not always felt that they are appropriate in the elementary school. Project work and thematic curriculum require many spaces for accessing materials and engaging in individual and group activities. With more emphasis on exploration of concepts and ideas, working spaces become necessary. Some different conceptualizations of room arrangements are described in the following paragraphs.

Seefieldt (2004) characterized the classroom as a small community or workshop. Although she perceived the classroom as an artificial environment,
compared with the natural outdoor environment, she proposed that the room be arranged into clearly defined areas that would allow children to engage in meaningful learning in groups or individually. She also suggested that both preschool and primary classrooms should include areas that offer materials for sociodramatic play, mathematics, art, reading, manipulative play, sand and water play, woodworking, music, and writing.

We can describe learning activities in terms of individual and group projects. The room can be arranged to accommodate large projects conducted to accomplish three types of activities: construction activities, investigation activities, and dramatic play. They also support activities being engaged in by individual students, thus necessitating spaces in which one person could work at a time (Helm & Katz, 2001; Katz & Chard, 2000).

The concept of open and closed spaces was proposed by Day (1983). He believed that a balance between open space (which gives children freedom to move) and closed space (which provides security and privacy) should be met when arranging the classroom. Among the criteria Day proposed for evaluating the room environment with open and closed spaces were whether the learning areas supported the goals of the program; whether the arrangement provided for large-group, small-group, and individual activities; and whether the children used the areas as they were intended to be used.

One way to organize primary-grade interest areas is to arrange a few centers to encompass a wide spectrum of activities. Thus, one large area accommodates the language arts center. Within that interest area is space for writing activities, a library, listening center equipment and resources, and other reading instruction materials. A similar center houses science, math, and manipulatives. Space for both group investigations and individual work is included in that learning center.

Art and creative dramatics occupy yet another center. Changing role-play materials, puppets, and other materials for dramatic play share space with art materials and working surfaces for group and individual creative activities. Provisions for sand and water and blocks extend creative and construction play (Seefeldt, 2004).

Ideally, tables of various sizes replace the individual desks frequently found in primary classrooms. Students work at various tables during the day and store their books and materials in individual cubbies. If desks must remain, they are clustered in groups of four to six to provide for group efforts and larger working surfaces.

If the large combined center concept is used, three center areas are located in each of three corners of the room. The center of the room is used for large-group activities and larger project work. The fourth corner houses the teacher’s desk and teaching materials and includes arrangements for small-group and individual work and instruction. Student cubbies are located adjacent to this area so that students have access to their learning materials when needed.

Primary-grade teachers who have never used centers might benefit from the following tips:

1. Organize and implement one center at a time. Make sure one center is operating smoothly before setting up another center.
2. Develop procedures or rules for each center. Make sure children understand how to work in that area and how many children the area will accommodate.
3. Centers can be organized in small spaces. A teacher’s desk, closet, or cluster of student desks or tables can become a center. Display areas can be designed using a fabric wall hanging or a large appliance box. Teachers are creative in using found and inexpensive materials to make working areas attractive and functional.

Whatever arrangement is chosen, two additional factors need to be considered when organizing the environment. One is the inclusion of the students in planning for and setting up arrangement of the classroom environment. This is also important when the room is reorganized for each thematic unit. In addition, the use of the outdoor environment is an important factor. Because the indoor environment is artificial, students should engage in activities outdoors.
Learning Centers Not Possible?

With the increasing emphasis on academic achievement in the primary grades, many teachers work in schools where learning centers are not valued or permitted by administrators. In this case, working areas can be established on large tables as needed for project activities. Learning centers that are permanent are not used as in preschool classrooms; rather, temporary working areas are arranged to support classroom activities. Small temporary work areas using boxes and cardboard dividers on top of smaller tables or desks can serve as stations for content subjects and individual work.

The same procedures that are used with learning centers can be applied for project or skills work areas. Students must understand how to use the work area and how materials should be maintained and stored.

whenever it is relevant to do so. Noisy projects, science and art activities, creative dramatics, and many language arts activities can be done outdoors.

Designing Thematic Curriculum

Thematic curriculum is particularly appropriate for instruction in ungraded and multigrade classes in primary grades. Because a variety of projects and activities is included for a unit, certain activities are appropriate for students who vary widely in their developmental and academic progress. Students of different ages and abilities can work together on projects, with younger students learning from older classmates. Younger students and students working at less advanced academic levels will find activities that are motivating and can be accomplished successfully. Older and more advanced students will find challenging activities and will be able to plan experiences and projects that are of interest to them. The curriculum is planned by the teacher and students; consequently, consideration can be made for cultural diversity within the classroom, or diversity can be included because the theme lends itself to cultural differences and contributions.

Chase (1995) described a unit on pumpkin growing in Maine that continues throughout the school year. The teachers have a long-term project because their students stay with them for 3 years. The project begins with planting the pumpkins in the spring in late May. During the summer, the plants are thinned and weeded but are mostly on their own. In the fall, they are harvested and sold to students at the school. Because this project is repeated each year, students can compare harvests of different years, plan how to spend the money earned for classroom needs, and plan for improvements with the next crop.

Because thematic curriculum is completed over a period of time, there is opportunity for exploration, investigation, and representation of learning in an unhurried environment. The unhurried nature of the units makes it possible to include experiences for children with special needs. If children with disabilities are mainstreamed or included in the class, the teacher can plan to adapt activities to address their special needs. This is done whether they have physical disabilities or are emotionally disturbed or gifted. The unit plans are analyzed to determine how each student can play a special role in the learning activities designed for the unit curriculum.

There are obvious similarities between preschool and primary thematic curriculum. Webbing is used to design the topic and its activities. Children are involved in planning, and the curriculum is integrated. Nevertheless, because of the advancing capabilities of the children, their active participation in the process is increased. In addition, more complex concepts can be addressed, the unit can extend for a longer period of time, and more activities can be incorporated to match individual interests. Opportunities for children to work
Selecting a Theme Topic
As is true with preschool thematic units, different approaches can be used to identify a theme topic. Teachers can also use a content area approach. The focus of the unit is on a content area of the curriculum such as science, mathematics, social studies, or language arts. The chosen topic has as its major focus that area of the curriculum, although all other content areas are integrated into the unit.

Another approach is to begin with an important event or celebration. The annual celebration of Valentine's Day could lead to a study of Valentine's Day cards or the origin of Valentine's Day. In addition, many communities and states have annual celebrations that reflect their history and community characteristics. Some aspect of the celebration can be studied to help students understand and broaden their concepts about their local history and culture.

Incidental sources of interest can lead to a learning project. A child's unique experience or discovery of a natural phenomenon can lead to a project of interest to the whole class. Similarly, an interesting topic can occur to the teacher through professional reading, watching an interesting program on television, or another unexpected source. Katz and Chard (2000) suggest that criteria for selecting a topic should include whether the topic is relevant to the children's lives, whether the needed materials and equipment are available, and whether there is access to needed resources in the school and community. Dearden's (1983) criteria for topic selection include opportunities for children to make sense of their experiences, particularly in their own community; topics that give students opportunities to extend their knowledge and skills; and topics that are helpful in preparing them for later life. A common characteristic of all the approaches to topic selection is that they provide the students with opportunities for meaningful and purposeful learning experiences in acquiring and extending knowledge and skills.

Brainstorming a Topic and Developing a Brainstorming Web
Once the topic has been selected, the teacher is ready to begin the brainstorming stage for ideas for the unit. As with the preschool unit, the teacher uses his or her own brainstorming and incorporates the children's contributions as well. With primary-grade children, however, the teacher can engage them in the webbing process. The first brainstorming web will be an outgrowth of the brainstorming activity. The teacher might begin the initial generation of ideas herself and include the children when ready to explore their ideas, which will include possibilities for projects. The teacher also considers topics that are relevant to the local community, preferably near the school.

An example of thematic curriculum developed for kindergarten through third grade is a unit developed by Mary Ann Roser, a teacher in an ungraded primary classroom. Her classroom is self-contained and arranged into flexible learning centers that are changed to reflect the unit being studied. She uses thematic curriculum throughout the year but also incorporates systematic instruction into the daily schedule. Mary Ann's unit plan format includes the following:

Unit topic:
Overview or rationale for the unit:
Developmental stage:
Brainstorming webs:
List of activities and projects (categorized as teacher directed, teacher-child initiated, or child initiated):
Unit objectives:
Concepts, skills, and processes
Curriculum web:
Summary of integrated activities and projects:

Mary Ann selected the topic of bakeries for a thematic unit focused on social studies. She considered the
wide varieties in the types of bakeries the children might study. Because she taught in a large, urban community, she considered the types of baked goods that were available in local bakeries, which ranged from common sliced breads and rolls produced by commercial bakeries to ethnic foods such as pita bread, Italian bread sticks, bagels, and tortillas. A bakery, Trevino’s, was located near the school; therefore, Mary Ann focused on the types of baked goods available in that bakery. Trevino’s was located in a culturally diverse neighborhood with a strong Hispanic influence. In addition to typical American breads and pastries, items reflecting Hispanic traditions were sold. Mary Ann did some initial brainstorming and determined four subcategories that she would like her students to learn about bakeries. In her initial brainstorming web, she organized the four subtopics as follows: people who work in bakeries, products sold in bakeries, items that bakeries need to make and sell products, and people who buy bakery goods. Mary Ann’s initial brainstorming web is pictured in Figure 10.2.

Next, Mary Ann was ready to extend the brainstorming process with the students. She conducted a discussion of the cookies that had been served for lunch the previous day and explored the topic with the children. Once bakeries had been identified as a source for cookies and other baked products, the class was ready to work on the web. Included in the discussion was talk of baked goods from different cultures and bakeries that specialized in breads and goods from different cultures. Each subtopic was discussed separately, with extension and expansion of the web as the conversation continued. Mary Ann wrote the children’s contributions on a chalkboard so that the students could follow the progress of the web. When the web was completed, the students were ready to move to a discussion of the activities and projects they would like to pursue to learn more about bakeries. Figure 10.3 shows Mary Ann’s final brainstorming web.

Planning with Students and Selecting Unit Activities

As Mary Ann and the students talked about what they wanted to learn, they listed ways to find out more about bakeries and bakery products. As students suggested things they might like to pursue, Mary Ann made a list of activities and projects. The first list included the following:

Visit bakery.
Find recipes for bakery products.
Make bread, cookies, cupcakes, and pies.

![Figure 10.2 Initial brainstorming web.](image-url)
FIGURE 10.3  Final brainstorming web.

Find out about bakery jobs.  Make a classroom bakery.  Write stories about the visit to the bakery.  Read books about bakeries and bakery products.

Learn how different products are made.  Make recipe books.  Mary Ann later studied the list and refined and further organized it.  She arranged the unit into projects.
and individual activities that did not fit into a project. She further categorized each item on the list to indicate whether it was teacher directed, teacher-child initiated, or child initiated. Her revised list was organized as follows:

**Activities**
- Visit bakery (teacher-child initiated).
- Write stories about the bakery visit (child initiated).
- Make a mural about bakery jobs (teacher-child initiated).

**Projects**
- Construct a classroom bakery (teacher-child initiated).
- Conduct a bakery day to sell products (teacher-child initiated).
- Bake cupcakes, cookies, and tortillas (teacher-child initiated).

Collect recipes.
Collect equipment needed for baking.
Make list of ingredients needed for baking each type of product.
Shop for baking ingredients.
Bake and package products.
Sell products to school students on bakery day.

In making her final list, Mary Ann determined which activities could accommodate her students' abilities; she included all of them in different parts of the curriculum. She also determined what was manageable for the students to bake. She selected cupcakes, cookies, and tortillas because they were easy to make and represented different types of ingredients and products. She included cookies that were traditional in certain cultures: Mexican gingerbread pigs, Chinese almond cookies, and Scotch shortbread recipes were solicited from parents. The cookies each had different textures and were mixed and prepared for baking differently.

Mary Ann added the activity that involved representing jobs in a bakery because she wanted to offer a creative way for all the students to participate in some capacity. To determine how the unit experiences would include a balanced, integrated curriculum, Mary Ann developed a curriculum web; it allowed her to organize the unit experiences into content and developmental categories. Figure 10.4 shows Mary Ann's curriculum web. She was pleased with the distribution of activities and felt that coverage of content areas and connections between the content and developmental areas were well defined. Mary Ann could also have used a grid to chart and compare activities. Figure 10.5 shows a grid arrangement. With decisions made about what the students would learn about bakeries, Mary Ann and the students were first able to transform the learning ideas into concepts, skills, and processes. Mary Ann was then ready to develop unit objectives.

**Determining Concepts, Skills, and Processes**

Because of the comprehensive nature of the unit, there were many concepts, skills, and processes that the children could learn. Mary Ann and the students decided on the following:

1. There are many different roles in a bakery.
2. Bakeries sell a variety of baked products.
3. Special equipment is needed to prepare large quantities of baked goods.
4. Each type of baked goods has its own recipe.
5. Bakery cooks must follow recipes carefully if baked goods are to be of a consistent quality.
6. The amount of baked goods to be produced must be planned carefully if there is to be enough but not too much each day.
7. Baked goods to be prepared will vary depending on the time of the year and before holidays.

**Developing Unit Objectives**

Because the thematic unit objectives were designed for students of varied ages and abilities, Mary Ann described them in general terms. She categorized the objectives according to what students would understand and what they would be able to do. The same process of describing the condition and the behavior
as was used in Chapter 7 was followed. Mary Ann’s unit objectives were as follows:

1. As a result of visiting a bakery and observing bakery products, students will understand that a variety of baked goods are sold in a bakery.

2. As a result of visiting a bakery and observing bakery employees, students will understand that workers in a bakery have different responsibilities.

3. As a result of visiting a bakery and observing bakery operations, students will understand
## Unit Activities Grid

<table>
<thead>
<tr>
<th></th>
<th>Language Arts</th>
<th>Math</th>
<th>Science</th>
<th>Social Studies</th>
<th>Expressive Arts</th>
<th>Health/Safety</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cognitive</td>
<td>Visit to bakery</td>
<td>List of bakery ingredients</td>
<td>Changes during baking</td>
<td>Visit to bakery</td>
<td>Visit to bakery</td>
<td>Visit to bakery</td>
</tr>
<tr>
<td></td>
<td>Stories about visit</td>
<td>List of bakery equipment</td>
<td>Differences in yeast and baking products</td>
<td>Make mural</td>
<td>Make mural</td>
<td>Comparison of nutritional values in products</td>
</tr>
<tr>
<td></td>
<td>Research bakery jobs</td>
<td>Baking recipes</td>
<td></td>
<td>Write story</td>
<td>Write story</td>
<td>Safety and cleanliness procedures in making products</td>
</tr>
<tr>
<td></td>
<td>Collect recipes, lists of ingredients</td>
<td>Pricing goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Book of recipes</td>
<td>Selling baked goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Books and stories about bakeries and baking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social/Emotional</td>
<td>Visit to bakery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical</td>
<td>Visit to bakery</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Stories about bakery visit</td>
<td></td>
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<td></td>
</tr>
<tr>
<td></td>
<td>Book of recipes</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Lists of ingredients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Pricing baked goods</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mixing and baking products</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FIGURE 10.5 Curriculum grid.**
what equipment and materials are needed to run a bakery.
4. Following a visit to a bakery and discussions with bakery employees, students will be able to describe responsibilities of bakery workers.
5. As a result of visiting a bakery and studying recipes, students will be able to determine what ingredients and cooking equipment are needed to bake cookies and cupcakes.
6. Following a planning session with the teacher, students will be able to construct a classroom bakery and conduct bakery sales.
7. As a result of studying recipes and discussing how to interpret recipe terminology, students will be able to follow a recipe to make bakery products.
8. As a result of cooperatively planning unit projects, students will be able to work in groups to complete the planned projects.
9. As a result of practicing how to price baked products and make change, students will be able to conduct simple money transactions to sell bakery products.
10. After visiting a bakery, participating in discussions about bakeries, and reading stories about bakeries, students will be able to write stories about bakeries.
11. As a result of studying cookbooks and recipes donated by parents, students will be able to select recipes for cookies, cupcakes, and tortillas.
12. Following the baking of cookies, cupcakes, and tortillas and discussions about how much to charge for baked products, students will be able to package and price bakery products.
13. As a result of selecting and using recipes for cookies and cupcakes, students will be able to make a book of recipes.
14. After discussing bakery jobs and planning how to represent them, students will be able to make a mural describing the responsibilities of bakery workers.
15. After completing cooperative group projects to make a mural, construct a classroom bakery, and bake cookies, cupcakes, and tortillas, students will be able to participate in bakery day to sell baked products to students from other classrooms.

Planning Lesson Activities and Projects

The planning process is not complete until the projects and activities are explored in more detail. The teacher will consider all the procedures and materials needed for each activity and project. She will also determine when and how the activity will fit into the schedule. In the case of unit projects, the teacher will need to consider how much time should be set aside for the project and how the students can choose to be involved in planning and doing the project. Activities will be described so that the teacher and students will understand specifically what will occur.

Mary Ann studied her unit activities and wrote a description of each one. Each activity was described and discussed in terms of how it incorporated different content areas of the curriculum. She described the visit to the bakery as follows:

Visit to Termini's Bakery.

After planning what to look for at the bakery, students, teachers, and volunteer parents will walk two blocks to the bakery. The manager will meet the group and explain how bakery goods are made in the kitchen and sold in the sales area. Students will be prepared to observe different equipment in the kitchen and the varied bakery products in the sales shelves. Groups of students will have assignments to learn the different kinds of breads, cookies, cakes, and pies sold at the bakery. Some groups will be prepared to find out how different products are mixed, baked, and frosted or decorated by the cooks. The activity focuses on social studies; there will be discussion about the different roles people have in contributing to the needs of the community. Specifically, the contributions of the bakery to the local community are discussed. In addition, the activity includes language arts; oral discussions are conducted, and students will record the types of products that are sold at this particular bakery.

Each of the activities was summarized in a similar fashion; projects, however, required more extensive planning. Mary Ann worked with the students in
discussing each project and what would be necessary to complete each one. Students discussed their interests in being a part of certain projects. They were encouraged to select a project with which they would like to work. Because all the students wanted to take part in cooking, the class was divided into groups to cook either cupcakes, tortillas, or cookies. Other responsibilities for collecting recipes, mixing and baking equipment, and ingredients for baking were also divided among the groups. Students were given responsibilities according to their ability and interest. Students of different levels of achievement were grouped together, with group leaders selected to be responsible for helping to identify responsibilities for each of the group members.

When plans were completed for unit activities and projects, Mary Ann was able to complete the unit plan. The format used was the same general format used in the preschool unit plan. However, Mary Ann had the additional curriculum web to assist her in interpreting how she was relating and integrating experiences across the curriculum.

Mary Ann could also describe the final unit plans in terms of individual lessons. She included the lesson or project activities, a description of the procedures for the lesson, the materials needed to conduct the activity or project, and plans for assessment. Mary Ann used the following format:

Title of plan:

Objectives addressed:

Concepts, processes, skills to be developed:

Activity procedures:
- Large-Group Activity (teacher directed):
- Small-Group Activity (teacher-child initiated):
- Center Activities (child initiated):

Materials/resources needed:

Assessment:
- Teacher Assessment:
- Activity Assessment:
- Student Assessment:

There were some differences between Mary Ann's plans for the primary grades and Lisa's plans for preschool children (refer to Chapter 7 for a discussion of Lisa's plans). Mary Ann included systematic instruction lessons under small-group activities. Projects and cooperative group activities could also be organized under the small-group category. Children could be more involved in evaluation procedures; students would be able to evaluate their own learning and assess the success of group projects with the group and the teacher.

Mary Ann's plans had many similarities to preschool plans. Within the activity category, three-part procedures can again be used to describe the sections of the lesson: (a) introduction, or planning; (b) development of lesson or activity; and (c) summary, or review.

There are many ways that a plan can be described. If a teacher-directed lesson is to be used rather than a teacher-child-initiated activity, then lesson procedures might be more detailed than activity procedures. An example follows:

Lesson Procedures:

Introduction of the lesson

a. Focusing Activity: What will be done to get students' attention.

b. Objective: Discuss with the students what they will know or be able to do at the end of the lesson.

c. Tie in prior learning: How the lesson will be related to a previous lesson or other unit activities.

Development of the lesson

a. Explanation: (models or modeling, definitions, examples, process steps, etc.).

b. Guided practice: (manipulative or hands-on activities, written practice, etc.).

c. Challenge activity: An activity that permits students to apply the information or skill they are learning. Can be done alone, in pairs, or in groups.

d. Adaptations: Modifications that can be made in the lesson to enhance the learning of children with diverse needs or abilities or developmental levels in the classroom.
e. Retaching activity (if needed).
f. Closure. How the lesson will be concluded so that it makes sense to the students. This activity might take the form of a review discussion with the students, a written chart where the children will dictate what was learned in the lesson, etc.

Following this description of how the lesson will be conducted, the format can then be used to include the materials and resources needed and procedures for assessment.

As was true in preschool lessons, each category can be adapted to fit the type of activity and the size of the group involved as well as the flexible role of the teacher. A teacher-directed lesson begins with a strategy to introduce the purpose for the lesson, continues with the procedures used to help children learn the lesson, and ends with a summary of the main points of the lesson. A group project begins with the teacher and the group planning the activity, followed by actual work on the project. At the end of the work period, the work area is restored and materials are put away; this is followed by an opportunity to review and evaluate progress and make adjustments if needed. Figure 10.6 provides an example of Mary Ann's plan for a cooperative group lesson.

Planning for Assessment

As can be seen in Mary Ann's sample lesson, she conducted three types of evaluation to assess the effectiveness of curriculum and instruction in her classroom. She considered assessment of the teaching role, assessment of student learning, and assessment of the quality of the activities used for the lesson.

Assessment of the Teacher. Mary Ann had a plan to assess her effectiveness in the teaching role as a part of every group activity or lesson. When conducting thematic experiences, she used the role of facilitator more frequently than she engaged in teacher-directed responsibilities. As facilitator and guide, she wanted to reflect on how well she enabled
TITLE OF PLAN: Understanding Recipes

OBJECTIVES ADDRESSED:
As a result of studying recipes and discussing how to interpret recipe terminology, students will be able to follow a recipe to make bakery products.

CONCEPTS, SKILLS, AND PROCESSES USED:
Each type of baked good has its own recipe. Bakery cooks must follow recipes carefully if baked goods are to be of a consistent quality.

ACTIVITY PROCEDURES:
Large-group activity (teacher-initiated, small cooperative groups) The lesson will be conducted with the class divided into cooperative groups to learn how to understand and follow a recipe.

Introduction
The teacher will write the recipe on a large chart tablet or overhead transparency. Rebus pictures will be used in addition to written measurements for young and less advanced readers.

Development of Lesson or Activity

Step 1
The teacher and students will read the recipe together.

Peanut Butter Cookies
1 cup shortening
1 cup granulated sugar
1 cup brown sugar
2 eggs
1 teaspoon vanilla
1 cup peanut butter
3 cups enriched flour
2 teaspoons soda
½ teaspoon salt

Thoroughly cream together 1 cup shortening, 1 cup granulated sugar, 1 cup brown sugar, 2 eggs, and 1 teaspoon vanilla. Stir in 1 cup peanut butter.
Sift together 3 cups sifted enriched flour, 2 teaspoons soda, and ½ teaspoon salt. Stir into creamed mixture.

FIGURE 10.6 Example plan for a cooperative group lesson.

the students to accomplish the objectives of the activity. She assessed how well she was able to serve as a resource for ideas and processes to accomplish child-planned activities.

When she had a more directive role in systematic instruction, she evaluated herself in terms of student success in learning. She was sometimes interested in student mastery of specific skills. Teachers who are required to give grades would have to be very specific about how well students performed in acquiring information and skills. Assessment of teaching effectiveness following systematic instruction relates to how effective instructional experiences were in helping students achieve success in learning. In the example of Mary Ann's teaching described earlier, she used assessment to determine her success in helping students acquire
Drop by rounded teaspoons on ungreased cookie sheet. Press with back of floured fork to make crisscross. Bake at 350° about 10 minutes or until light brown. Makes about 5 dozen cookies.

**Step 2**
Teachers and students will discuss the ingredients that they will need to make the cookies. Each cooperative group will make a list of ingredients that will be needed by studying the recipe. Their lists will be compared with the teacher's list.

**Step 3**
The recipe will be read again. Teacher and students will focus on what will need to be measured, sifted, etc. The cooperative groups will list the measuring, mixing, and baking utensils that will be needed.

**Step 4**
The recipe will now be studied for the processes that will be needed to make the cookie dough and bake the cookies. The teacher will underline the steps and processes to be followed. Cooperative groups then will list the processes and describe what each means. Individual lists will be compared with the teacher's list.

**Summary or Review**
The recipe will be read one final time. The teacher will guide the groups to identify kitchen items not specified in the recipe that will be needed to prepare the cookies (e.g., pot holders, storage container, etc.).

**MATERIALS/RESOURCES NEEDED:**
- Recipe
- Chart tablet or overhead transparencies and projector
- Pencils and paper for student responses

**ASSESSMENT:**

**Teacher Assessment:**
Could the students understand the recipe and procedures? Were they able to complete the group assignments with a minimum of teacher assistance? Could all students participate regardless of learning differences?

**Student Assessment:**
Did all students contribute to group activities? Were they interested in helping their group complete the assignments in an effective manner?

**Activity Assessment:**
Could the students understand the recipe and procedures? Were they able to complete the group assignments with a minimum of teacher assistance? Could all students participate regardless of learning differences?

**FIGURE 10.6 (Continued)**

the skills needed to engage in a unit cooking activity and at the same time assessed the children's growth in working in groups to accomplish learning objectives.

**Assessment of Student Learning.** Mary Ann also wanted to determine how well students were learning. Again, her objectives for assessment varied depending on the nature of the learning objective. In this lesson, she wanted to assess how successful the students were in leadership, problem solving, and other processes involved in cooperative assignments requiring student collaboration.

Mary Ann was also evaluating students' acquisition of specific knowledge and skills. She wanted to determine whether the students had adequately learned the information and skills presented. She wanted to assess
how well the students learned the objective of the lesson. Mary Ann addressed state expectations for learning objectives in content areas. Some of these objectives might be addressed within thematic curriculum; nevertheless, systematic instruction would concentrate on essential skills.

**Assessment of the Curriculum.** Mary Ann had more than one type of curriculum to evaluate in her classroom. When she assessed thematic curriculum, she considered the effectiveness of the activities, materials, and equipment used for experiences and projects. She looked at the length of time needed for thematic activities and evaluated whether time and value of the activity were compatible.

When Mary Ann was engaged in systematic instruction, she assessed whether her teacher-designed or commercial materials were appropriate and whether she accomplished the objectives she had set for learning. Mary Ann wanted to know whether she had made good choices regarding the activities she used for children in their attempts to acquire specific knowledge or skills. She also wanted to know whether adequate time and activities had been planned for student learning.

Figure 10.6 describes Mary Ann’s plans for assessing her lesson. The strategies she used were representative of some of the purposes and processes for evaluation with primary-age students. More about assessment in primary grades will be discussed at the end of this chapter.

**Implementing Thematic Curriculum**

**Planning with Students and Parents**

Mary Ann extended planning with the students as she prepared to set up the unit on bakeries. At this point, she contacted parent volunteers to help her in the final stages of decision making. Parents helped identify where to acquire the resources needed to carry out the unit activities and projects. Individual parents accepted responsibilities for project activities or agreed to work in centers with children for art and language arts activities. Students were allowed to volunteer for leadership roles in projects, with parents acting as resources and supporters for facilitating successful completion of activities needing adult guidance.

Adults and children planned together how to get the room ready for the new unit. Mary Ann and the parents guided the children in discussing how to construct a bakery and the steps involved in setting up the bakery area. The students also discussed how to research recipes and make recipe books. Plans were made as to when and how needed resources for all the projects and activities would be acquired. Arrangements were made to borrow the school’s cooking cart and use the ovens in the school kitchen to bake in the afternoons when school cooks were finished for the day.

**Scheduling**

Planning and carrying out the weekly and daily schedule required periodic times for planning and review. Mary Ann made a weekly plan that reflected her activities, including group projects, small-group instruction, and individual interaction and working with project groups. As was true in the preschool model, the sequence of planning activities and reviewing after activities were completed was incorporated into the schedule each day. Figure 10.7 shows Mary Ann’s schedule for the first week of implementation of the unit on bakeries.

Mary Ann scheduled the entire morning for unit work and instruction combined. Afternoons were reserved for instruction that could not fit into thematic work times and needed to continue in content areas. She started each morning with 15 minutes for planning with the entire group. The next 15 minutes was used for planning with the project groups. Each day for an hour, she worked with small groups in systematic instruction, followed by an hour of interaction with individuals. She might spend the time conducting assessments, working on skills that were causing difficulties for individual students, or helping students complete work or try new methods to attack a problem. According to this week's schedule, she worked for 2 days in mathematics and then switched to reading for the following 2 days.

After the periods of systematic instruction, she spent 45 minutes facilitating and working as a resource for the project groups. Students alternated among center
<table>
<thead>
<tr>
<th>Schedule</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
<th>Learning Center Arts</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00–8:15</td>
<td>Plan trip to bakery</td>
<td>Plans to begin group projects</td>
<td>Plans for the day</td>
<td>Plans for the day</td>
<td>Plans for the day</td>
<td>Language Arts</td>
</tr>
<tr>
<td>Large-group planning</td>
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<td>Tuesday—Individual stories about trip to bakery</td>
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<td>Recipe Group</td>
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<td>Tuesday—Wednesday</td>
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<td>Research cookbooks</td>
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<td>Select and copy recipes on experience charts</td>
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<td>Mural Group</td>
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<td>Research bakery worker responsibilities</td>
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<td>8:15–8:30</td>
<td>Group plans for bakery information</td>
<td>1) Bakery construction group</td>
<td>Problem solving for group projects</td>
<td>Meetings with project groups</td>
<td>Cooking committee</td>
<td>Library books</td>
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<td>Group plans</td>
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<td>2) Recipes group</td>
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<td></td>
<td></td>
<td>Books and stories about bakeries and bakery products</td>
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<td>3) Mural group</td>
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<td>8:30–9:30</td>
<td>Small-group instruction</td>
<td>Year &amp; Bakery</td>
<td>Mathematics</td>
<td>Reading</td>
<td>Reading</td>
<td>Art/Creative Dramatics</td>
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<td>Systematic instruction</td>
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<td>Classroom Bakery Group</td>
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<td>Plan and construct bakery</td>
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<td>Mural Group</td>
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<td>Design mural panel for each bakery job</td>
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<td>List responsibilities in each panel</td>
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<td>Coordinate decoration of panels</td>
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<td>8:30–10:00</td>
<td>Individual help</td>
<td>Systematic instruction</td>
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<td>Math/Science/Manipulatives</td>
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<td>Select recipes</td>
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<td>Copy recipes</td>
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<td>Determine ingredients needed</td>
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<td>10:00–10:45</td>
<td>Project work</td>
<td>Write bakery stories</td>
<td>Monitor cooperative group activities</td>
<td>Group reports on projects</td>
<td>Review bakery stories</td>
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<td>Determine ingredients needed</td>
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<tr>
<td>10:45–11:15</td>
<td>Large group</td>
<td>Review trip</td>
<td>Review group projects</td>
<td>Review morning activities</td>
<td>Plan for new and continued activities for following week</td>
<td>Cooking Groups</td>
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<tr>
<td>Review morning</td>
<td></td>
<td>Discuss plans for Tuesday</td>
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<td>Study recipe charts</td>
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<td>activities</td>
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<td>Plan for following day</td>
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**FIGURE 10.7** Weekly schedule.
activities, projects, and systematic instruction and related assignments during the morning. The children might work from contracts or follow group schedules put on the board during planning time. The project groups functioned as cooperative groups. Small-group instruction could be conducted with cooperative groups working at different levels in the curriculum according to ability and achievement. These flexible groups could be reorganized when needed to meet individual needs or to allow children to progress at a different rate.

The section of the schedule devoted to learning center areas listed the activities that might take place on a daily or weekly basis. Some activities were for individual children to complete, whereas others were conducted by group projects. In the case of the recipe group, project research began in the library center and then moved to the mathematics/science/manipulative area when it came time to use the recipes to get ready for cooking projects the following week.

The first day of the unit was used to plan and take the trip to the bakery. Students were prepared for the information they needed to find while touring the bakery. On returning from the bakery, they were given time to begin their stories about the experience, which could be continued the following day in the language arts area.

At the end of the morning, the class completed a review session during large-group time to discuss the day's progress and make preliminary plans for the following day. At the end of Friday morning, the whole class reviewed the week's activities and discussed project progress with the respective committees. Before the review period ended on Friday, Mary Ann and the class made plans for the second week of the project, which would include baking cookies, cupcakes, and tortillas and selling the products in the classroom bakery the following Friday.

This particular unit was planned for 2 weeks. Another thematic curriculum could be longer or shorter, depending on the topic. It is obvious that this unit, although very interesting, would require a great deal of preparation on the part of the teacher, volunteer parents, and students. If the teacher wished to have ongoing units, she might want to plan less extensive units after the more demanding ones. This type of unit also might be planned infrequently, and then time could be provided for smaller projects until the teacher would be able to begin the planning process for the next theme. A team of teachers working together could alternate, taking the major responsibility for planning a unit, with the other teachers acting as resource people. With this plan, it is possible to have a more continuous flow from one thematic unit to another, perhaps alternating among the content areas of the curriculum as the major focus.

Incorporating Systematic Instruction

When commercial producers began publishing curriculum materials around the turn of the 20th century, they made it possible for state boards of education to set the curriculum for school districts across the state. Before that, individual school districts and local boards of education had determined the curriculum for their children. With urbanization, consolidation, and construction of large school buildings with many classrooms, the purchase of curriculum materials that had been developed by specialists was a form of insurance for a centralized standard of instruction (Czernin, 1988).

Since the advent of commercial curriculum materials, the industry has grown; many large corporations now produce teaching resources for all grade levels, including preschool classrooms. Over the years, teachers have become very comfortable following the sequence of the curriculum as organized in the basal reader program, language arts text, mathematics series, and other content area resources. Unfortunately, the various texts and kits for each grade level were developed independently of each other and may have little in common in terms of content or approach to teaching.

Curriculum and instruction practices in early childhood classrooms were criticized earlier in this text because of accelerated content in the early grades that requires young children to perform in a manner that is not developmentally appropriate. If one studies the commercial resources available in a particular school for the primary grades, it becomes readily apparent that at least some of the materials teach concepts and skills without any obvious connection to how the skills are applied for a purpose. Using thematic curriculum fills this gap by making connections between skills and how they are
applied. It also demonstrates the relationships between content and developmental areas. The problem is in how to incorporate basal texts for systematic instruction. The task can be difficult because the teacher may need to use the adopted textbooks for this type of instruction. Nevertheless, the same principles according to which young children learn must be applied to systematic instruction, and the teacher must be able to adapt existing resources so that students can reconstruct knowledge and have ample opportunities to work through acquisition of concepts with hands-on activities.

Managing Systematic Instruction

When a teacher chooses to use systematic instruction, she knows there are some concepts or skills that need to be taught that have not or will not be covered in thematic curriculum. Perhaps the child has been having difficulty in decoding words or is not attending to endings on words. Some activities with the skills would strengthen the child’s understanding and application of the needed skills. In mathematics, the teacher may be following a sequence of skills and through informal assessment has determined which students in the class need instruction on certain skills; the teacher organizes small groups that she has identified and plans a series of lessons to help these students acquire the math objective. Still another source of identification for systematic instruction is thematic curriculum. In the course of carrying out unit activities, the teacher identifies a student who is having difficulty in accomplishing a unit project that requires a skill. The teacher provides systematic instruction to facilitate the child’s ability in the needed skill. In Mary Ann’s unit, she might notice that children were unable to understand the measurements in a recipe. She could plan lessons and let the children practice using measuring cups and spoons to help them acquire confidence in completing the correct measurements.

Regardless of the source of the need for systematic instruction, the teacher plans lessons to match the need for active learning and reconstruction of knowledge. This process is further explained in “Guidelines for Appropriate Curriculum Content and Assessment in Programs Serving Children Ages 3 through 8” (National Association for the Education of Young Children [NAEYC] & National Association of Early Childhood Specialists in State Departments of Education, 1991) as follows:

Children need to form their own hypotheses and keep trying them out through mental actions and physical manipulations—observing what happens, comparing their findings, asking questions, and discovering answers. When objects and events resist the working model that the child has mentally constructed, the child is forced to adjust the model or alter the mental structures to account for the new information. (p. 25)

The guidelines further describe the learning process as a cycle that includes awareness generated from experience, exploration of what is being learned, and utilization, whereby children are able to use or apply what they have learned. The cycle demonstrates how children use child-initiated learning to acquire new knowledge. The point is that systematic instruction does not imply that the teacher is disseminating information for the child to absorb and master. There is a definite difference between systematic instruction and teacher-directed instruction. In teacher-directed instruction, the teacher directs and controls the process; in systematic instruction, the teacher plans the activities with a definite learning objective in mind, although the activities encourage the children to acquire the information using their own capacities for learning.

Thus, the teacher’s responsibility is to introduce the child to the concept or skill to be learned—to develop the child’s awareness. Exploration with the skill or concept is promoted through hands-on and other sensory experiences so that it becomes personally meaningful. True understanding comes when the child is able to use the new concept or skill in various applications; the child is able to apply the learning to new situations (NAEYC & National Association of Early Childhood Specialists in State Departments of Education, 1991).

Whether the teacher is developing her own teaching strategies or using commercial materials for systematic instruction, she will want to provide experiences that meet the characteristics explained earlier. In both cases, the teacher will evaluate the activities being planned to determine how purposeful they are for the
child. If the commercial resources do not provide a variety of hands-on exploratory activities to pursue the concept, the teacher must modify the lessons to include them. Similarly, if the learning activities include pencil-and-paper drill exercises but no meaningful application, opportunities for working with the skill or concept in a purposeful context should be provided.

**Balancing Thematic and Systematic Instruction**

No matter how the teacher decides to employ thematic curriculum and systematic instruction in her classroom, a balance needs to be established between the two approaches. If thematic curriculum is used as an ongoing part of the program, many of the skills in a state-mandated set of curriculum objectives will be covered through theme units. Systematic instruction will supplement thematic activities. The less often thematic curriculum is used, the more often systematic instruction will be incorporated into the program. If theme units are used only occasionally, systematic instruction will become the major source for instruction, whereas thematic curriculum will serve as the source for supplementary activities. Whichever combination is used, the teacher needs to keep firmly in mind the process by which young children learn, which is fostered through developmentally appropriate instruction that is child centered and meaningful.

**THE ROLE OF ASSESSMENT IN KINDERGARTEN AND PRIMARY GRADES**

The role of assessment was discussed in Chapter 7 in the context of preschool classrooms. Evaluations of thematic units, of the teacher's effectiveness, and of student learning were included as components of evaluation of the school program. The same elements remain when assessing in the primary grades; however, evaluation of student learning becomes more significant as student achievement is measured for various purposes.

In Chapter 3, I discussed the use of standardized tests with young children and the misuse of these tests for purposes of placing children in programs, excluding them from programs, and retaining them at certain levels. Standardized tests are also used to measure student learning in the primary grades;
however, group achievement tests have limitations in measuring individual student learning. Other methods of assessment are more appropriate for measuring and reporting individual student achievement. As children enter the primary grades, assessment may be used to assess and report student progress in learning, to evaluate and improve the instructional program, to identify and address learning problems, and to report to parents.

The Purposes of Assessment in Kindergarten and Primary Grades

Assessing and Reporting Progress in Learning

Parents, teachers, and other school personnel must have information about students’ progress in learning in kindergarten and primary grades. The information is needed to determine whether the individual child is progressing adequately in the instructional program, what individual and group instructional needs are, and how effectively the instructional program is serving to instruct the students. School districts commonly use standardized achievement tests to assess individual and group progress in learning; however, such tests are less effective for assessing achievement in the primary grades, especially individual achievement. They can be an indicator of the quality of the instructional program in language arts and mathematics when comparing group achievement.

Informal types of assessment are more useful than standardized tests to measure student learning. They are available when needed, can be revised by the teacher when needed, and can be a natural part of ongoing instruction. Informal assessment can stem from observation, representative work by the children, completion of tasks within small-group instruction, and other activities during the school day. The teacher tries as often as possible to conduct assessment as an ongoing process within natural classroom routines rather than taking separate periods of time to conduct testing (Wortham, 2005a).

Informal strategies for assessment can include teacher-designed assessments, commercially designed assessments, observations, interviews, directed assignments, work samples, project work, and student portfolios. If report card grades are required, the teacher will want to include assessment strategies that can be translated into a grade. Teacher-designed assessments, directed assignments, and work samples are easily structured for a grade; moreover, project work and student portfolios can contribute to a qualitative assessment using rubrics (Wortham, 2005a).

Teacher-Designed Assessments

In Chapter 6, teacher-designed concrete tasks were described as developmentally appropriate for evaluating the learning progress of preschool children. This type of assessment activity continues to be appropriate for kindergarten and primary children. The teacher uses objects or pictures for the child to manipulate or otherwise indicate a response to a learning task. As children enter the primary grades, acquisition of reading and writing skills makes it possible for students to begin to respond to learning experiences with pencil-and-paper tasks. This transition is gradual and dependent on the child’s competence in working with pictures rather than real objects. In addition, the use of printed words is gradual, with prior orientation by the teacher to the written task. Children are asked to circle, make an X by, or underline the correct response (Wortham, 2005a). Later they can fill in a missing word and move to more extensive written responses. Through the primary grades, the use of written assessments is approached carefully; the teacher studies the design of written teacher assessments for specificity and appropriate level of written response on the part of the student.

Commercially Designed Assessments

Commercial instructional materials are frequently accompanied by written paper-and-pencil assessments to be used with the students. They may take various forms, such as end-of-unit assessments in science, assessments of mathematical skills, and tests at the end of a basal reader. Many of these assessments are well designed; nevertheless, others are neither useful nor appropriate. When deciding to administer a pencil-and-paper test to kindergarten and primary children, the teacher needs to determine whether it is the best method of assessment and whether it is appropriate for the information desired about the child’s learning. A
teacher-designed concrete task or written worksheet might be more specific for the objective to be assessed.

Observations
Observation is a natural strategy for teachers to use when they are conducting a lesson, working with children in centers or assigned tasks, or observing classroom routines. Observations can be planned or used because a moment for evaluation presents itself. Observations can be conducted involving individual children or a small group of children. The teacher needs some type of method to record what is being observed; this can include an anecdotal note of the event or accomplishment, a checklist or rating scale, or another type of record-keeping form. Observations can be used for all types of learning, particularly to document progress that is not being acquired through some type of written evaluation. Teachers use observation to record reading behaviors when children are reading to a small group or to document understanding of a process in mathematics when children are working on mathematics assignments or successful efforts to work in a cooperative group (Hills, 1992; Wortham, 2005a).

Interviews
In an interview, the teacher questions a student to determine understanding and the thought processes the child is using with an activity. Instead of giving a paper-and-pencil test to measure problem solving in mathematics, the teacher talks to the child and asks how the child went about solving the problem.

Interviews may be planned or unstructured. In a planned interview, the teacher determines what questions will be asked before the child is approached. In an unplanned or unstructured interview, the teacher happens on a significant activity and decides to talk to the children about the activity in which they are engaged (Seefeldt, 2004; Wortham, 2005a).

Directed Assignments
A directed assignment is designed for assessment purposes. The teacher instructs students to carry out a specific activity that will be used to assess progress and mastery. A directed assignment can be a work sheet or a task located in a learning center. The assignment can be the same for all students or differentiated depending on individual progress. The assignment can be written or a manipulative task.

Work Samples
Students complete assignments every day. They also engage in self-selected activities because of their own interests. Any type of work product can become a tool for assessment. Work sheets are commonly thought of as the typical work sample, but many other forms of work can be collected. Examples of art, stories, or book reports written by the student and results of cooperative group activities can be collected for a work sample. The sample is selected because it is a good representation of the student’s progress.

Project Work
Project samples are similar to work samples; however, they are likely to represent work over a period of time. When engaging in thematic units, students often devise projects that they would like to conduct to learn unit objectives. Students might plant a garden, conduct research, and record their findings; engage in some type of extended art work to represent their learning; or construct a model. All these projects can be used to represent progress in learning (Katz & Chard, 2000).

Portfolios
Portfolios provide an opportunity to review what a student has accomplished or learned over a period of time using a variety of materials that reflect the student’s activities and work. The teacher and student begin collecting samples of the student’s work early in the school year, and materials are added periodically as the year progresses. Samples of writing, art, classroom assessments, and records of individual, group, and project work can be included in the portfolio. The teacher and student can review the materials periodically to assess progress and decide which samples should remain in the portfolio.

Portfolios can have different purposes. The type of entries will depend on the purpose that has been designated. A showcase portfolio is meant to highlight a student’s best work. Entries are selected primarily by the student and are meant to be shared with other
students, teachers, and, particularly, parents. An evaluative portfolio is the purpose that is most commonly known. The evaluative portfolio has as its primary purpose to provide documentation for student assessment. Evaluative portfolio entries might be selected by the teacher, but the selection is best when the teacher and student collaborate on what entries best reflect the student's progress and accomplishments. If the portfolio will contribute to a grade on a report card, then contents will include various types of assessments and instruments such as rubrics to document level of achievement.

A portfolio can start out as a working portfolio. In this type of collection, entries are made without determining the value of the work. Later, when the portfolio is organized for assessment or to showcase the student's work, entries are reviewed and selections are made from the contents. The entries that are not to be used can be taken home (Barbour & Desjean-Perrouta, 1998).

Portfolios can be organized for a specific content area or to include all content areas. A portfolio can also be used to document project or unit work. All the contents reflect the student's efforts and contributions toward implementation and completion of the project. Entries for project work might include photographs, audiotapes, videotapes, and other materials to show student work in progress, problem solving, and completed projects. Written narratives might be included to explain the student's role in the project and learning that was accomplished through project work (Helm & Katz, 2001; Wortham, 2005a).

Whenever possible, parents should be involved in portfolio assessment. Although the topic of using portfolios to report progress to parents is discussed in the next section, parents can also be involved in selecting materials and contributing their own information about the child's progress as reflected in activities that have occurred at home.

**Reporting Progress to Parents**

Although early childhood educators tend to be against giving grades, especially before third grade, progress reports have to be made to parents and administrators. If report cards are required, teachers are accountable for conducting periodic assessment for reporting purposes. If report cards are not used, assessment of learning is still important for planning appropriate instruction for individual students and measuring successful accomplishment in completing curriculum objectives. Progress reports to parents need to be accurate, whether or not report cards are used. Assessment is closely tied to instruction, whether thematic or systematic. If done in a developmentally appropriate manner, assessment will provide essential information about the student that will help guide plans for future learning experiences.

Effective reporting of student progress can include reports from teacher observation, informal teacher-designed assessments, or results of commercial tests. Student portfolios can be shared with parents and administrators who are interested in reports on student learning. Parents not only are interested in the child's work but also appreciate information about the child's learning through thematic units. Photographs taken during unit projects and group activities help parents visualize what their child participated in and learned about during unit experiences. Classroom displays of unit projects also add to the parents' appreciation of the benefits of thematic units.

The teacher will very likely be instructing children who come from different types of family backgrounds. As a result, the style of reporting may be different, depending on the interests and needs of the parents concerned. Parents with no ability or limited ability in English may need help in understanding how the child is learning and progressing. Parents who are professionals may be more interested in results of standardized tests or the significance of integrated learning. Other parents may be most interested in the child's participation in class projects and the way in which it relates to academic progress. Many parents focus on the child's reading level and need information on the worth of other types of evaluation. The teacher will want to be prepared to respond to differences among parents in how they perceive the child's learning and achievement. All parents are interested primarily in knowing whether the child is learning successfully. The teacher has the responsibility to communicate the child's progress in a manner that is helpful to each parent.
Identifying and Addressing Learning Problems

In kindergarten and the primary grades, some students begin to encounter serious problems in learning that will go beyond normal developmental differences during the latter early childhood years. As was mentioned earlier, attempts are made in infancy and the preschool years to identify and remediate disabilities resulting from birth defects and other disabling conditions. Children with such disabilities are identified and referred to intervention programs as early as possible to obtain services that can minimize the disabilities and improve the children's chances of overcoming the problem or finding alternative avenues for learning.

In spite of these services, there are children who enter school in kindergarten or first grade who do not initially exhibit serious learning difficulties but after a few months in school begin to exhibit symptoms of difficulty. Some children have trouble learning to read or are unable to comprehend concepts that most children are able to understand. When teachers begin to notice learning difficulties, there are steps that can be taken to assist the child. The teacher can begin by observing the child frequently to attempt to identify more specifically what difficulties the child is having and why they are present.

A next step is to have a specialist observe the child to confirm the symptoms of learning difficulties that the child is presenting. If more intensive diagnosis is indicated, the child is referred for individual testing through a series of standardized tests to identify the nature of the learning problem and the best strategies for assistance. If the child is to be served through the special education program funded under PL 94-142, earlier, services will be provided by both the classroom teacher and educational specialists (Meyen, 1990b).

SUMMARY

The philosophy of teaching children from ages 5 to 8 is an extension of the philosophy regarding learning in the preschool years. Students in kindergarten through third grade are in the latter early childhood years and are making the transition from the preoperational stage of thinking to the concrete operational stage. Developmental changes make it possible for them to acquire reading and writing skills at their own individual pace. Learning is centered within the child, who needs learning experiences that will extend his or her understanding of the world in a developmentally appropriate manner.

Because pace of development varies widely during these years from kindergarten through the primary grades, instruction must accommodate a range of abilities in students. The present structure of graded classrooms limits teachers' opportunities to be flexible in instructional planning that nurtures successful learning in students regardless of their developmental variations. As a result, attention is given to other options for school organization for children ages 5 to 8; these options include ungraded classrooms and multisage grouping.

The model chosen for this text is based on the multisage organization first developed for British infant schools. A modified approach more suitable for schools in this country groups students from kindergarten through the primary grades in multisage classrooms. A teacher or team of teachers plans and carries out instruction that includes experiences at different levels of achievement to allow students to participate in learning activities based on individual development rather than chronological age.

Although thematic curriculum is used within the model to facilitate child-initiated learning and to accommodate developmental differences, systematic instruction is also appropriate at these grade levels to ensure that students are acquiring the necessary skills for continued academic progress in individual achievement. At the same time that the teacher plans for instruction for individual needs (which requires planning and assessment of individual progress), the age range within the classroom and the levels of social development make it possible for the students themselves to take active responsibility in the teaching and learning roles. Cooperative learning groups can be organized for group accomplishment of learning tasks. The cooperative groups can be selected to
include a range of student abilities. The students use their individual strengths and talents to contribute to the group effort. Peer tutoring and matching older students (as leaders) with younger ones facilitates growth in confidence in more advanced students, while the younger children benefit from more sources of attention and instruction.

When planning for instructional design and implementation, the teacher must consider how to balance teacher-directed and child-initiated instruction. At the same time, decisions must be made as to how to manage thematic curriculum with systematic instruction. Developmental advances make it possible for the students to take a more active role in the development of thematic curriculum. And they can also assume more responsibility for gathering resources and arranging the classroom environment as the thematic topic moves from the planning stage to the implementation stage. The teacher or team of teachers must determine to what extent the two types of curriculum will be used in the classroom. School district requirements, personal teaching styles, and expectations about how instruction will be organized will affect how much teachers stress thematic curriculum or systematic instruction. Regardless of the emphasis, developmentally appropriate methods are used, and this may necessitate adaptation of commercial curriculum resources for use in the program that has been designed for the various age groups represented in the classroom.

Scheduling the school day includes consideration of both types of curriculum and includes the various roles the teacher must play to manage a variety of activities interfaced with organized instruction for individuals, small groups, and the entire class. The teacher and students plan each day together to organize management of thematic curriculum and systematic instruction within the schedule. Students are able to make choices for the activities and projects in which they wish to participate. At the same time, all must plan for how they will carry out their responsibilities for their own assignments and the activities where they will work with and help other students.

**STUDY QUESTIONS**

1. How can the significant developmental changes be characterized for children between the ages of 5 and 8?
2. Why is it important for teachers of children in these grades to understand that development is gradual and takes place at individual rates?
3. What are the implications of the nature of development during these years for the design of appropriate curriculum?
4. How do teaching practices affect the child's motivation to learn and the child's development of a sense of competence?
5. How does the teacher consider different levels of ability, development, and learning styles when designing learning experiences for students between the ages of 5 and 8?
6. Why is it difficult to accommodate for these student differences in the typical graded classroom?
7. How are thematic curriculum and systematic instruction complementary?
8. Why is an alternative organization to graded classrooms needed for some children in the primary grades?
9. How does thematic curriculum help bridge developmental differences in students in multi-age classrooms?
10. How do cooperative learning groups and peer teaching help the teacher improve the use of time for instruction?
11. How is the classroom environment that uses thematic curriculum similar to the preschool environment? How is it different?
12. What is the role of students in developing and implementing thematic curriculum?
13. How does student involvement in developing the brainstorming web facilitate their understanding of the connections between content areas in integrated curriculum?
14. How do student choices in selecting theme projects and activities enhance their social development and sense of responsibility?
15. What considerations must the teacher include when scheduling thematic curriculum and systematic instruction in the primary classroom?
16. What adaptations might the teacher consider to ensure that commercial material resources are developmentally appropriate?
17. How might commercial material resources be adapted for thematic curriculum units?
18. How can the teacher ensure that systematic instruction is included as needed, both within thematic curriculum and as a separate component of the daily schedule?
19. Why does assessment of individual progress become more important when planning and carrying out instruction for children between the ages of 5 and 8?
20. How are assessment and teaching for individual needs related?
CHAPTER ELEVEN

The Transitional Curriculum:
Ages 5 to 8
Language Arts

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Describe how language development evolves in children ages 5 to 8.
2. Understand the language needs of children with language differences.
3. Design curriculum for language development.
4. Understand how literacy develops in kindergarten and the primary grades.
5. Explain the role of the environment, the teacher, and technology in the language arts program.
6. Describe the stages of literacy acquisition.
7. Explain alternative approaches to organizing the language arts program.
8. Describe examples of experiences that promote reading and writing.
9. Explain how curriculum is designed to accommodate student learning differences.
10. Discuss how to use integrated curriculum in the language arts.
The ages between 5 and 8 are exciting ones for children in the first years of school. I have described them as transitional years because at this time children make the transition from preoperational to concrete operational thinking. Children are also making the transition toward literacy. They will become true readers and writers during these years of kindergarten and the primary grades. This chapter discusses languages arts curriculum and instruction for children who are making the transition from preschool into the primary grades.

CURRICULUM FOR LANGUAGE ARTS

In Chapter 8, I discussed the acquisition of literacy in terms of language development. I described language skill as the ability to speak, listen, write, and read. The importance of understanding how children acquire the ability to write and read. I explained the interrelated nature of language development, and the individual nature and pace of literacy acquisition. The issue of whether language development and literacy should be taught from a skills approach or as a natural, emerging process was debated. Activities for promoting language development, including receptive and expressive oral language, writing, and reading, were suggested; in addition, integrated approaches, including that of thematic curriculum, were described.

In this chapter, I will discuss the continuation of language development and literacy in kindergarten and the primary grades and later stages of early childhood education. The span of development that occurs between the ages of 5 and 8, or from kindergarten through third grade, as was described in Chapter 10, is the range that will be included in this discussion. During these years, the child moves from preoperational thinking to concrete operational thinking. In language arts, the movement is from emergent literacy to independent reading and writing.

The teaching of language changes from a developmental to a content-area approach in the primary grades, beginning with kindergarten. Therefore, for preschool programs, the acquisition of oral and written literacy was discussed in terms of language development. Regarding the later ages of early childhood, it is described as the language arts.

Languages arts include listening, speaking, writing, and reading. The process of learning about these components is interrelated, just as it is in the preschool curriculum. Each component of the language arts curriculum depends on and contributes to progress and growth in the others; therefore, experiences in the language arts program are described in holistic terms rather than as separate areas of study.

In the sections that follow, the language arts curriculum for students ages 5 to 8 is described as a transitional process. There is much similarity with the curriculum for the preschool years. The kinds of experiences that children need build on the foundations developed for 3- and 4-year-old children. Nevertheless, as students extend their abilities in literacy, competencies in reading and writing build rapidly. Certain stages in the transition toward competence and the kinds of experiences and activities that promote further progress in literacy can be described.

Oral language and concept understanding continue to develop. I will therefore discuss the importance of addressing the continuing acquisition of receptive and expressive language. The impact of the report of the National Reading Panel (National Institute of Child Health and Human Development, 2002) has resulted in a new emphasis on skills instruction in beginning reading and will be explained. I will discuss the role of the teacher, the environment, instructional materials, and appropriate activities for promoting development in writing skills. Finally, I will explore integrated curriculum in the language arts based on thematic units. I will include a description of the balance between thematic and systematic instruction as it applies to the language arts.

The Continuing Process of Language Development

Although much of the child's acquisition of the language of her home and community is acquired before kindergarten and first grade, children continue to add to their language ability. Five- to 8-year-olds
have developed a good control of their language. They can use language creatively and generally are able to articulate well as they verbalize their thoughts, give directions, and ask questions. During the primary grades, they will develop larger vocabularies, develop new meanings for words they already use, and use more complex language structure. As their cognitive abilities continue to expand, they will express more complex thought in their language (Sefeldt & Barbour, 1998).

Contrary to the practice in many elementary schools, the emphasis on reading instruction in the latter early childhood years does not preclude a need for further opportunities to develop oral language. No matter how well children are able to express themselves, language development should continue. Genishi and Fassler (1999, p. 75) suggest ways to nurture talk and language:

1. Talk between adults and children and between children serves a variety of purposes and functions. That is, language is used to inform, tell stories, question, pretend, have fun, discuss, plan, and so on.
2. Because talk flows when people have something to talk about or tell each other, teachers provide for and engage the children in activities and experiences that are the focus of talk.
3. Conversations are comfortable for both child and teacher. Talk is fluent because the communicators are absorbed in getting their messages across, and their conversations are meaning oriented, not form oriented.

Children need to engage in many activities firsthand and need opportunities to talk about their experiences in their learning activities. The rich experiences with language will lead to literacy. Children will respond to learning activities from their individual levels of development. Some will be able to express themselves in written form, whereas others will use mostly oral language at first to reflect on what they have encountered. Regardless of the child's level, the opportunities to acquire concepts and language permit the child to move into literacy individually from a language base (Graves, 1983).

Addressing the Language Needs of Diverse Speakers

Children who are speakers of non-English languages or other dialects especially need opportunities to further develop their oral language. Because these children learn language through communicating, they need daily activities that will facilitate the acquisition of language along with new information (Abemson, Robinson, & Ankenman, 1994-1995).

The best method for assisting children who are learning a second language is a current issue. For many years, bilingual scholars proposed that children learning English needed to be taught academic subjects in their home language for several years while they are learning English. Further, they believe that a strong foundation in the first language supports the child in learning English (Cummins, 1994).

There have been serious challenges to this approach to language education. One concern has been the small amount of time spent in teaching English in bilingual programs (Tanamachi, 1998; Traub, 1999). And as was mentioned in Chapter 8, not all parents of bilingual children want their child in a bilingual program.

In 1998, then Secretary of Education Richard Riley changed the policy in bilingual education. He called for a goal of English proficiency in 5 years. California had already repealed bilingual statutes in 1987; and Texas and Illinois had revised their policies (Green, 1997).

Research to support appropriate language instruction for non-English-speaking children fails to provide direction as to the best approach. Program evaluations are politicized and flawed (Geesen, 1999; Zehr, 2004). In today's schools, many children whose first language is not English are served in English as a second language, also called English for speakers of other languages, programs. Regardless of whether a bilingual or an English emphasis approach is used, there are suggestions that can assist teachers of young children in kindergarten and primary grades. As a result, conflict and controversy prevail.

Specific strategies can be used with bilingual and second-language learners. First, children should be
supported in developing literacy in their native language before becoming literate in English. Their native language should be used to bridge understanding in English. Teachers should use natural, predictable texts for beginning reading instruction in both languages. Similarly, predictable books should be used for shared reading and small-group reading lessons. Children should be given opportunities to self-select for independent reading; additionally, they should be encouraged to write both in their native language and in English (Serna & Hudson, 1997). Oral collaboration between skilled English speakers and second-language or dialect speakers during literacy instruction helps many speakers acquire English (Entwight & McClokey, 1985). Similarly, when native speakers and bilingual students share their journals, this enhances the limited speaker's acquisition of new vocabulary and emergent writing (Urrua, 1987). Further, Hudson (1984) found that these kinds of writing activities enabled students who were limited in English to read and write in English before expressing themselves orally. Finally, teachers should observe their second-language learners in reading and writing activities to respond to their literacy progress in both languages (Serna & Hudson, 1997).

Developers of an English literacy project that involved parents and preprimary and primary-age children assumed that social interactions were a vehicle for oral language development and literacy for limited-English speakers and second-language speakers. The researchers proposed the following assumptions, based on their review of the literature (Quintero & Velarde, 1990, p. 11):

1. Social context is of utmost importance in the child's learning in general and in literacy development specifically.
2. Use of oral language is an integral part of the literacy development process. Oral language is also strongly affected by social context.
3. Learners enter school knowing that written language has meaning, but they cannot understand print usage when it is presented to them as isolated letters and sounds.

4. Literacy behaviors are not restricted to the use of books but rather encompass many social and linguistic activities.

Finally, teachers need to ensure that children become competent communicators in English. They need to learn "school talk" to be able to participate in the social environment of the classroom. It is the social environment that will support acquisition of competency (Gentishi & Fassler, 1999; Gutierrez, 1993).

In the sections that follow, guidelines and examples are given of experiences that will promote oral language in all speakers in the later early childhood years. The oral language curriculum follows the assumptions made by Quintero and Velarde (1990) that children developing oral language skills benefit from the social context of the kindergarten and primary-grade classroom.

**Designing Curriculum for Language Development**

Children develop their oral language by talking to their peers and to adults. The teacher's goal in designing curriculum for oral language development is to include speaking opportunities in learning activities. Although this may seem obvious, a visit to many elementary schools might demonstrate that verbal discussions are not the norm in primary classrooms. In a school where quiet classrooms are valued, children may have little opportunity to exchange ideas and participate in discussions. Further, reading instruction periods can be dominated by individual work, with more time spent on practicing reading skills in written form than on using conversational language. Daily oral discussions of many types are required for language competency to continue to expand and improve.

Following are some of the types of classroom (and outdoor) activities that foster oral language in kindergarten and primary-grade children. The length and form of the activities vary depending on the age of the students, their prior experiences, and their confidence levels. Nevertheless, they can be used with
some adaptation at all grade levels that serve children from 5 to 8 years old.

Group Discussions

There are many occasions when the entire class can engage in a group discussion. The discussion could follow a common group experience, an unusual local event that interests the children, or an opportunity to solve a problem. For example, an unexpected storm swept a local community without warning early one morning as the children were arriving at school. Soon after class began, the teacher gathered the children to discuss their experiences with the storm as they traveled to school. Witnessing the unusual darkness of the sky, high winds, flooded streets, and other phenomena gave the children the opportunity to use descriptive language as the class discussed the storm and its effects on the community. In another instance, in a second-grade classroom, students had become careless with keeping the working areas organized. The teacher and students discussed the problem and decided which suggestions for improving the appearance and arrangement of classroom materials would be carried out.

Class Projects

Projects related to unit or content study activities lend themselves to oral language experiences. Groups of students engaged in the projects can be asked to discuss and report the results of their project. Students might talk about the problems they encountered and solved in completing their project, the steps required to accomplish their goal, the reasons for choosing the project, and so on. The larger group can be encouraged to ask questions, make observations about the group’s work, and reflect on what was learned about the topic studied.

Dramatic Productions

Kindergarten and first-grade students enjoy acting out a familiar fairy tale or popular children’s story. Older students in the second and third grades enjoy writing a play and presenting it to the rest of the class. Whichever form of production is used, students can plan the production, improvise costumes, practice parts, and otherwise engage in extensive language to prepare the dramatic production. The teacher may be needed to guide the process with younger children but may serve only as a resource person for older students who have experience in initiating and carrying out activities in a small group. The dramatic activity requires extensive use of oral language as children develop dialogue and roles for the type of dramatic event they will present.

Field Trips

Every field trip that focuses on a new experience—whether a walk outside the school or a trip with a distance of many miles—is an opportunity to develop new vocabulary. Before the trip, the teacher can set the stage for important new words that children will encounter. The children can be alerted to notice new information and words before the field trip begins. For example, a kindergarten class was studying trees. As part of the study of how trees are used, the children visited a lumberyard to see how lumber products are used in construction. The teacher asked the children to notice the products that are made of wood and to remember new words. After they returned from the lumberyard, children were asked to recall what they saw. They made a list of products made of wood, and then they told language experience stories. The teacher prompted the children to remember many new words, such as lumber, names of tools used to work with wood construction, and other words related to a lumberyard.

Children’s Literature

Children’s books offer endless opportunities to develop and use oral language. One major goal for language development through children’s literature is to appreciate the creative and aesthetic use of language in books. Neuman & Bredekamp (2000) describe the opportunities books offer for language development, including exposing children to mature language, listening to varied syntax, enjoying figurative language, hearing different dialects, introducing new vocabulary in context,
presenting new words, sharing books that emphasize word meanings, and playing with language. Glazer (1986) used the stories *The Little Engine That Could* and *Millions of Cats* as examples of classic children's books that involve play with patterns of language.

**Cooperative Learning Groups**

Cooperative learning group activities provide natural opportunities to use conversation and discussion. Because the students must interact to complete the activity, members of the group will be engaged in individual ideas as the problem or exercise is resolved. Mixing students who have varied language abilities will enhance the exchange of vocabulary and syntax during frequent verbal exchanges.

Curriculum for language development is not organized as a separate component of the language arts curriculum, nor is it separate from activities in other content areas. In the suggestions put forth earlier, oral language activities are interwoven into ongoing classroom methods and strategies related to the total curriculum; the specific activities suggested serve this purpose. They involve concept development, art, problem solving, science, and language arts. They are more likely to involve an individual student or a small group rather than large-group efforts.

**The Continuing Process of Literacy Development**

**Trends and Issues in Learning to Read in Kindergarten and the Primary Grades**

The years between kindergarten and third grade are the most critical in determining whether the child will become a successful reader, will enjoy reading, and will be able to use the acquired reading and writing skills to become a competent and effective learner. How successfully the child acquires literacy depends on the kinds of experiences that are provided and whether the child perceives himself or herself as a competent student.

In the late 1990s and into the 21st century, there was a concern about the most effective approaches to beginning reading instruction. As was introduced in Chapter 8, the National Reading Panel was convened in 1997 to study sound scientific research on how best to teach children to read. Panel members reviewed more than 100,000 research studies completed since 1966. The panel issued its report, which had an immediate impact on beginning reading instruction in American elementary schools. Whereas literature-based instruction and whole-language approaches had been used as frequently as phonics-based beginning
ACTIVITIES THAT PROMOTE LANGUAGE DEVELOPMENT

Memory Game
This memory game is frequently found in Montessori classrooms. The teacher assembles a number of objects or pictures related to a new concept. The objects are placed on a tray, and the child is asked to study them. The objects are then covered, and the child is asked to name them. More objects or pictures are added, a few at a time, and the exercise is repeated. Examples of objects that can be used include vegetables, articles of clothing, solid shapes, and pictures of furniture items.

Imaginary Creatures
Students are asked to make an imaginary creature using play dough, crayons and paper, or scraps of recycled materials. They are asked to describe to the rest of the group such things as what the creature looks like and where it lives.

What Is It?
This activity promotes divergent thinking and expressive language. The teacher finds objects that are interesting and unfamiliar to the children. Old household utensils such as coffee grinders or a rug beater are examples of objects that can be described. The children are asked to examine the object and describe its characteristics such as how it is made, what materials it is made of, and what its qualities are. After the children have exhausted descriptive characteristics, they are asked to decide how the object could be used. They are not asked to identify the purpose of the object but rather to invent a use for it. At the end of the experience, the teacher can tell the children the actual purpose and function of the object.

Explaining Recipes
Simple recipes offer rich opportunities for expressive language. After children engage in a cooking project, they can orally describe the cooking process and the changes in the foods that were prepared. Good examples of such activities include making butter, peanut butter, and popcorn. The children not only can explain what happens when popcorn pops or peanuts are put in the blender or food processor but also can describe the steps involved in the process of preparation and the necessary equipment and ingredients needed.

Sequencing Stories
Oral comprehension and expression language are used when retelling or sequencing a story. Kindergarten children enjoy retelling or sequencing by using flannel board pictures of a well-known story such as The Three Little Pigs or a nursery rhyme. The flannel pictures provide props for retelling the story. Older children can make up their own story or retell a story they have read. They enjoy making cartoon pictures of the story, perhaps including the dialogue, and sharing it with the other students.
reading instruction, the panel's review focused on phonemic awareness and phonics, reading fluency, reading comprehension, teacher education, and computer technology (National Reading Panel, 2000).

Not surprisingly, the panel found that for children to be good readers, beginning reading instruction must include the following:

- Phonemic awareness skills, or the ability to manipulate the sounds that make up spoken language
- Phonics skills, or the understanding that there are relationships between letters and sounds
- The ability to read fluently with accuracy, speed, and expression
- The ability to apply reading comprehension strategies to enhance understanding and enjoyment of what they read

Not addressed by the National Reading Panel were the roles of literature-driven instruction, the importance of the availability of books, the connections between literature and concept learning, and the effectiveness of some whole-language intervention strategies (Pressley, 2001).

The question for kindergarten and primary teachers is how to provide a quality beginning reading program for young children. A problem that teachers must address is how to determine the best practices for their students. How can the teacher structure the curriculum to best ensure that kindergarten and primary-grade students will make a positive transition into literacy within the expectations of the No Child Left Behind Act (NCLB) and the National Reading Panel and a balanced reading program. Individual states have designed reading programs that meet these criteria and include a broader range of best practices.

The Language Arts Program for Children Ages 5 to 8

How, then, can schools develop quality, balanced language arts programs for children in kindergarten and the primary grades? How does the language arts program incorporate all the components of listening, speaking, reading, and writing? Texas is one state that has addressed current expectations for beginning reading instruction based on the research of the National Reading Panel and the NCLB. Guidelines for Beginning Reading Instruction, also known as the "Red Book" (Texas Education Agency, 2002), discusses 12 essential components of a research-based beginning reading program. The 12 essential components are described as follows:

1. Children Have Opportunities to Expand Their Use and Appreciation of Oral Language

Children's comprehension of written language depends in large part on their effective use and understanding of oral language. Language experiences are a central component of good reading instruction. Children learn a great deal about the world, about themselves, and about each other from spoken language. Kindergarten and first-grade language instruction that focuses on listening, speaking, and understanding includes the following:

- Discussions that focus on a variety of topics
- Activities that help children understand the world, inside and outside the classroom
- Songs, chants, and poems that are fun to sing and say
- Concept development and vocabulary-building lessons
- Games and other activities that involve talking, listening, and, in particular, following directions

2. Children Have Opportunities to Expand Their Use and Appreciation of Printed Language

Children's appreciation and understanding of the purposes and functions of written language are essential to their motivation for learning to read. Children must
become aware that printed language is all around them—on signs, billboards, and labels and in books, magazines, and newspapers—and that print serves many different purposes. Reading and writing instruction that focuses on the use and appreciation of written language includes the following:

- Activities that help children understand that print represents spoken language
- Activities that highlight the meanings, uses, and production of the print found on classroom signs, labels, notes, posters, calendars, and directions
- Activities that teach print conventions, such as directionality
- Activities in which children practice how to handle a book—how to find the tops and bottoms of pages and how to tell the front and back covers
- Lessons in word awareness that help children become conscious of individual words, such as their appearance, their length, and their boundaries
- Activities in which children practice with predictable and patterned language stories

3. Children Have Opportunities to Hear Good Stories and Informational Books Read Aloud Daily

Listening to and talking about books on a regular basis provides children with demonstrations of the benefits and pleasures of reading. Story reading introduces children to new words, new sentences, new places, and new ideas. In addition, they hear the kinds of vocabulary, sentences, and text structures that they will find in their schoolbooks and that they will be expected to read and understand. Reading aloud to children every day and talking about books and stories supports and extends oral language development and helps students connect oral to written language.

4. Children Have Opportunities to Understand and Manipulate the Building Blocks of Spoken Language

Children's ability to think about individual words as a sequence of sounds (phonemes) is important to their learning how to read an alphabetic language. Toward that understanding, children learn that sentences are made up of groups of separate words and that words are made up of separate sounds. Indeed, research has shown conclusively that children's phonemic awareness—their understanding that spoken words can be divided into separate sounds—is one of the best predictors of their success in learning to read. Instruction that promotes children's understanding and use of the building blocks of spoken language includes the following:

- Language games that teach children to identify rhyming words and to create rhymes on their own
- Activities that help children understand that spoken sentences are made up of groups of separate words, that words are made up of syllables, and that words can be broken down into separate sounds
- Auditory activities in which children separate or segment the sounds of words, blend sounds, delete sounds, or substitute new sounds for those deleted

5. Children Have Opportunities to Learn about and Manipulate the Building Blocks of Written Language

Children must also become expert users of the building blocks of written language. Knowledge of letters (graphemes) leads to success with learning to read. This includes the use, purpose, and function of letters. Instruction that helps children learn about the essential building blocks of written language includes the following:

- Alphabetic knowledge activities in which children learn the names of letters and then learn to identify them rapidly and accurately
6. Children Have Opportunities to Learn the Relationships between the Sounds of Spoken Language and the Letters of Written Language

Increasing children's awareness of the sounds of spoken language and their familiarity with the letters of written language prepares them to understand the alphabetic principle—that written words are composed of patterns of letters that represent the sounds of spoken words. Effective instruction provides children with explicit and systematic teaching of sound-letter relationships in a sequence that permits the children to assimilate and apply what they are learning. Instruction that helps children understand the alphabetic principle and learn the most common relationships between sounds and letters includes the following:

- Alphabetic awareness activities in which children learn that printed words are made up of patterns of letters
- Lessons in sound-letter relationships that are organized systematically and that provide as much practice and review as is needed
- Activities in which children manipulate letters to change words and spelling patterns

7. Children Have Opportunities to Learn Decoding Strategies

Efficient decoding strategies permit readers to quickly and automatically translate the letters or spelling patterns of written words into speech sounds so that they can identify words and gain rapid access to their meanings. Children must learn to identify words quickly and effortlessly so that they can focus on the meaning of what they are reading.

Instruction should introduce "irregular" words in a reasonable sequence and use these words in the program's reading materials. It is important to realize, however, that essentially all words must become "sight words"—words that children identify quickly, accurately, and effortlessly. Effective decoding instruction is explicit and systematic and can include the following:

- Practice in decoding and identifying words that contain the letter-sound relationships children are learning to read
- Practice activities that involve word families and rhyming patterns
- Practice activities that involve blending together the components of sounded-out words and "chunking" together the parts of longer words
- "Word play" activities in which children change beginning, middle, or ending letters of related words, thus changing the words they decode and spell
- Introduction of phonetically "irregular" words in practice activities and stories

8. Children Have Opportunities to Write and Relate Their Writing to Spelling and Reading

- Activities that are related to the words that children are reading and writing
- Proofreading activities
- An emphasis on pride in correct spelling
- Lessons that help children attend to spelling conventions in a systematic way
- Activities that surround children in words and make reading and writing purpose filled
9. Children Have Opportunities to Practice Accurate and Fluent Reading in Decodable Stories

The words in decodable stories emphasize the sound-letter relationships the children are learning. While many predictable and patterned books provide children with engaging language and print experiences, these books may not be based on the sound-letter relationships the children are learning. Decodable stories provide children with the opportunity to practice what they are learning about letters and sounds. As children learn to read words, sentences, and stories fluently, accurately, and automatically, they no longer have to struggle to identify words and are free to pay closer attention to the meaning.

Most children benefit from direct instruction in decoding, complemented by practice with simply written decodable stories. Further, for some children this sort of systematic approach is critical. Stories should "fit" the child's reading level. Beginning readers should be able to read fluently, that is, quickly, accurately, and effortlessly. Many children benefit from extra practice, including repeated readings of familiar text.

10. Children Have Opportunities to Read and Comprehend a Wide Assortment of Books and Other Texts

As children develop effective decoding strategies and become fluent readers, they read books and other texts that are less controlled in their vocabulary and sentence structure. They learn to use word order (syntax) and context to interpret words and understand their meanings. Soon, they become enthusiastic, independent readers of all kinds of written material, including books, magazines, newspapers, computer screens, and more! Providing children with a great many books, both narrative and informational, is of primary importance. Classroom and campus libraries must offer children a variety of reading materials, some that are easy to read and others that are more challenging and of increasing difficulty and complexity. Children need access to many books that travel home for reading with family members. Classrooms that ensure wide reading provide the following:

- Daily time for self-selected reading
- Access to books children want to read in their classrooms and school libraries
- Access to books that can be taken home to be read independently or to family members

11. Children Have Opportunities to Develop and Comprehend New Vocabulary through Wide Reading and Direct Vocabulary Instruction

Written language places greater demands on children's vocabulary knowledge than does their everyday spoken language. In fact, many of the new words children learn are learned from being read to and as they read on their own.

It is obvious that the number of new words children learn from reading depends on how much they read and the amount children read varies enormously. Therefore, it is important that teachers read aloud to children and encourage them to do a great amount of voluntary and independent reading. In addition, during reading instruction, children should be encouraged to attend to the meanings of new words. Activities that promote the acquisition of vocabulary include the following:

- Wide reading of a variety of genres, both narrative and informational
- Instruction that provides explicit information both about the meanings of words and about how they are used in the stories the children are reading
Activities that involve children in analyzing context to figure out the meaning of unfamiliar words in a reading passage

Discussions of new words that occur during the course of the day, for example, in books that have been read aloud by the teacher, in content-area studies, and in books

Activities that encourage children to use words they are learning in their own writing and to keep records of interesting and related words

12. Children Have Opportunities to Learn and Apply Comprehension Strategies as They Reflect on and Think Critically about What They Read

Written language is not just speech written down. Instead, written language offers new vocabulary, new language patterns, new thoughts, and new ways of thinking. Comprehension depends on the ability to identify familiar words quickly and automatically, which includes fluent reading as well as the ability to figure out new words. But this is not enough.

Comprehension also depends on the understanding of word meanings, on the development of meaningful ideas from groups of words (phrases, clauses, and sentences), and on the drawing of inferences. It also depends on the demands of the text (its concepts and density) and the knowledge the reader brings to the text. The discussion of good books with friends and classmates is one avenue for making these connections.

Such discussions will help children appreciate and reflect on new aspects of written language and on the wide, wonderful world of print. For children to receive the greatest benefit and enjoyment from their reading, they must receive comprehension strategy instruction that builds on their knowledge of the world and language. Comprehension strategy instruction can include the following:

Activities that help children learn to preview selections, anticipate content, and make
connections between what they will read and what they already know
- Instruction that provides options when understanding breaks down (e.g., rereading, asking for expert help, and looking up words)
- Guidance in helping children compare characters, events, and themes of different stories
- Activities that encourage discussion about what is being read and how ideas can be linked (e.g., to draw conclusions and make predictions)
- Activities that help children extend their reading experiences through the reading of more difficult texts with the teacher

The Role of the Environment
In Chapter 8, I described the preschool classroom environment for emergent literacy, including center arrangements that foster listening, speaking, writing, and reading skills. In kindergarten and primary grades, a similar arrangement is appropriate. A large language arts center with collections of books of all types, including books written by the children, can be organized and displayed for easy perusal. Areas for listening to taped books, areas that are comfortable for reading, and quiet spaces for reading and thinking provide a relaxed ambience. An area for writing and illustrating written work contains writing materials; marking pens; crayons; a variety of art media such as chalk, watercolors, and tempera paints; and a selection of writing paper. Typewriters, computers, and bookmaking materials broaden opportunities for composing and reading.

The room might also accommodate a project, study, and planning and instruction center. The project center can contain materials for changing projects related to thematic work. Bookmaking materials might also be located here rather than in the library center. The study center is a quiet area where students can conduct individual work. A study table could seat several students who need to complete assignments or read. Individual desks can be transformed into carrels using cardboard dividers. The planning and instruction center is a larger area where the whole class can gather for planning and feedback sessions. Small-group instruction can also be conducted in this area.

The Role of the Teacher
The teacher in kindergarten and primary grades has several roles in the language arts programs. A primary responsibility is to provide direct and explicit instruction in essential reading skills. The teacher also still serves as guide and facilitator of learning. In addition, the role of assessor and evaluator of the child’s learning is expanded as the need to track the child’s strengths and to instruct or guide the child in language arts skills becomes more evident.

One role of the teacher is to provide assistance. In keeping with Vygotsky’s views of assisted performance, the teacher determines the child’s zone of proximal development and offers assistance to the child so that progress is maximized. Children’s interests and progress into literacy are closely observed, and the teacher provides steps in reading and writing just beyond the child’s ability by modeling for the child or guiding the child’s own work (Tharp & Gallimore, 1988). For example, the child is using invented spelling in writing stories. The teacher might select some of the child’s words that are close to the correct spelling and provide the child with the correct models. Similarly, if a child is consistently selecting books that are now too easy, the teacher might suggest a slightly more difficult book and read it to the child and then with the child.

The Role of Technology
As more schools acquire computers for the classroom, educators have become interested in how computer technology can be useful in the language arts program. Much of the original software developed for kindergarten and primary-grade classrooms was meant for work with reading readiness and reading skills. Drill activities that replicated the same kinds of skill reinforcement found in reading workbooks prevailed.

The computer can be a useful tool for beginning literacy. Simple word processing programs are available that can be used by younger children who
are able to use the keyboard to write. As they become more proficient in the process of composing their writing, they can use editing features such as spell checking. An advantage of the computer for beginning writers is that correcting mistakes or making changes is much easier, thus minimizing frustrations.

Current uses of the computer include new ways to approach literacy or “electronic” literacy (Labbo, Reinking, & McKenna, 1999). Teachers and their students can use multimedia composing and sociodramatic play enhanced by the computer. The main caution for teachers is to avoid getting caught up in the attractiveness of software; they should instead make purchases and decisions based on the usefulness of the program for students in their classroom. Moreover, computer technology cannot replace a good-quality literacy program in the classroom (Teale & Yokota, 2000).

**Stages of Literacy Acquisition**

The transition into literacy in the later early childhood years is gradual and individual. If the teacher understands the nature of this accomplishment, developmentally appropriate materials and experiences can be planned to facilitate progress for each child. In the sections that follow, I will discuss literacy acquisition within three stages. Each stage has implications for the kinds of instruction and skills development that can complement natural experiences that nurture literacy.

The ages from 5 to 8 are the years when most young children achieve literacy in reading and writing. Mastery of their home language is basically acquired by age 5; likewise, the major steps into literacy are mastered between age 5 and 8. Literacy can be described as occurring in three overlapping stages: setting foundations for literacy, learning about print
and understanding printed language, and becoming independent readers.

**Stage 1: Setting Foundations for Literacy.** The first stage, setting foundations for literacy, begins when the child is an infant and proceeds throughout the preschool years. Children acquire information about the processes of speaking, writing, and reading through activities in which they can experiment and express themselves in preliteracy steps of writing and reading. Through use of oral language and opportunities for emergent writing and reading, each child acquires many of the characteristics of literacy at an individual rate. By age 3, as they enter kindergarten, children have progressed into literacy at their own individual rate. The first stage gradually becomes the second stage, learning about print and understanding printed language.

**Stage 2: Learning About Print and Understanding Printed Language.** In stage 2, the child masters the components of written language and becomes a reader and writer of English. Although the process of true mastery of reading and writing is a lifelong task, understanding and using printed language is the major accomplishment in this stage.

To master literacy, the child must attend to features of printed language that include phonics elements, grammar, and punctuation. Major steps toward this goal were already made in the foundations stage, where the child developed an awareness of how letters are formed and put together into words to express thoughts. There is likewise an awareness of how punctuation is used to enable others to understand what one has expressed in written language. In this second stage, the child continues to learn about print and how it is used. Language experience stories used in stage 1 to develop awareness of printed language are continued in stage 2 to practice the elements of printed language. The skills used in relating to printed language that can be learned through language experience stories in stage 2 include the following:

1. Match letters, uppercase and lowercase
2. Match words
3. Match sentences
4. Practice word recognition when the teacher frames individual words
5. Practice phonics, structural, and context clues to locate letters and words and identify them
6. Identify different types of punctuation
7. Retell stories and share reading with a buddy
8. Make similar sentences using the syntax model in a sentence

Chapman (1996) identified other classroom literacy experiences that promote stage 2 of literacy to include the following:

- News time when children write news collaboratively
- Shared reading experiences using enlarged texts or charts
- Reading and writing time when children choose independent activities that involve reading and writing
- Author's circle when individual children share their own writing (p. 33)

The specific reading skills that young children acquire in the primary grades can be categorized as recognizing sight words and understanding phonics, word analysis, context clues, and the mechanics of reading and writing (Fields & Spangler, 2000). Although language experience stories are one vehicle for facilitating practice with the skills, the child's own reading and writing processes will incorporate others. The teacher can supplement these natural experiences for acquiring competence with the printed language with systematic instruction. Figure 11.1 lists the basic beginning reading skills.

Although the child engages in activities that provide practice in the elements of printed language that will facilitate the ability to read, the transition into reading requires many experiences in reading. In the foundations stage, the children engaged in big-book and other read-along activities that led them to begin to put the pieces of the reading process into place. They learned that in English, print moves from left to right, and they became able
Sight Words—instantly recognizable words
Phonics—learning about letters and the sounds they represent
Word Analysis—learning parts of words
  - compound words (bedroom)
  - inflections—possessives (is), plurals, endings (ed, s, ing)
  - roots, prefixes (un), suffixes (ful, less, ly)
Context Clues—learning words from their location in a sentence

FIGURE 11.1 Beginning reading skills.

to follow along and turn the pages when favorite stories were read. They contributed to group-dictated stories in addition to engaging in individual "reading" efforts with familiar books (Neuman & Bredekamp, 2000).

In stage 2, children continue to advance in their ability to understand how to read print until they are able to read on their own. The transition into reading begins in stage 1, with repeated readings of big books or shared books (Neuman & Bredekamp, 2000). The process continues with assisted reading. Hukinson (1975) described three stages of assisted reading: (a) the child is asked to repeat a phrase or sentence after it has been read, (b) the child is asked to fill in a word that occurs repeatedly in a story, and (c) the child takes over more of the reading process, and the adult prompts the words the child has trouble recognizing. In each step, the child takes over more of the reading process until the teacher assists only as needed.

After some proficiency has been achieved in reading, more formal activities can be used that target or reinforce specific elements or skills. Workbooks and computer drill programs are used sparingly for practice to supplement the use of the skill in the child’s own reading and writing efforts. In a similar manner, teacher-directed instruction is selected based on learners’ needs rather than as routine lessons that are scheduled whether or not they are needed (Fields & Spangler, 2000).

Morrow (2000) describes a language arts block that uses independent center activities to accomplish some of the components of a quality literacy classroom. For example, children might engage in partner reading, a writing activity, a working-with-words activity, or listening center activity in one segment of the language arts block. In another part of the language arts time period, the teacher engages in small-group instruction when children are taught based on the skills instruction that they need.

Using Writing to Communicate About Mathematics

A first-grade teacher used journal writing with her first-grade students to help them become aware of how mathematics had relevance in their lives. The teacher first brainstormed with the children about how they could use mathematics in situations outside school. The children were asked to be aware of ways that they used mathematics over a period of days outside school. On a Monday morning, the children spent time writing about their uses of mathematics in their individual journals. After their entries had been made, each child shared one journal entry with the class. Class members were encouraged to comment or ask questions. The teacher then modeled how a journal entry could be transformed into a mathematics word problem. The class solved the problem and then used an example in their own journal or one shared in class to write their own word problem. Children worked in pairs to read and edit the word problems to determine if they made sense and were worded correctly. Finally, the word problems were rewritten from the
Stage 3: Becoming Independent Readers. Children need extensive reading experiences to master the reading and writing process. When they have developed competence in the beginning stages of literacy, they make the transition to independence in reading and writing. As they continue to use the features of written language, their competence and confidence also increase. Instruction in reading continues but is now based on individual needs. Whole-group instruction decreases, and small-group and individual instruction increases.

The teacher's role increasingly becomes that of facilitator, and the teacher is less focused on basic instruction. Books and reading materials are made available for all types of reading. Children need a balance between narrative and expository reading. The classroom library should include easy nonfiction, with books about animals, places to visit, famous people, and nature (Morrow, 2000; Sansom, 1991). Books from trips to the school library and public library are supplemented with books from home. The teacher continues to read to the children but moves to longer books that are read in chapters. Reading in the content areas is used extensively as children study thematic units and seek out resources for developing class projects, assignments, and reports.

Reading for problem solving is engaged in frequently, and skills for beginning research are developed as students search for information related to unit activities.

Organizing the Language Arts Program

How, then, do teachers determine how to organize the classroom for instruction as children move through the stages of literacy in the later years of early childhood? In the pages that follow, examples are given of how some teachers decided to design their language arts program. In each of the examples, the teachers studied and analyzed what processes they believed would best provide their students with a language arts program that has a balance between basal instruction, phonics instruction, and emergent literacy. The examples come from a first-grade classroom that was not grouped, a literature-based model, content-area grouping, and a reading workshop.

A Non-Ability-Grouped, Multilevel, First-Grade Classroom

Three teachers established a model for a first-grade classroom (Cunningham, Hall, & DeFoe, 1991). The children are grouped in three classrooms, with similar ranges of ability in each room. The teachers decided to include the four major approaches to reading: the basal approach, the phonics approach, implementing real books, and writing. They studied these approaches, determined that some children respond best to one particular approach, and built their program around four components, or blocks, based on the benefits of the four approaches. Children were told of the activities and were provided instruction in each of the four blocks.

In the basal block, children were given daily guided instruction in a basal reading series. The instruction included workbook activities, partner reading, whole-group instruction, and feedback activities at the end of the block.

A working-with-words block involved a "Word Wall" and "Making Words" activity. Each day, five words from the basal reading lessons were added to the Word Wall on a bulletin board. The children learned to read, spell, and alphabetize the words. A variety of group activities were conducted with the words each day. The Making Words activity involved making words from letters. The children were given a limited selection of letters at their desk. In some instances, the teacher called out the word to be made. In other activities, the children were told to make words out of some or all of the letters.

The writing block began with a short writing lesson modeled by the teacher. Next, the children engaged in their own individual writing activity. The teacher helped children edit and revise their work. The lesson ended with a brief period during which children could share their work with the class.
The fourth block, the real-books block, involved self-selected reading and reading aloud by the teacher. Children could select from a variety of books and could read alone or with a friend (Hall, Prevattte, & Cunningham, 1995).

The three teachers combined whole-language and basal materials and activities for their reading program. They achieved a balance between teacher-directed and child-initiated work during the language arts period. They permitted students to develop literacy at their own rate, but at the same time they felt sure that they were working with beginning reading and writing skills in a systematic fashion (Cunningham et al. 1991).

**Literature-Based Instruction**

A second-grade language arts classroom described by Fields and Spangler (2000) was based on good books. The teacher conducted the program both to meet individual interests and to conduct group topics in science or social studies. He helped individual children select books that would support what they were trying to learn or do. He wanted the students to have control of their learning. His belief was that children learn and practice reading and writing through the study of content that they are interested in. He concentrated on the progress of each individual student and used responsive teaching to guide students in the development of reading and writing skills.

While reading and writing were conducted throughout the day, the teacher prepared skills instruction for small groups or individual children. He used basal materials or constructed his own activities to use with the children. Reports of student needs and progress were kept in individual folders. The folder contained daily journal and other written work as well as projects the child had in progress or had completed. The teacher used the folders for planning with individual children and for assessing their instructional needs.

This classroom was offered reading and writing experiences through class projects and studies of topics in science and social studies. The class library became a source of reading materials as the teacher, librarian, and students found resources that could be consulted for the topic being studied. Again, as the teacher identified reading and writing problems during topic activities, systematic instruction was planned to address needs of identified students.

**Content-Area Grouping**

Content-area instruction and cooperative learning groups were used in a third-grade classroom to replace ability grouping and traditional reading instruction (Pardio & Raphael, 1991). The teacher was interested in developing independent learners who could extend their strategies for reading and learning. Reading and writing activities were used to study subject matter. Students selected the topics to be studied; developed a general concept about the topic; gathered, organized, synthesized, and reported information about the topic; and used their emerging reading and writing skills to share information about the topic.

Teacher-led whole-class discussions were used to introduce learning strategies and topic concepts and to develop background knowledge before exploring a topic. The teacher also used whole-group instruction to work with difficult text and conduct enrichment activities.

Small cooperative learning group activities afforded opportunities for students to practice and use new learning strategies and to work on topic activities. The groups gathered information and wrote reports on their findings. They generated and answered questions about the topic being studied or worked on a subtopic related to the larger class topic.

Individual work was undertaken to set individual goals and purposes related to study topics and to apply and practice reading and writing strategies. Students recorded their thoughts and reflections in dialogue journals. They responded to focus questions posed by the teacher and shared individual ideas and participated in other individual activities.

Because the students designed the topics to be studied, the teacher in this third-grade classroom maintained a role as facilitator and guide. She helped students map or web the information they wished to acquire from content-area topics. She introduced and modeled strategies that students needed to pursue
and report on information developed through large-group and cooperative group activities. She was also able to work extensively with individual students to extend their skills as independent readers and writers.

The Reading Workshop

Teachers of the reading workshop in another third-grade classroom used a more directive approach to reading instruction (Reutzel & Coofer, 1991). They wished to achieve a balance between providing meaningful activities for the students and ensuring that instructional time was constructive and well managed. They used a 70-minute reading workshop approach to organize their classroom. Through the workshop, they established a classroom environment that integrated reading with writing, speaking, and listening. Student-selected books were the focus of workshop activities, with regular demonstrations of reading and writing strategies.

The reading workshop consisted of periods for sharing (5 to 10 minutes), a minilesson (5 to 10 minutes), state-of-the-class activities (5 minutes), and self-selected reading and responses (35 to 45 minutes). Sharing time was an introductory period used by the teacher to share new discoveries in literature. Minilessons followed sharing time and were short, teacher-designed whole-group instructional sessions to demonstrate reading strategies. The minilessons were derived from observed student needs or learning objectives from the school district reading curriculum objectives. State-of-the-class activities were used to update the teacher on individual student progress. The teacher could assess the effectiveness of the students’ work and make adaptations when needed.

The major period of the reading workshop was devoted to self-selected reading and responses. During this period, the class engaged in sustained silent reading, some groups of children met with the teacher in literature response groups, and some participated in individual reading conferences. Students engaged in individual reading and writing activities with their self-selected reading materials if and when they were not meeting with the teacher in a group activity. Many different types of projects were planned and conducted by students within their reading and writing activities that had been planned previously with the teacher. At the end of the self-selected reading and response period, the whole class met for a few minutes to share their work as a culminating activity of the reading workshop.

The models just presented represent several approaches to language arts instruction in primary-grade classrooms that serve students in stages 2 and 3, discussed earlier. The models range from predominantly whole-language orientation to more structured combinations that incorporate both basal and whole-language strategies. In the sections that follow, I will present examples of activities suitable for beginning and independent readers. Many of the examples can be used in some or all of the models described.

Accommodating the Learning Differences of Students with Special Needs

In spite of efforts to provide children in kindergarten and the primary grades with a quality language arts program, some children encounter difficulties in learning to read. It is important that these children be identified as soon as possible and efforts made to correct the problem.

Reading achievement in the first 3 years of school is critical for later achievement. If low-achieving students can be identified and brought up to grade level in the primary grades, they are more likely to remain at grade level than if remediation comes in later grades (Adams, 1990; Carter, 1984; Clay, 1979). The importance of the early years for later learning was also advocated in Becoming a Nation of Readers (Commission on Reading, National Academy of Education, 1985) and Preventing Reading Difficulties in Young Children (Snow, Burns, & Griffin, 1998); ability to read determines the level of achievement in secondary education.

Prevention of reading difficulties through early intervention is a key to successfully assisting young students who are encountering problems in beginning to read. The students who are unable to progress in literacy are experiencing frustrations in processing print. They are unable to recognize words quickly and effortlessly and thus fall behind in reading.
EXPERIENCES THAT PROMOTE READING

Reading Buddies
Pairs composed of two students or a student and an adult are established for reading experiences. The buddies meet daily or on a regular basis to read together. They take turns reading from the same book or read from different books. Cross-age buddies can also be formed whereby students from a higher grade have a buddy in kindergarten or the primary grades. The older buddy listens to the younger child read and reads books selected by the younger buddy. Writing activities can also be conducted. The younger child can dictate a story to the older buddy or receive help in writing a story. Same-age buddies can collaborate on a writing activity.

Read-Along Tapes
Tapes of familiar books are recorded. The child plays the tape as the book is read and reads along with the tape. The activity can be repeated many times until the student has mastered the story. Basal reader stories can be recorded. Many read-along tapes are also available from commercial resources.

Sustained Silent Reading
A time is provided for all children to read on their own. Regardless of individual reading levels, all students participate. The book is usually self-selected, and the following guidelines are recommended:

1. Begin with the whole class.
2. Each child selects one book.
3. Each child must read silently.
4. The teacher reads silently.
5. A timer is used.
6. There are absolutely no reports or records of any kind.

Poem Picture Books
Poem picture books can be used in a manner similar to picture storybooks in the classroom. After they have been introduced and repeated with the children several times, poem picture books can, for example, be used as a read-along source; the poems can be chanted, accompanied by rhythm sticks or drums, or they can be illustrated. Children can make up similar poetry following the pattern of a poem and write their own poems.

Creating Nonsense Words
Provide the child with a selection of vowels and consonants. Ask the child to create nonsense words. Have the child "create" an animal or object to match the nonsense word.
Substitute Words

Select a word that is familiar to the children, such as walk. Ask the children to generate substitute words for the key word. Examples include run, jump, tiptoe, and creep. Use walk in a sentence. Substitute the word list in the sentence and have children read the sentence.

Word Games

Use a secret code by substituting numerals for letters in a message. Give the children the numeral code and have them “decode” the message. Another game uses palindromes, or words that are spelled the same forward and backward (e.g., wow.) See how many palindromes students can think of.

Oral Reading to Share Information

Children can read together to share information. The following activities are suggested (Fields & Spangler, 2000, p. 256):

1. Children can read the lunch menu, daily bulletin, and newspaper items.
2. Children can confirm an answer by reading it from a book.
3. One child (a good reader) can read out loud while others listen with their textbooks closed.
4. Children can read passages from reference books or trade books.

EXPERIENCES THAT PROMOTE WRITING

Journal Writing

Students write daily in a journal. The journal can be a part of the language arts program or used more broadly for the whole school day. The child records ideas, feelings, reactions to activities, and so on. The teacher reads the journal and responds to the child. Mechanics of writing are not corrected. The teacher is interested in the child’s expression of thoughts.

Story Starters

Children are given many opportunities to write their own stories and illustrate them. When they are stumped for ideas, story starters can be used. One form of a starter is a sentence that can be used as the first one in a story, for example, “The noise came closer and closer.” Another way to spark a story is to have a collection of pictures and ask the child to select a picture and write a story about it.

Messages

Responding to messages can trigger interesting writing efforts. The teacher can give each child a mysterious message and ask the child to respond. Another type of message is curriculum related. The teacher can leave a message for the child to respond to a question that has been posed. For example, a small container of beans is placed in
the mathematics center. The students are left a message to estimate the number of beans and record their name and estimate below the message. The next day, the students can respond to a message asking them to count the number of beans and again record their name and the number they counted.

**Lists**

All kinds of lists can be generated. For example, students can be asked to write a list of foods they like the least or the best, or they can be asked to keep a list of the books they have read or the names of as many people in their family as they can remember.

**Writing Workshop**

Children in the primary grades who have become independent writers can use the processes of the writing workshop to improve their writing efforts. The student engages in a series of steps to initiate, improve, and evaluate the writing effort. The process is used each time students are asked to write a composition that will be edited and improved until the teacher and child are satisfied with the quality. Figure 11.2 lists the steps in the writing process (Fields & Spangler, 2000, p. 213).

<table>
<thead>
<tr>
<th>Prewrite</th>
<th>Participate in an experience</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Talk about the experience</td>
</tr>
<tr>
<td></td>
<td>Brainstorm</td>
</tr>
<tr>
<td></td>
<td>Think about audience, form, and purpose</td>
</tr>
<tr>
<td></td>
<td>Webbing</td>
</tr>
<tr>
<td>Fastwrite</td>
<td>Put notes and ideas on paper</td>
</tr>
<tr>
<td></td>
<td>Prepare &quot;sloppy copy,&quot; or first draft</td>
</tr>
<tr>
<td>Share, Respond, and Revise</td>
<td>Read and share first draft with others</td>
</tr>
<tr>
<td></td>
<td>Receive feedback</td>
</tr>
<tr>
<td></td>
<td>Change and rewrite draft using feedback</td>
</tr>
<tr>
<td>Copyread</td>
<td>Proofread and correct details of final draft</td>
</tr>
<tr>
<td>Publish</td>
<td>Prepare final copy</td>
</tr>
<tr>
<td></td>
<td>Share with others</td>
</tr>
<tr>
<td>Evaluate</td>
<td>Assess effectiveness of process and product</td>
</tr>
</tbody>
</table>

FIGURE 11.2  Steps in the writing process.
comprehension (Adams, 1990; Gaskins, Gaskins, & Gaskins, 1991; Hill & Hale, 1991; Snow et al., 1998). Programs for early intervention focus on intensive instruction to help the student become successful as soon as possible.

Reading Recovery is an early intervention program designed for 6-year-olds who are low achievers. The children receive intensive one-on-one instruction 30 minutes per day for 12 to 20 weeks. The purpose of the program is to help the child acquire the strategies used by good readers. Instruction includes reading activities using natural language and predictable texts. Writing activities are based on the child's experience or presented as an extension of text readings (Hill & Hale, 1991). The lowest-performing students are selected for the program; they are replaced with other students at the completion of the program, after they have begun performing comfortably with average children in the classroom. Reading Recovery does not replace regular classroom instruction in reading but rather complements the child's other language arts activities.

Marie Clay, the designer of Reading Recovery, describes the program as a second chance to learn. She attributes the success of the program to three elements: individual instruction, daily, intensive instruction, and acceleration of progress. Individual instruction allows the teacher to plan for the child's individual strengths and weaknesses with specific activities to correct problems. Acceleration is accomplished as the child develops skills and reading abilities at a more rapid pace than is possible with group instruction in the regular classroom. Daily, intensive instruction permits the teacher to closely monitor the child's responses and prompt the child accordingly (Clay, 1993).

The Benchmark Word Identification Program is another method designed to identify students who have difficulty in processing print (Gaskins et al., 1991). Originally designed at Benchmark, a school for poor readers, the program focuses on helping poor students with poor reading skills develop word identification skills. One strategy used with beginning readers is to immerse them in a rich language environment compatible with whole-language strategies. In addition, students are instructed in methods that will lead to effective decoding of words using sight vocabulary, photoreceptual awareness, and word analysis. In the beginning program for nonreaders who are up to the second-grade level, word identification activities previously described for the non-ability-grouped, multilevel first-grade model (Cunningham et al., 1991) are used.

The programs just described are only two intervention programs that have been developed to correct early reading problems. Both incorporate whole-language strategies that are child centered along with intensive work in specific reading skills that will assist the child in being able to process written language. Both are designed to achieve quick results before the child has experienced extensive failure; both methods have been successful in enabling students to reverse their low achievement in beginning reading.

Success For All is a prevention program designed at the Johns Hopkins University's Center for Research on the Education of Students Placed at Risk (CRESPAR) (Slavin, 1996). Like the Reading Recovery program, it uses one-to-one tutoring. However, it is different in that it begins with children at age 5 and focuses on perceptual skills in addition to reading. The purpose of the program is to prevent students from getting behind by attending to intensive intervention before first grade. The program uses cooperative learning, a balanced reading program, and a strong parent involvement program. Success For All is funded by Chapter I funds and sometimes is supplemented with special education funds. The intention is to prevent children with potential disabilities from becoming candidates for special education programs in the primary grades.

THE INTEGRATED CURRICULUM

There are many ways to integrate learning across the curriculum. The most frequently discussed model in this text is the integrated, thematic unit. It is also possible to integrate curriculum outside of developing a theme of study.

A motivating way to encourage emerging writing is to integrate art and literacy. Olishansky (1993)
described an art project used with first-grade children. The project, Imaging-Making Within the Writing Process, combines expression through art materials with the writing of imaginative stories. Children are first asked to create a personal portfolio of hand-painted, textured papers. Using a variety of art materials, the children paint, make collages, and use other strategies to create textured papers. The next step is to encourage the children to find images in the papers that can lead to an imaginative story idea. Identifying a visual image helps the children use colorful language in their story. A study of the project found that stories written and illustrated by the young authors contained a fuller expression of ideas compared to other stories without the art component.

Integrated curriculum can link reading, science, and fiction books (Fleener & Bucher, 2003–2004). A fictional storybook can be used to initiate a study in science. *It's an Ant's Life* (Parker, 1999) was used as a source to study ants. A graphic organizer was one strategy to develop connections between the text and science concepts (Figure 11.3). As the children read the story, they filled in the components of the graphic organizer to establish the study.

**SUMMARY**

This chapter described the curriculum in language arts suitable for children ages 5 to 8. At these ages, children are in a transitional period; the curriculum also undergoes a transition. Children are making the transition from the preoperational period to the concrete operational period in the later early childhood years. They are also making a transition from preschool into elementary school. The curriculum is transitional in language arts, as literacy becomes well established in most children by the time they are 8 years old and in the third grade. Mathematics and science curricula also are designed to complement the emerging literacy and cognitive abilities of the children.

Although acquisition of literacy is a major accomplishment during this period, children also continue to add to and refine their ability to speak. Oral language development is important in continuing the language foundation needed to acquire and use concepts and apply them to written language. Therefore, the curriculum in kindergarten and primary grades includes emphasis on oral language development.
Children who have special language needs particularly need attention to language development. Whether they are speakers of a dialect or speakers of another language, they need abundant opportunities to add standard English to their speaking vocabulary. These children need to interact with peers who are skilled speakers of English. Through social and instructional contexts, they benefit from opportunities to listen and speak throughout the day. Group discussions, projects, teacher-led lessons, and working periods in learning centers all afford children from various language backgrounds opportunities to speak about things based on common interests.

The process of emerging literacy continues within each child. Some will progress more rapidly than others, depending on the type of home environment and the available preschool experiences. The emergent literacy or whole-language activities used in the preschool continue in kindergarten. As children approach the stage where the ability to interpret written language from books becomes a reality, teachers must make decisions about the role of phonics and beginning reading skills in their reading program. The philosophy of the nature of beginning reading and the conflict between skills approaches to reading versus the whole-language approach cause further conflict in many school districts.

Although there is no definitive resolution regarding the opposing philosophies, teachers need to understand the causes of the disagreement so that they can make informed decisions about how they think a quality reading program should be designed. To that end, I described several possibilities for primary-grade language arts programs that ranged from totally whole-language instruction to a blend of whole-language and reading skills instruction.

To further assist teachers in developing an appropriate language arts program, I described stages of literacy acquisition, beginning with the foundations stage, when children experiment with emergent writing and reading and acquire many of the characteristics of literacy on an individual basis. In the second stage, they master the forms of printed language. They learn to use phonics elements, grammar, and punctuation in their writing and reading efforts. Through extensive practice in reading and writing, they are able to put together the elements of printed language until they are able to read on their own.

During the third stage, children become independent readers. They refine their knowledge about printed language and can use their emerging skills in more complex and lengthy reading and writing experiences. They engage in extended practice and become interested in both narrative and expository reading and writing.

**STUDY QUESTIONS**

1. In what way are children age 5 to 8 considered transitional learners?
2. Why is it important to continue oral language development after students have begun the transition to literacy?
3. How do teachers attend to the needs of diverse speakers whose strongest language is not standard English?
4. How can oral language be strengthened and extended within classroom experiences and instruction?
5. Why do kindergarten and primary-grade teachers face a dilemma when organizing the language arts program?
6. What issues must these teachers resolve when deciding how to best teach children who are making the transition to literacy?
7. What are some possibilities for resolving the whole-language versus phonics debate in reading instruction?
8. How would you organize the language arts program in kindergarten and the primary grades using the models described in the chapter?
9. How does the beginning reader move through stages of reading ability between kindergarten and third grade? What implications do these stages have for instruction?
10. How does the teacher achieve a balance between systematic instruction and child-initiated experiences in the language arts program?
11. Why is early intervention important for children who experience difficulty learning to read?
CHAPTER TWELVE

The Transitional Curriculum: Ages 5 to 8
Mathematics and Science

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Describe trends and issues in mathematics.
2. Describe how to plan and organize the mathematics program.
3. Explain how young children learn about science.
4. Describe trends and issues in science.
5. Explain how to plan and organize the science program.
6. Describe the role of the environment and the teacher in organizing the science program.
7. Understand how mathematics and science are used in thematic curriculum.
CURRICULUM FOR MATHEMATICS

When cognitive development in the preschool years was discussed in Chapter 8, concepts in mathematics and science were explained from a developmental perspective in terms of how the preoperational child learns. In this chapter, I will discuss mathematics and science as content areas approached with the child’s development in mind.

Between the ages of 5 and 8, the child moves from the preoperational stage to the concrete operational stage of thinking. The child moves from thinking that is dominated by perceptual content to thinking that is logical, which allows her to use mental schema to make an operation that previously required concrete objects. Although the child needs concrete materials to understand new concepts, she no longer has to rely only on manipulating the objects; mental schema can also be used to classify, seriate, count, and perform other functions. In mathematics, this mental ability in the concrete operational stage is represented in conservation and reversibility. The ability to conserve and reverse operations allows the child to do mathematical problems using mental schema (Copley, 2000).

Curriculum in mathematics for children from age 5 to 8 reflects this progression from preoperational to concrete operational thinking. Curriculum for 5-year-olds is a continuation of the preschool curriculum. It is a continuum that becomes more complex as the child accumulates experience. The same categories are still used to organize the curriculum. Moreover, repeated experiences with concepts previously introduced are required for the child to be able to internalize and apply mathematical principles. If one looks at mathematical curriculum from a grade-level point of view, mathematical concepts are reviewed and practiced at each level before moving to more complex applications. Mathematics is a continuum, but it is also hierarchical and sequential: Complex concepts build on a foundation of prior concepts and skills. Thus, simple addition follows understanding of number, and more complex addition of several digits follows simple addition (National Council of Teachers of Mathematics (NCTM), 2000).

Trends and Issues in Mathematics

In recent decades, the concern of mathematics specialists was that mathematics curriculum focused on basic skills that did not prepare students who would live and work in the 21st century. More specifically, they took the position that much of the emphasis on drill had become obsolete with the advent of calculators and computers. Their position was that workers of the future would need to be able to solve unconventional problems (Steen, 1990).

In 1989, the NCTM issued Curriculum and Evaluation Standards for School Mathematics, which proposed dramatic changes in mathematics curriculum and instruction. The standards specify that mathematics instruction should involve hands-on experiences, calculators and computers, manipulatives, and cooperative learning groups. The curriculum should
emphasize making connections between math topics, problem solving, and communicating about mathematics (Willis, 1992). In 2000, the NCTM issued *Principles and Standards for School Mathematics* (NCTM, 2000) to further improve curriculum and instruction in mathematics in the 21st century. The principles and standards reflected the new emphasis on diversity in learners, the growing importance of technology, and the continuing need to be able to use mathematics in everyday life and in the workplace. The NCTM expressed the future needs for mathematics in a changing world to include the following (NCTM, 2000, p. 3):

- **Mathematics for life.** Knowing mathematics can be personally satisfying and empowering. The underpinnings of everyday life are increasingly mathematical and technological. For instance, making purchasing decisions, choosing insurance or a health plan, and voting knowledgeable all call for quantitative sophistication.
- **Mathematics as a part of cultural heritage.** Mathematics is one of the greatest cultural and intellectual achievements of humankind, and citizens should develop an appreciation and understanding of that achievement, including its aesthetic and even recreational aspects.
- **Mathematics for the workplace.** Just as the level of mathematics needed for intelligent citizenship has increased dramatically, so too has the level of mathematical thinking and problem solving needed in the workplace, in professional areas ranging from health care to graphic design.
- **Mathematics for the scientific and technical community.** Although all careers require a foundation of mathematical knowledge, some are mathematics intensive. More students must pursue an educational path that will prepare them for lifelong work as mathematicians, statisticians, engineers, and scientists.

Work of members of the mathematics education community reflects four themes related to mathematics and mathematical knowledge (Campbell, 1999, p. 107):

1. Mathematics is a growing, dynamic discipline.
2. Students actively construct mathematical knowledge.
3. Understanding in mathematics comes from perceiving relationships either between or within mathematical ideas.
4. Knowledge may be fostered through social interaction.

Like language development, acquisition of mathematical knowledge begins early in life and continues throughout preschool years and elementary, secondary, and higher education. Children learn mathematics in the preschool years through exploring their environment and through everyday experiences when they encounter mathematical concepts in daily life. Children enter kindergarten and the primary grades with different levels of mathematical understanding. Teachers need to acknowledge these differences in young children and plan experiences that will extend their individual foundations for further acquisition of mathematical concepts. These concepts will be developed at different times and different rates. To be successful, young students must have adequate time and opportunity to construct, test, and reflect on their growing understanding of mathematics (NCTM, 2000).

What, then, should children in kindergarten and the primary grades be taught in a balanced mathematics curriculum? The curriculum should include such topics as number sense; constructs of quantity to include counting and number operations, geometry, measurement, and data analysis or statistics; and abilities in problem solving. They should be able to apply mathematical concepts and skills in finding solutions to real problems and situations (Campbell, 1999; NCTM, 2000).

In the next section, I present a mathematics program for children from age 5 to 8 that incorporates the principles and standards advocated by the NCTM. I will discuss a mathematics program that is appropriate for children in the primary grades and describe how the environment and teacher support curriculum and instruction. Next, I describe the organization of the mathematics program following
NCTM Principles and Standards, including components of the curriculum. Finally, I present examples of activities that represent the new directions suggested in the NCTM Principles and Standards (NCTM, 2000).

Planning the Mathematics Program

Goals for the Mathematics Program

The mathematics program is designed to help children acquire and apply understanding of mathematics concepts and skills. Teachers plan for children to learn mathematical concepts through solving meaningful problems. Math skills and problem-solving are the focus of instruction and are also fostered through spontaneous play, projects, and situations of daily living. A variety of math manipulatives and games is provided and used to aid concept development and application of mathematics. Noncompetitive, oral "math-stumper" and number games are played for practice. Math activities are integrated with other relevant projects, such as those in science and social studies. (Biedenkopf & Copple, 1997, p. 173)

The developmentally appropriate mathematics curriculum for ages 5 to 8 just cited is from Developmentally Appropriate Practice in Early Childhood Programs. It describes a program that is child centered and connected to real problem-solving activities. Children are active participants in constructing math schema based on experiences that incorporate concrete to abstract thinking. Mathematical knowledge is reconstructed by experiencing and acting on objects in the environment and the process of reflection and, later, logical thinking (Kamii, 1982, 2000).

The key to a quality program in mathematics is to design experiences that bridge preoperational into concrete operational thinking. A present danger in kindergarten and the primary grades is that children are pushed into abstract functioning before they have the cognitive capacity. They are asked to use mental schema for operations in mathematics before they are able to do so. It is common to see children in primary classrooms counting on their fingers as they solve written addition problems. These students still require concrete referents for solving addition problems because they have not internalized the concepts of addition as a mental process. Children should be allowed to move at their own pace with concrete materials, followed by paper-and-pencil practice when they are ready (Charlesworth & Lind, 1950).

The goals for the mathematics program are based on both the child's cognitive development and the elements of mathematics that are part of the overall components recommended by the NCTM (2000). The goals of the mathematics program in kindergarten and the primary grades lead to competence in the larger goals of society and adult living in the 21st century.

The 10 standards are in the following categories:

1. Number and operations
2. Algebra
3. Geometry
4. Measurement
5. Data analysis and probability
6. Problem solving
7. Reasoning and proof
8. Communications
9. Connections
10. Representation

However, the standards for prekindergarten through second grade include the first five standards. More information on the standards and expectations for prekindergarten through second grade will be described later in the chapter.

The Role of the Environment and the Teacher

The classroom environment is organized so that children can investigate mathematics through many types of hands-on experiences. The arrangement must be conducive to individual, small-group, and whole-group activities. The areas designed for these types of activities in the language arts program are also suitable for the mathematics program. An important requirement is a work and play area for mathematics activities and materials. The mathematics area, sometimes combined with the science
area, contains the many materials needed for investigation and practice of mathematical concepts.

The math center should be organized so that children can participate in different types of activities. Items such as objects for counting, construction materials, unifix cubes, and other multipurpose materials are accessible for ongoing use. Other materials are placed in the center for a particular unit of study or for thematic projects. For example, balance scales and objects to weigh and compare could be placed in a learning station during the study of measurement of weight. Books related to time and different types of clocks (windup clocks, digital clocks, sand timer, stove timer, etc.) could be organized in an area with specific problems suggested for investigation during a unit on measuring time.

Whereas kindergarten teachers may find the use of a mathematics center easy to coordinate with mathematics curriculum, primary teachers unfamiliar with using centers may have to systematically plan how to include concrete, real-life activities to work with concepts if the adopted basal program focuses on whole-group instruction and workbook practice. Hands-on activities using materials in the mathematics center should be developed to ensure experiences that will facilitate the child's construction of new concepts.

The teacher has a key role in developing the kind of mathematical experiences that will fulfill the goals of a quality mathematics program. Two basic considerations guide the learning experiences: the developmental characteristics of the students and inclusion of the new standards set forth by the NCTM (2000).

An understanding of the progressions of concrete to abstract, simple to complex, and experiencing to representing introduced in Chapter 6 is particularly useful when applied to mathematics instruction with students who are moving from preoperational to concrete operational thinking. Teachers will want to design activities that facilitate these progressions to accommodate the nature of the child's cognitive processes.

The teacher also has a responsibility to make decisions as to when to use systematic instruction and when informal, integrated, or real-life, meaningful activities are the most appropriate. Some of the curriculum and instruction that is planned will attend to the scope and sequence of instruction. The teacher will plan to introduce concepts that will build on concepts already acquired or lay the foundation for future units of work. Systematic, teacher-directed instruction to provide students with hands-on experiences with concepts will follow a sequential plan to make mathematical knowledge meaningful and logical.
In the primary grades, the teacher would consider how to include concrete activities before abstract practice within systematic instruction. For example, when learning place value, students can work with wooden cubes of different colors to represent 10s and 1s before moving to a flip book with pictured representations of place value and a pencil-and-paper exercise on place value.

Informal, practical experiences encourage the child to apply mathematical concepts when working with realistic problems. For example, children in a first-grade classroom using an adding machine or a calculator to add up purchases in a grocery store set up in the mathematics area would be learning real-life purposes for math. At the same time, they would be using technology used for mathematical problems solving in today's world.

Integrated, thematic units would also provide opportunities for applying mathematical concepts for useful purposes. Kindergarten children could use measurement when following a simple recipe in a unit on cooking. In a unit on field games, second-grade students could use a stopwatch to measure the time individual students required to run a measured distance, then they could graph the time recorded.

In the next section, I will describe the components of mathematics for kindergarten and the primary grades; then I will present suggestions for activities that promote the development of mathematical concepts. The teacher can include these components when organizing systematic and informal instruction with students in a nongraded primary school or in a self-contained classroom serving students of a single grade or age.

The Role of Technology in the Mathematics Program

Calculators and computers are part of the young child's world. They are now a given resource in learning mathematics. Children should be introduced to these technological resources in the preschool years, and this equipment should be integrated into the mathematics curriculum for children from ages 5 to 8.

At age 5, children should learn the importance of calculators through free play and exploration. Dutton and Dutton (1991, p. 91) propose that 5-year-olds can also engage in the following:

1. Learn to display numbers 1 through 9 and clear the display after each entry
2. Increase numbers such as 5 or 6 by adding 1 to each number
3. Subtract by taking away one number from a previous number
4. Begin to enter two-digit numbers—first 10 and then 10 and one more

Thereafter, children should be able to extend their use of the calculator with whatever skills and concepts they have learned. Once children have learned how to use an operation, they can use the calculator to increase their speed and accuracy. Educators must also learn to use the calculator appropriately with children. It is a tool that can enhance mathematical abilities; however, it is not meant to replace the child's understanding of mathematical processes and how to apply them.

Computers also have an important role in the mathematics curriculum because every young child needs to become computer literate beginning at age 3 or 4. Computer software for teaching mathematics is being developed at a rapid rate. In addition to the materials being developed by commercial companies, the U.S. Department of Education helps schools learn about innovative programs through the National Diffusion Network (Dutton & Dutton, 1991).

Seymour Papert has pioneered the use of computers in mathematical and language literacy with young children. Papert (1980) believes that children can become programmers and learn to communicate through computers. Using his background study at Piaget's Center for Genetic Epistemology in Geneva, Switzerland, Papert developed the LOGO computer language to enable children to communicate with computers. The use of the "Turtle" with LOGO enables children to use manipulation to give commands to the computer.

The National Science Foundation (NSF) advocated the use of computers in Educating America for...
the 21st Century (NSF, 1983). The NSF stated that children should learn through computers, learn with computers, and use computers to learn about computers. One of the themes of the NCTM Principles and Standards is technology. The NCTM (2000, p. 4) proposed, "Technology is essential in teaching and learning mathematics; it influences the mathematics that is taught and enhances students' learning.

Clements (1985) reviewed the efficacy of using computers with young children. Among his findings were that although computers can enhance learning, they are not a panacea; they have the same benefit as other valuable learning strategies and materials. Clements made two critical points about children using computers for mathematics and problem solving. He proposed (a) that children should understand concepts before they use computers for practice and (b) that the teacher must play an active role in mediating the child's interaction with the computer.

Another caution regards the selection of developmentally appropriate software for young children. Haugland and Shade (1988) found that much of the available software does not reflect a developmental approach to teaching and learning. Teachers should review and evaluate software carefully before using it with young children.

Calculators and computers are part of the future in mathematics instruction. Teachers of young children need to become competent in the use of these resources. In addition, they need training in how to incorporate these tools effectively in the mathematics program designed for young children.

Organizing the Mathematics Program

The mathematics program for kindergarten and the primary grades includes 5 of the 10 standards established by the NCTM introduced earlier. The standards are described using goals and expectations for grades prekindergarten through second grade. Figure 12.1 shows the standards and expectations.

It should be noted that expectations are described in a hierarchy of simple to more complex rather than divided by grade level. In some categories the expectations are sequential; that is, the first expectation must be understood or mastered before working on the next expectation. In other categories, the expectations can be engaged in simultaneously.
The mathematics program as described in Figure 12.1 is more of a guide to the hierarchical nature of mathematics than a prescriptive sequence that dictates what should be taught at an age or grade level. Teachers and children will progress through the curriculum based on the abilities and interests of the class. Moreover, in an ungraded or multilevel school organization pattern, children can work on the same objective at different age and ability levels through cooperative learning groups or paired student interactions. The teacher needs to understand the nature of the scope and sequence of the curriculum, however, so that planning for systematic and informal, integrated curriculum will include the content and types of experiences students will need to meet the NCTM standards.

### Number and operations standard

| Instructional programs from prekindergarten through grade 12 should enable all students to— | Expectations for grade pre-K–2
In prekindergarten through grade 2 all students should— |
|---|---|
| Understand numbers, ways of representing numbers, relationships among numbers, and number systems | • count with understanding and recognize "how many" in sets of objects  
• use multiple models to develop initial understandings of place value and the base-ten number system  
• develop understanding of the relative position and magnitude of whole numbers and of ordinal and cardinal numbers and their connections  
• develop a sense of whole numbers and represent and use them in flexible ways, including relating, composing, and decomposing numbers  
• connect number words and numerals to the quantities they represent, using various physical models and representations  
• understand and represent commonly used fractions, such as \( \frac{1}{4}, \frac{1}{5}, \) and \( \frac{1}{2} \) |
| Understand meanings of operations and how they relate to one another | • understand various meanings of addition and subtraction of whole numbers and the relationship between the two operations  
• understand the effects of adding and subtracting whole numbers  
• understand situations that entail multiplication and division, such as equal groupings of objects and sharing equally. |
| Compute fluently and make reasonable estimates | • develop and use strategies for whole-number computations, with a focus on addition and subtraction  
• develop fluency with basic number combinations for addition and subtraction  
• use a variety of methods and tools to compute, including objects, mental computation, estimation, paper and pencil, and calculators. |

**FIGURE 12.1** NCTM principles and standards prekindergarten through second grade.  
*Source: From Principles and Standards of School Mathematics (pp. 78, 90, 96, 102), National Council of Teachers of Mathematics, 2000, Reston, VA: NCTM. Copyright 2000 by NCTM. Used with permission.*
### Algebra standard

<table>
<thead>
<tr>
<th>Instructional programs from prekindergarten through grade 12 should enable all students to—</th>
<th>Expectations for grades pre-K–2</th>
</tr>
</thead>
</table>
| Understand patterns, relations, and functions | • sort, classify, and order objects by size, number, and other properties  
• recognize, describe, and extend patterns such as sequences of sounds and shapes or simple numeric patterns and translate from one representation to another  
• analyze how both repeating and growing patterns are generated |
| Represent and analyze mathematical situations and structures using algebraic symbols | • illustrate general principles and properties of operations, such as commutativity, using specific numbers  
• use concrete, pictorial, and verbal representations to develop an understanding of invented and conventional symbolic notations |
| Use mathematical models to represent and understand quantitative relationships | • model situations that involve the addition and subtraction of whole numbers, using objects, pictures, and symbols |
| Analyze change in various contexts | • describe qualitative change, such as a student's growing taller; describe quantitative change, such as a student's growing two inches in one year |

### Geometry standard

<table>
<thead>
<tr>
<th>Instructional programs from prekindergarten through grade 12 should enable all students to—</th>
<th>Expectations for grades pre-K–2</th>
</tr>
</thead>
</table>
| Analyze characteristics and properties of two- and three-dimensional geometric shapes and develop mathematical arguments about geometric relationships | • recognize, name, build, draw, compare, and sort two- and three-dimensional shapes  
• describe attributes and parts of two- and three-dimensional shapes  
• investigate and predict the results of putting together and taking apart two- and three-dimensional shapes |
| Specify locations and describe spatial relationships using coordinate geometry and other representational systems | • describe, name, and interpret relative positions in space and apply ideas about relative position  
• describe, name, and interpret direction and distance in navigating space and apply ideas about direction and distance  
• find and name locations with simple relationships such as "near to" and in coordinate systems such as maps |
| Apply transformations and use symmetry to analyze mathematical situations | • recognize and apply slides, flips, and turns  
• recognize and create shapes that have symmetry |

**FIGURE 12.1**
Geometry standard (continued)

| Use visualization, spatial reasoning, and geometric modeling to solve problems | • create mental images of geometric shapes using spatial memory and spatial visualization  
|  | • recognize and represent shapes from different perspectives  
|  | • relate ideas in geometry to ideas in number and measurement  
|  | • recognize geometric shapes and structures in the environment and specify their location |

Measurement standard

| Instructional programs from prekindergarten through grade 12 should enable all students to— | Expectations for grades pre-K–2  
|  | In prekindergarten through grade 2 all students should— |
| Understand measurable attributes of objects and the units, systems, and processes of measurement | • recognize the attributes of length, volume, weight, area, and time  
|  | • compare and order objects according to these attributes  
|  | • understand how to measure using nonstandard and standard units  
|  | • select an appropriate unit and tool for the attribute being measured  
| Apply appropriate techniques, tools, and formulas to determine measurements | • measure with multiple copies of units of the same size, such as paper clips laid end to end  
|  | • use repetition of a single unit to measure something larger than the unit, for instance, measuring the length of a room with a single meterstick  
|  | • use tools to measure  
|  | • develop common referents for measures to make comparisons and estimates |

Data analysis and probability standard

| Instructional programs from prekindergarten through grade 12 should enable all students to— | Expectations for grades pre-K–2  
|  | In prekindergarten through grade 2 all students should— |
| Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them | • pose questions and gather data about themselves and their surroundings  
|  | • sort and classify objects according to their attributes and organize data about the objects  
|  | • represent data using concrete objects, pictures, and graphs  
| Select and use appropriate statistical methods to analyze data | • describe parts of the data and the set of data as a whole to determine what the data show |
| Develop and evaluate inferences and predictions that are based on data | • discuss events related to students' experiences as likely or unlikely |
| Understand and apply basic concepts of probability |  |

FIGURE 12.1 (continued)
A Project to Collect and Represent Mathematical Data

Two university professors and a third-grade teacher engaged in a project with third-grade students to help them learn how to ask mathematical questions, collect data, and then represent their findings. The students had to learn how to ask appropriate questions, how to collect data, and how to chart their findings. After learning that teacher-designed questions were uninteresting to the students, the teachers brainstormed with the children on things they wondered about at school or in the surrounding community. After many discussions and listing of question ideas, the class pursued the question: “How many kids choose 2%, chocolate, whole, or skim milk for lunch?” The class divided itself into groups and pursued different ways to collect the data. One group counted each type milk as children moved through the lunch line, while another group went to each classroom and had children raise their hands as to their choice of type of milk.

A major challenge was analyzing and reporting data. The students were working with very large numbers and had to learn how to use 10s and 20s to graph their findings. Some students used calculators to finalize and graph their numbers. The teachers learned that their students were capable of initiating and conducting their investigations with assistance rather than direction from the teachers. (Hutchison, Elsworth, & Yvich, 2000)

Designing Curriculum for the Mathematics Program

When designing curriculum for kindergarten and primary classrooms, the teacher considers whether the activity will be a part of a teacher-directed lesson, a center opportunity, an assignment for a cooperative learning group, a whole-class investigation, or a game to be selected by a pair or small group of learners. The activities that follow are only a small representative example of some of the activities a teacher can design for young students. The activities are drawn from different components of the curriculum for different levels of complexity. Because some of the activities can be adapted for either more complexity or more simplicity, they are not identified by age or grade level.

EXPERIENCES THAT PROMOTE MATHEMATICS

Counting Games

Math Component: Number and Numeration

Children can make games for game boards. Introduce children to a game that involves a spinner and numbered cards in a deck. Discuss how counting is used to play the game and determine the winner. Solicit suggestions for different themes that could be used for a counting game as well as what will be needed for the game. Have pairs of students or cooperative groups come up with a game idea, make the game, and play it several times. Laminate the games to be put into the mathematics center.

Materials Needed: Large sheets of paper or tagboard, marking pens, spinners or cards, game pieces

Domino Doubles Addition

Math Component: Operations of Whole Numbers

Teach the children how to play a simple version of dominoes where they draw the dominoes and take turns attempting to make matches of number patterns. When they
are able to make a match, have them make a larger set using the combined numbers with counting objects.

Materials Needed: Dominoes, objects for making sets

Number Bingo
Math Component: Number and Numeration
Make assorted bingo cards with 16 numerals ranging from 1 to 20 or higher. Use a set of cards with dots corresponding to all the possible numerals on the cards. The game is played by having the students in a small group take turns drawing a card. They must determine which numeral matches their card and whether they have that numeral on their bingo card. The first player to make a horizontal or vertical line is the winner.

Materials Needed: Numbered Bingo cards

Container Multiplication
Math Component: Operations of Whole Numbers
Collect a group of containers such as berry baskets or juice cans and counting objects such as sticks, crayons, cubes, or other objects. Select up to five cans. Ask a child to put the same number of items in each can, either two or three items. Demonstrate how the child can add the number of items in each can to get a total or multiply them to get the same total. For example, if four containers are used and three counters are put in the can, the child can add 3 plus 3 plus 3 plus 3 equals 12 or can multiply 4 times 3 equals 12. Repeat the activity several times using different combinations. Let the children make the addition and multiplication sentence for each combination. The activity can be made either simple or complex, depending on the abilities and experiences of the students.

Materials Needed: Containers such as berry baskets or juice cans, counting objects

Sand Buckets
Math Component: Measuring
Have students put varying amounts of sand in sand pails or other containers. Use measuring cups to measure how many cups of sand are in each container. Have the children measure fractions of a cup to the nearest half cup. As a follow-up, have the students graph the measured amounts.

Materials Needed: Sand buckets or other containers, measuring cups, pencils, paper, sand

Shape Symmetry
Math Components: Shapes, Symmetry
Give the students an array of two-dimensional shapes cut from paper or have them trace a variety of common shapes, triangles, squares, circles, rectangles, ovals, and so
on. Ask the students to fold the shapes in half so that each shape has two equal sides. Define the term symmetrical and ask the students to explain how their shapes are symmetrical. As a follow-up activity, ask the students to think of things in the environment that are symmetrical (e.g., butterflies, the human body, books).

**Materials Needed:** Paper shapes, scissors

**Shape Fractions**

**Math Components: Shapes, Rational Numbers**

Use the same shapes as for the previous activity. Have the students determine how the shape has been divided into two equal parts or into halves. Introduce the fraction one-half. Have the students divide the shapes once again so that there are four parts. Discuss the fraction one-quarter. Ask the students to show you one-half of the shape and one-quarter of the shape.

**Materials Needed:** Paper shapes, scissors

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**Accommodating Learning Differences Among Students**

Special attention has been given to the need for curriculum and instruction that is appropriate in mathematics, especially in ensuring that learning experiences include the progression from concrete to abstract. This is especially relevant when working with children who are developmentally delayed or have cognitive-ability disabilities. Children who are delayed will not have made the transition from pre-operational to concrete operational thinking. As a result, the teacher will need to assess the child's developmental status and design curriculum experiences based on development rather than on chronological grade or age.

Another difficulty children encounter occurs when asked to apply a concept without first having developed the necessary understanding of the concept. This can happen whether or not students have a learning disability. Students may be taught how to execute a mathematical operation without acquiring the underlying concept. The result is that when the child needs to use the concept in a real-life situation, problem-solving strategies cannot be applied to the concept. For example, a student may have learned the mechanics of simple division and completed many practice exercises. However, when asked how many loaves of bread can be purchased for $3.00, the child does not understand how division can be used to find the answer.

Children with learning differences may have difficulties in processing or expressing information about mathematics. Young children may have difficulty in expressing their mathematical understanding verbally because they lack the expressive vocabulary to describe the mathematical knowledge. Children whose first language is not English or who are otherwise limited in the ability to speak English may experience frustration when asked to use verbal responses. They need to have nonverbal opportunities to point to or manipulate objects to express their ability to use a concept.

A child may lack the motor skills to perform paper-and-pencil tasks to express mathematical knowledge or skills. The child may be delayed in fine motor skills or have difficulty with reversals. Instead of concluding that the child is unable to understand the mathematical process being studied, the teacher needs to determine whether the written expression required is causing the child's difficulty in responding appropriately.

Some young children experience receptive problems; that is, they cannot understand oral discussions
of a concept or have difficulty attending to printed information. Children may have difficulty discriminating between figure and ground on the printed page, which results in difficulty attending to and interpreting visual information.

Many children who experience receptive and expressive difficulties in mathematics will overcome the problem over time. They have a temporary delay that normal development will eliminate. For other young children, the difficulty is more permanent. The teacher will need to be alert to the child's learning differences and find alternative avenues to facilitate the child's ability to acquire mathematical concepts and express understanding.

**CURRICULUM FOR SCIENCE**

The science curriculum for children ages 5 to 8 continues to build on the experiences children had in the preschool years. Unlike mathematics, which has sequential characteristics, science is holistic in nature. Children are continually encountering information about the work and adding to their schema, or store of knowledge. Children's natural interest and curiosity make them avid explorers of scientific phenomena during these years.

*How Young Children Learn About Science*

The science curriculum can be predominantly child centered and child initiated because knowledge is acquired best through firsthand investigation and experimentation. A requirement for preoperational and concrete operational thinking, an understanding of science should be approached from hands-on study at all ages. The nature of the child's thinking in each of these stages has implications for how the science program is planned.

Preoperational children of ages 5 and 6 learn about science within their cognitive limitations. Because they cannot mentally reason about concepts, they must carry out actions to understand their importance. But even with concrete actions, their perceptions limit their understanding. For example, even though a preoperational child can pour a container of liquid into vessels of two different shapes, she is influenced by the appearance of a change in quantity and does not understand that the quantity remains the same. Children at this stage are also affected by their level of egocentricity. They focus on their own view of events and can address only one aspect of a situation at a time.

Five- and 6-year-olds cannot anticipate results or consequences of future actions. This limits their ability to predict what they have not yet experienced. The question, "What do you think might happen if . . . ?" is very difficult for them to grasp. Likewise, this limitation makes it difficult for children to link cause and effect or see a pattern in a series of events.

The science curriculum for preoperational children should be composed of firsthand experience and exploration of objects.

As children make the transition from preoperational to concrete operational thinking, they can use thought instead of or in addition to action to approach their understanding of science. They can grasp the entirety of a process as well as the individual parts or steps. They are able to understand how more than one variable or characteristic of a phenomenon can affect an outcome. They begin to understand another person's viewpoint or physical perspective of an event or object. Because the transition to concrete operational thinking is gradual, the ability to use rational thinking is first possible with familiar concepts and information. The more complex a problem or situation, the less likely it is that the child will be able to use rational thinking to reach a solution. Physical manipulation of the information will be needed.

Children in the primary grades also begin developing literacy and social skills to the science curriculum. They can use numbers and written words to express their reflections on science investigations. They can extend their period of work and collaborate with their peers in taking turns, making predictions, and discussing their findings.

In Chapter 8, I discussed the cognitive limitations in preschool children that might prevent them from fully exploring and investigating science concepts.
They would not be able to act on cognitive conflict without the teacher to facilitate or scaffold their thinking.

Primary-grade children are emerging from these cognitive limitations but still need guidance and support when learning science concepts. The science program should include components of quality early childhood programs discussed in earlier chapters to include the following:

1. Children learn science concepts through active involvement with science phenomena that include exploration, investigation, reflection, and representation.

2. Children learn science concepts in a social milieu. While observing and working with other children in learning centers, cooperative groups, and paired activities, children exchange ideas, engage in science projects, and discuss their findings.

3. Children learn concepts with the teacher as a partner. The teacher scaffolds and facilitates the direction of science experiences and guides children in reaching higher levels of understanding and problem solving.

Trends and Issues in Science

Concern about the low quality of science curriculum in American schools has been expressed for many years. The criticism about poor science instruction includes comments about elementary school science programs. Numerous reports on science education described the curriculum used in the 1980s to be obsolete. Allan Bromley, science adviser to former President George Bush, declared, "In a great many cases, precollege education in the past decade has been literally perpetuating a fraud on the younger generation" (Bromley, 1989, p. 203).

Bromley's observation was supported by the 1986 study of school science conducted by the National Assessment of Educational Progress (NAEP) (Mullis & Jenkins, 1988). Not only did American students perform more poorly than students from other countries, but girls lagged behind boys, and African American and Hispanic students' performance was lower than that of their white peers.

The poor quality of science instruction at the elementary level had been reported earlier. Dueschel (1983) reported that science instruction at the elementary level was infrequent and ineffective. Causes of poor science instruction had been attributed by elementary teachers to inadequate background in science, inadequate time and space, and inadequate science equipment (Hove, 1970); researchers in the late 1980s felt little had changed since these conditions were reported (Tilgher, 1990).

In 1987, the National Science Teachers Association (NSTA) developed criteria for excellence that addressed the requirements for a quality science program for students, curriculum, instruction, and teachers in kindergarten through third grade.

In 1995, the association published new standards, National Science Education Standards (NSTA, 1995), with the goal of improving science education for all students. The content standards included the following categories:

- Content as Inquiry
- Physical Science
- Life Science
- Earth and Space Science
- Science and Technology
- Science in Personal and Social Perspectives
- History of Science
- Unifying Concepts and Processes

The NSF funded an effort to reform science education in U.S. elementary and secondary schools. Project 2061 suggests doing four common themes—materials, energy, information, and systems—that are introduced in kindergarten and studied throughout the school years (Tilgher, 1990). This project and other efforts to improve science curriculum seek to meet the criteria of an exemplary science program proposed by the NSTA. In 2001, Project 2061 and NSTA published an update to Project 2061, Atlas of Science Literacy (NSTA, 2001). The atlas describes connections among the learning goals for Project 2061.
A given in science education reform is the use of hands-on activities. Inquiry-based, hands-on instruction is considered to be an effective way for young students to learn (Sivertsen, 1993). However, educators have different rationales and interpretations of hands-on activities. A project for science educators to investigate how reform is translated into practice defines science teaching as hands-on instruction. Nine science educators in the project defined a hands-on, inquiry-based curriculum as follows:

- The curriculum focuses on student understanding of science concepts and processes rather than memorization of facts.
- Students learn to "do" science using science process skills.
- Instruction is experience based; students are regularly engaged in hands-on activities and exploration. (Penta, Mitchell, & Franklin, 1993, cited by Veilid & Jones, 1996, p. 378)

Planning the Science Program

Goals for the Science Program

The main goal for the science program for children ages 5 to 8 is to help children understand the world around them. To accomplish this major goal, three subgoals should be met: children should understand the ideas or concepts of science, they should acquire science process skills, and they should establish certain attitudes about science. Some of the experiences that nurture acquisition of science concepts include the following (Rakow & Bell, 1998, pp. 165-166):

1. Children are encouraged to work together to identify and solve relevant problems rather than passively and individually acquiring arbitrary information.
2. Children have ready access to a wide variety of equipment and materials that allow them to interact with the natural world of their backyards, neighborhoods, and communities.
3. An inquiry approach to science teaching places investigations at the center of the science program. Students learn through their own investigations about the natural world.

The way in which children learn about their world involves the use of the science process, including observing, classifying and comparing, measuring, communicating, experimenting, relating, inferring, or applying. In Chapter 8, I described the science process in terms of preschool experiences. In this chapter, I will discuss the process in terms of curriculum for 5- to 8-year-old children.

Incorporating the Science Process

The science program for young children is designed around the science process. Whether students are engaging in a single experience or conducting a series of experiences for a broader topic, some or all of the process skills may be applied. Figure 12.2 explains the process skills as they apply to kindergartem and primary-grade children.

One example of a science activity is a nature walk to observe plants. Two science processes that children will use are observing and communicating. On the walk, the students will use observation skills to explore the variety of plants in the immediate environment. On returning to the classroom, they can communicate their thoughts on their observations by discussing, drawing pictures, or writing about their findings.

A longer project to study seeds can incorporate more process skills. Students can classify types of seeds and plants and observe progress of growth. They can predict which seeds will have the largest plants, measure plant growth and control variables by varying the amount of moisture and light that plants will receive, and observe the effect on the plants. Teachers and students should consciously plan to use science process skills and actively think about the components of the process as they are incorporated into science curriculum experiences.

The Role of the Environment

A quality science program requires a large amount of storage space. The classroom science center will need to have adequate space for small groups and individuals to be able to conduct investigations and other
### Scientific Processes for Young Children

<table>
<thead>
<tr>
<th>Process</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observing</td>
<td>Using the senses (seeing, hearing, touching, tasting, smelling) to learn about the characteristics of the environment</td>
</tr>
<tr>
<td>Comparing</td>
<td>Measuring, counting, quantifying, and/or examining objects and events in terms of similarities and differences</td>
</tr>
<tr>
<td>Classifying</td>
<td>Grouping and sorting according to properties, such as size, shape, color, and use</td>
</tr>
<tr>
<td>Measuring</td>
<td>Quantitative descriptions made either directly, through observation, or indirectly, with a unit of measure</td>
</tr>
<tr>
<td>Communicating</td>
<td>Naming, recording, and sharing observations and findings, orally or in written form (e.g., pictures, maps, graphs or journals), so others can understand what was learned</td>
</tr>
</tbody>
</table>

**FIGURE 12.2** Scientific processes for young children.


Science activities. The center will need to have a number of locations where materials can be stored. Tabletops, bulletin boards, and storage cabinet surfaces will be needed for exhibits, projects that are in progress, and permanent components of the science program, such as pets, terraria, aquariums, and insect cages. Not to be forgotten are the essential elements needed for science activities: natural light, a source of water, electricity, and reference materials.

Rotating science materials will be a frequent task for the teacher and students. As materials are brought to the classroom, they are made available for examination and exploration. When work is completed for a thematic unit, materials and equipment that are no longer needed are returned to storage to be replaced by items needed for new topics of study.

With the various types of activities that may be occurring at the same time, careful planning is necessary for traffic flow and management of different types of activities. Display areas should be separated from working areas. Storage facilities should be located in an area that is accessible for the appropriate activities.

The science center requires a management plan. Hands-on activities will require that students know how to use science equipment and materials safely. Procedures for conducting investigations and appropriate behaviors to use when working in the center should be clearly understood and observed by the students. Planned activities should be reviewed to determine whether they can be conducted independently or whether adult guidance or supervision is required.

The teacher will need additional storage beyond what is available in the center. If the teacher is fortunate enough to have a storage closet, materials and equipment should be organized and stored in clearly labeled containers inside. A school resource area may be available at many sites, but teachers frequently find themselves transporting needed items back and forth from home when space for storage is not available at school.

Teachers will also need to plan to acquire materials needed for classroom science activities. Much of the permanent equipment will be supplied by the school as part of classroom resources. Materials can also be salvaged from home and recycled for the classroom. Parents are invaluable in locating free and low-cost materials. If newsletters are sent home well ahead of implementation of science activities, parents can save and send items needed by the teacher.

Not to be overlooked is the outdoor environment as a natural resource for science experiences. Many investigations can easily be transported outdoors, where there is room to move about. Of course, some
activities should be conducted outdoors only. Many times, commercial resources present science activities in an artificial form; such activities could be better learned by going outside and experiencing things firsthand. For example, a lesson on different types of clouds accompanied by pictures is a poor substitute for observing clouds over a period of days or weeks until all types of clouds have been observed.

The Role of the Teacher

The teacher is actively involved as a guide, respondent, and facilitator in carrying out the science curriculum. When children are engaged in observation, investigation, and experimentation, the teacher observes and questions as the children conduct the activity. As observer, the teacher determines when children need additional resources or would benefit from responding to careful questioning. A primary responsibility for the teacher is to observe and record the evolution of student thinking. Teachers can organize science instruction using a "play-debrief-replay" strategy to fulfill the teaching role (Wassermann, 2000).

In the first part of the strategy—play—the teacher designs an experience whereby students study a concept in a cooperative learning group. The group members are "players" in the active, investigative work. The teacher's role is to observe rather than participate or direct.

During the second part of the strategy, debriefing, the teacher helps the children reflect on their investigation activities and better understand the ideas they were exploring. The debrief period is an opportunity for the teacher to provide scaffolding information to help children make sense of their activities and findings. The teacher can use questioning strategies to help students address discrepancies in their thinking and move toward new insights and understandings. The teacher might ask the following (Wassermann, 2000, p. 30):

- What observations did you make?
- How did you know that?
- How did you figure that out?
- How did you get that to work?

The last phase of the play-debrief-replay strategy is replay. Over the next few days, children can engage in repetition of the investigation. New materials might be used. Replay provides practice with the concepts where findings can be replicated or the investigation can move into a new direction.

The teacher also needs to anticipate the kind of time and grouping that is required for science activities. At times, children should pursue their own interests individually; at other times, a cooperative group effort will enhance learning opportunities. Before whole-class or teacher-directed activities, the teacher will want to plan demonstrations or otherwise prepare students for a science activity. The teacher needs to be aware of which process skills will facilitate students in acquiring knowledge from activities and must guide them accordingly on how to use the skills in the procedures they will follow. If rules or policies need to be established, the teacher needs to make sure that the children understand how to proceed before the activity begins.

Organizing the Science Program

Components of the Science Program

The world of science offers unlimited possibilities for organizing the science program. In the large field of biological and physical sciences, the teacher and students have many interesting topics from which to select. Science topics should be selected from the ideas in which students are most interested. There needs to be a balance between biological and physical sciences because children tend to be more interested in biological topics (Seefeldt & Barbour, 1998).

The content standards of the National Science Education Standards provide a framework for components of a science program that is appropriate for kindergarten and primary grade children (Rakow & Bell, 1998, pp. 165-167):

- Physical Science
  - Properties of objects and materials
  - Position and motion of objects
  - Light, heat, electricity, and magnetism
- Life Science
The characteristics of organisms
Life cycle of organisms
Organisms and environments
Science and Technology

It should be obvious that the possibilities for selecting topics and organizing the science program are open ended. The important consideration is that the science program be structured in such a way that the children are empowered through hands-on child-directed experiences to be active learners along with the teacher. Equally important is the nature of local or regional science opportunities that occur as a result of climate and geography. Children will be more interested in science experiences that directly relate to where they live. Lindberg (1990) summarized the ultimate goal as "students experiencing the process of science while they sought to answer questions they wanted to know the answers to, discovering in the process that science was something you do" (p. 80).

**Designing Curriculum for the Science Program**

The science curriculum just described is organized as a content area; that is, the activities are focused on the teaching of science concepts. Various types of activities from other content areas may be included in the range of experiences, but the predominant focus is on learning science.

A significant alternative method is to design the curriculum within thematic topics, where all content areas are equally important to the exploration, and knowledge is derived from the thematic experiences. Science concepts are learned within the larger context of the unit theme. Growth in all content areas through integrated, thematic experiences is the major goal of the curriculum. Through this process, the child comes to understand the connections in learning and the holistic nature of learning about the world.

The curriculum activities presented next reflect these two approaches. The first section includes individual activities that can be used with any age-group from 5 to 8. We will explain a variety of interesting activities from science topics. The second section of science curriculum will be representative of science integrated with other content areas. We will describe examples of science units that are based on a theme or special topic in science.

**EXPERIENCES THAT PROMOTE SCIENCE**

**Dried Apples**

**Science Topic:** Plants

**Science Processes Used:** Observation, predicting, communicating, and inferring

Have students peel apples with a potato peeler, remove the core, and slice the apples. String the slices in bright sunlight and observe them over a period of time as they dry. When the children sample dry apple slices, have them slice a fresh apple and compare them for color, texture, and taste.

**Materials Needed:** Apples, potato peelers, knives, string

**Comparing Seeds**

**Science Topic:** Plants

**Science Processes Used:** Predicting, classifying, and inferring

Collect a variety of fruits, such as apples, pears, peaches, cherries, melons, and strawberries. Cut open the fruit and have the children locate and describe the seeds. Have
then compare the number and type of seeds and where they are located on or in the fruit.

**Materials Needed:** Fruits of several types, knives, paper plates or paper towels

### Seed Collections
**Science Topic:** Plants

**Science Processes Used:** Collecting data, classifying, and communicating

Take a nature walk in the fall to collect seeds. Give each child a shopping bag and have the children collect as many different seeds as they can find. Have the children work in small groups to compare the types of seeds they found for similarities and differences. Combine all the seeds in each group and ask the children to group the seeds from each type of plant together. Let each pick a seed to describe. As an extension of the activity, children could count and graph the number of seeds they found for six or seven types of seeds.

**Materials Needed:** Shopping bags, large paper, marking pens for graphing

### Bug Models
**Science Topic:** Animals (insects)

**Science Processes Used:** Observing, identifying, and communicating

Use collected insects to encourage children to make model representations. Let the children examine the insects in an insect cage or small jar. Provide magnifying glasses for examination of the insect's body parts. Encourage the children to make a model of the insect using play dough and scrap materials. On completion, the children can explain their model or write about the insect and their model.

**Materials Needed:** Play dough, scrap materials, insects, paper, and pencils

### Bark Rubbings
**Science Topic:** Plants

**Science Processes Used:** Observing and communicating

Following a discussion about trees, tree parts, and the characteristics of bark, take children out to observe the bark of different trees. Give each child a large piece of paper and a large beginner's crayon. Have the child choose the tree for a rubbing. Attach the paper to the tree and show the child how to use the side of the crayon to make the rubbing. Children can compare the completed drawings and discuss the comparisons of the trees.

**Materials Needed:** Large sheets of paper, wax crayons
Watching Shadows

Science Topic: Light and Shadows
Science Processes Used: Observing, experimenting, and inferring
Children are interested in shadows. They can trace the movement of the sun and earth and describe the way shadows are affected. Take them out several times during a sunny day and let them compare the size and directions of the shadows. Let them experiment with different objects and the shadows they can make.

Materials Needed: None

Making Shadows

Science Topic: Light and Shadows
Science Processes Used: Observing, experimenting, and inferring
Children can experiment with shadows indoors. Project a strong light on a white wall or newsprint. Encourage the children to experiment with the shadows they can make with their bodies. Encourage them to make puppets out of paper taped to a Popsicle stick or attached to their fingers. Show the children how to vary the types of shadows they can make by varying the distance between the light and the wall.

Materials Needed: Light, white surface on a wall, paper, scissors, tape, Popsicle sticks

Introduction to Magnets

Science Topic: Magnets
Science Processes Used: Observing, experimenting, and inferring
Give each child a magnet. Place a collection of small objects, both metal and non-metal, on the table. Let the children experiment with the objects that are attracted to the magnet. Have the children sort the objects into two piles: those that are attracted by the magnet and those that are not attracted by the magnet. Encourage the children to hypothesize why objects are attracted to a magnet.

Materials Needed: Magnets, small classroom objects

Integrated Experiences That Promote Science

The science activities described in the previous section can be meaningful in themselves or used as part of a series of activities to explore a broader concept. Science is meaningful in a more comprehensive manner when experiences are correlated with other content areas. Moreover, science can be a starting point for cross-disciplinary curriculum. Science is excellent as the core of integrated curriculum because children love science as a content area, it lends itself to involvement and hands-on activities, and all subject areas are enhanced by the thinking skills used with the science processes. Figure 12.3 illustrates how Meehling and Kepler (1991) charted science process skills used across the curriculum.

A unit of studying the September harvest moon demonstrates how a science topic can be the focus of a unit that integrates science across the curriculum. Students observe the cycle of one new moon to another during the period of one month. They observe and
<table>
<thead>
<tr>
<th>Science</th>
<th>Reading</th>
<th>Math</th>
<th>Social Science</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classifying</td>
<td>Comparing and contrasting characteristics</td>
<td>Sorting, sequencing</td>
<td>Comparing ideas</td>
</tr>
<tr>
<td>Collecting data</td>
<td>Taking notes</td>
<td>Collecting data</td>
<td>Collecting data</td>
</tr>
<tr>
<td>Interpreting data</td>
<td>Organizing facts, recognizing cause and effect</td>
<td>Analyzing</td>
<td>Interpreting data</td>
</tr>
<tr>
<td>Communicating results</td>
<td>Logically arranging information</td>
<td>Graphing, constructing tables</td>
<td>Making maps</td>
</tr>
<tr>
<td>Predicting</td>
<td>Predicting</td>
<td>Predicting</td>
<td>Predicting</td>
</tr>
</tbody>
</table>

FIGURE 12.3 Integrating science process skills.
sketch the moon each night to record its phases. In a second activity, the students compare the sizes of the rising full moon with its appearance higher in the sky by tracing the moon on a paper held up to a window. To extend the understanding of the significance of the moon, for social studies, students can study historical lore connecting the phases of the moon to weather changes; for art they can conduct a nighttime art project by the light of the moon; and for math they can compare how the moon’s different gravitational force would affect the weight of objects. These are only some of the many activities that can be designed to make a study of the moon more interesting and informative.

THE INTEGRATED CURRICULUM

An example of integrated curriculum combined authentic literacy with hands-on science. Specifically, the Water Educational Training Science Project (WET) (Moore-Hart, Liggitt, & Dosey, 2004) focused on teaching science inquiry skills such as communicating, predicting, observing, and classifying and writing. Journal writing was used to record observations and data. They also used journal entries to reflect and pose questions about what they were learning. The authors of the project proposed that these writing

![WET Science Project After-School Club Session](image)

Children will hear the story of Marjory Stoneman Douglas, who devoted her life to preserving the Everglades. Students will be introduced to Michigan wetlands with a poster provided by the DNR.

**Evaluate**

Students will write in their journals about one special organism they identified, or will describe what activities they did to help them learn about wetland habitats.

**Explore**

Students will look at samples of pond water and identify organisms, using *A Pondwatcher's Guide*. Observations will be placed in science journals and shared with the rest of the club.

**Elaborate**

Children will describe the characteristics of their habitat and infer how people's needs may influence wetland habitats.

**Explain**

The teacher will explain the characteristics of a wetland habitat.

FIGURE 12.4 Integrated curriculum learning cycle.

experiences can lead to higher level thinking and improved understanding of scientific information.

The WET sought to integrate storytelling, literature, biology, chemistry, earth sciences, physics, and writing. The teachers adapted techniques used by scientists to conduct water studies. A 5-Step Learning Cycle was used to enable the students to engage, explore, explain, elaborate, and evaluate. A story about a scientist's role in studying water and protecting freshwater resources initiated the first step in the learning cycle. The students then worked through the remaining four steps to learn more about water environments. See Figure 12.4 for an example of how the 5-Step Learning Cycle was used in this thematic study.

A project to study hurricanes used a child-centered approach to integrate curriculum (Duffy, 2003). Using the Project Approach first introduced in Chapter 3, children made important decisions about what they would study, how they would conduct the project, and how they would document what they had learned (Katz & Chard, 2000). The project was initiated when first graders became concerned about a hurricane possibly hitting their community and demolishing their homes. After exploring books on hurricanes, the teacher and children brainstormed possibilities for exploring the topic. After much discussion, the children voted to produce a video about hurricanes to help kindergarten children understand them. The class conducted extensive research and communicated with people who had been in hurricanes. They collected newspaper accounts and wrote about what they were learning using individual abilities in writing. After much preparation of scripts, the video was produced. In addition to learning about hurricanes, content skills had been embedded in the project. More important, the children learned that they could plan and work together to locate information from multiple sources.

SUMMARY

The mathematics curriculum enables students to progress to more complex levels using higher levels of cognition as concrete operational thinking is acquired. The sequence of concrete to abstract and simple to complex is particularly significant as children encounter new mathematical concepts. Because mathematics is sequential in nature, the teacher needs to understand how concepts build on previous mathematical experiences. Extensive use is made of concrete materials when learning new skills, and many opportunities are made available for children to apply their mathematical skills and problem-solving abilities in real-life applications. Like the language arts curriculum, the trend in mathematics is to its application in context and not as a set of isolated skills. In addition, the importance of immersing young children in the use of technological tools and applications is part of the curriculum from the preschool years through higher education.

Science curriculum, conversely, is more holistic. Children need ongoing encounters with the same science concepts in many contexts to fully understand the implications and applications of the science process. Whether children are in the preschool years, kindergarten, or the primary grades, they are using the science processes of observing, classifying and comparing, measuring, communicating, experimenting, relating, inferring, or applying as part of their basis of understanding scientific phenomena.

There are extensive possibilities in physical and biological science that teachers and children can pursue. Although children tend to favor biological themes, they need a balance of both in the curriculum. Young children benefit from integrated experiences with science when all components of the curriculum can contribute to the child's understanding and use of the science process. As national efforts are made to improve the quality of the science curriculum, beginning with very young children, teachers are placing more emphasis on planning and implementing improved curriculum in their classrooms. This includes the design of units of study based on science topics that facilitate comprehensive experiences in a variety of activities over a period of time, including real experiences with living things and materials and phenomena of the surrounding world.
STUDY QUESTIONS

1. Why can the mathematics program be described as a continuum between preschool and primary years?
2. Why are mathematics specialists recommending a different approach to mathematics instruction for future students?
3. What kinds of changes are recommended?
4. Why does the mathematics program need to be developmentally appropriate?
5. Why are integrated or real-life experiences particularly significant in mathematics?
6. How should students learn about computer and calculator technology in mathematics activities?
7. Why should teachers be cautious about selecting and using computer software?
8. In what way is the mathematics curriculum hierarchical and sequential?
9. What difficulties do students with learning disabilities encounter when trying to understand and perform in mathematics? How can the teacher help them?
10. Why can the mathematics program be described as a continuum between preschool and primary years?
11. Why are mathematics specialists recommending a different approach to mathematics instruction for future students?
12. What kinds of changes are recommended?
13. Why does the mathematics program need to be developmentally appropriate?
14. Why are integrated or real-life experiences particularly significant in mathematics?
15. How should students learn about computer and calculator technology in mathematics activities?
16. Why should teachers be cautious about selecting and using computer software?
17. In what way is the mathematics curriculum hierarchical and sequential?
18. What difficulties do students with learning disabilities encounter when trying to understand and perform in mathematics? How can the teacher help them?
19. Why do preoperational and concrete operational thinking students need first-hand, real-life experiences in science?
20. What are some investigation activities that primary-grade children can use to experience science concepts?
21. How are new science programs different from more traditional programs?
22. Why is the use of thematic units a good approach to the development of meaningful science units?
CHAPTER THIRTEEN

The Transitional Curriculum: Ages 5 to 8

Social Studies and Physical Education

CHAPTER OBJECTIVES

As a result of reading this chapter, you will be able to:

1. Understand the importance of social development in kindergarten and the primary grades.
2. Describe activities the teacher can use to nurture social development.
3. Describe the social studies curriculum in kindergarten and the primary grades.
4. Explain the components of the social studies curriculum.
5. Explain how to design curriculum in social studies.
6. Describe how to design integrated, thematic curriculum in social studies.
7. Explain how physical development continues in children ages 5 to 8.
8. Discuss how to plan for physical development.
9. Describe the role of the teacher and physical education teacher in designing curriculum for physical development.
10. Describe the integrated curriculum for physical development.

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CURRICULUM FOR SOCIAL STUDIES

In the preschool years, social development is the basis for devising the social science curriculum. In the years between age 5 and age 8, the curriculum for social development or social science is commonly labeled social studies; however, the major components or topics are similar to the categories used with young children. Social development is still an important consideration in the kindergarten and primary grades. In addition to expanding socialization skills, students in the later early childhood years are developing attitudes and values about themselves and other people. The curriculum for social studies includes activities for both advancing socialization skills and broadening students' understanding about the world and its people.

Social Development for Ages 5 to 8

Chapter 9 described the preschool child as gradually becoming less egocentric and developing the ability to understand that others may think and feel differently than he does. As the young child enters school, this ability continues to mature and enables the child's social cognition to include social role taking, or the ability to put oneself in another's place and anticipate what another person may feel or think. Development of social cognition allows children to better understand others and themselves, leading to interests in initiating friendships. Children also understand that people interpret situations differently, though they may not understand the source or cause of those differences (Berk, 2001; Feldman, 2001).

As young children enter school, they are moving into what Erikson called the stage of industry versus inferiority. Until they reach puberty, these young children will be developing a sense of adequacy as they become adept at reading, writing, and mathematics. If they are successful academically, they come to see themselves as competent learners. Likewise, if they are successful in using their social skills, they perceive themselves as liked by their peers. Children who do not overcome barriers to successful adaptation to school or fail to learn satisfactorily can develop a sense of inferiority or a lack of self-esteem.

A child who is socially and emotionally ready for school and thus ready to learn has many, though not all, of the following characteristics: he or she is confident, friendly, has developed or will be able to develop good relationships with peers, and is able to concentrate on and persist at challenging tasks. The child must also be able to effectively communicate frustrations, anger, and joy and must be able to listen to instructions and be attentive.*

Unfortunately, not all children achieve social and academic success. Many factors can affect the child's positive socialization in the first years of school. Differences in child-rearing practices and value systems can make it difficult for some children to fit into the school structure, which traditionally has reflected a middle-class perspective. Diversity among family structures, economic conditions among families, and ethnic and cultural variations in the child's background can make it difficult for the child to feel comfortable in the school environment (Hale-Benson, 1986; Lane, 1986). Children who have been neglected and abused and children with disabilities have special challenges in their efforts to feel successful and accepted (Meddin & Rosen, 1986; White & Flair, 1986). Although these factors affect socialization in preschool years, they can be even more significant during early elementary school years. When children enter the primary grades, they are more aware of the need to conform to the social standards of their class and school and to expectations for behavior. They are also more perceptive as to whether they are accepted by their peers as part of a classroom social group.

Children who are not socially and emotionally competent when they enter kindergarten are frequently unsuccessful in the primary grades. They can encounter behavioral, academic, and emotional and social problems that continue throughout childhood into adulthood (FAN, 2000). Grade retention can

*The Child Mental Health Foundations and Agencies Network (FAN), 2000, p. vii)
result in behavioral problems. Children who have poor academic achievement in the early grades are also at risk for antisocial behavior (Huffman, Mehlinger, & Keivan, 2000).

Peer rejection can have major consequences for the child in the primary grades. When considering Vygotsky’s emphasis on the social components of learning, children who are rejected by their peers are at a disadvantage for learning through socialization. It also can deny them access to learning events where spontaneous groups engage in activities.

The school is a major force for socialization, and the teacher plays an important role in guiding all children toward becoming successful members of the classroom community (EAN, 2000). There are practices the teacher can use to maximize positive socialization in students in kindergarten and primary classrooms. First, the teacher must assess friendship and sociometric patterns in the classroom (Matthews, 1996). Cooperative and sharing behaviors can be acquired through teacher modeling and guidance. The teacher can use coaching, direct teaching, and reinforcing to nurture appropriate social behaviors. Frequent group experiences, including activities among cooperative learning groups, can help children understand that they can work together and support one another (Deutsch, 1965; Kamii, 1986; Manning, 1998; Roepke-Kamii & Honig, 1986; Vesel, 1980).

The ages between 5 and 8 are also important for moral development (Kamii, 1986). Whereas children have previously made objective judgments in moral reasoning, they now become more subjective; that is, they consider the other person’s intentions when making moral judgments about them. Learning to understand the intention of others is a difficult process, that continues through adulthood (Kamii, 1986).

There seems to be a relationship between the development of moral reasoning and social behavior. In a study of first-grade students, those with indications of higher moral reasoning were also more successful socially. Children who had good social skills were better able to judge the intentions of other children and were able to take their needs into account (Dodge, Murphy, & Buchsbaum, 1984). Children who were more advanced in moral reasoning had more successful social interactions and were sought out or approached more frequently by other children.

Paralleling moral development is the formation of attitudes and values. Values and attitudes are learned; moreover, they are acquired through the attitudes and values that are experienced by children through interactions with the people they come in contact with in their family and community (Seefeldt, 2004). The child’s formation of values and attitudes begins in very early childhood years and is influenced by family, school peers, adults at the school, and other groups outside the school. Young children learn the values and habits of their family and immediate community through daily life. They likewise learn the values of the school culture through daily experiences in the school community. Therefore, it is important that parents and teachers take seriously their role in establishing values and attitudes. This is especially true in teaching the values and attitudes of living in a democratic society. In our society, we wish to promote the idea that all are equal and have equal rights to dignity and respect.

Not everyone in our society receives equal treatment, and children can become prejudiced at a very young age (Trawick-Smith, 2000). Children can be influenced by stereotypes, prejudices, and discriminatory practices as early as age 2 (Derman-Sparks, 1992). Prejudice is a serious problem in this country, especially against minorities. Teachers can work toward establishing an environment that ensures equal treatment for all students. They will want to understand that diversity among children includes differences in gender, abilities, linguistic capabilities, class, and culture (Byrnes & Kiger, 1992). A first step in this process is for teachers to develop their own awareness of differences in the backgrounds of their children and how it affects them as they live and learn together (Trawick-Smith, 2000). Cultural differences can include perceptions about gender roles, orderliness, noise level, and the importance of the group rather than competition between individuals. Toward eliminating prejudice, as their understanding of differences develops, teachers can better model and teach equality and fairness toward all students and expect the same attitudes from the children (Seefeldt, 2004; West, 1992).
Activities for Nurturing Continued Social Development

Social development in kindergarten and primary classrooms is nurtured through the daily process of living, playing, learning, and working together. Social and moral development as well as the formation of values and attitudes occur within the environment and within practices for social living and learning that are established by the teacher. The major goals for social development are for children to extend their own socialization skills and to develop an appreciation for themselves and others through membership in their school community. The teacher helps students reach these goals through modeling appropriate attitudes and behaviors and establishing classroom practices and activities that enable students to practice social roles and cooperation in a democratic environment.

The teacher’s initial task is to establish a classroom climate that nurtures cooperation and mutual respect. A conscious effort is made to establish a non-competitive atmosphere where all children participate in shared learning. The teacher’s orientation and leadership shift the emphasis from teacher-directed instruction to mediated leadership that fosters peer interaction (Feldman, 2001).

The desired classroom climate established by the teacher promotes self-esteem and respect for self and others. Students learn how to be good citizens in the process of acquiring democratic values and behaviors. Through participating in group life, communicating with others, and solving problems cooperatively, students experience social and academic success (Holmes, 1991). A sense of belonging and self-worth develops from learning together through participatory roles facilitated by the teacher (Johnson & Johnson, 1994).

The teacher uses several strategies to actualize the noncompetitive, shared learning environment. These strategies involve discussions, cooperative learning groups, and democratic decision making.

Class Discussions

Class discussions are a vehicle whereby teachers can help students learn rights and responsibilities and develop respect for themselves and others. Through the medium of discussion, children can express their developing awareness of the many differences and similarities among people in the United States as well as those represented by children in their classroom. They can share their family lifestyles and traditions with one another and broaden their understanding and appreciation of individual and group differences.

Cooperative Learning Groups

Cooperative learning groups facilitate shared learning and group interactions. Instead of working alone, students work in small groups that are heterogeneous in development, ability, background, and gender. To function successfully in the group, students must learn and use interpersonal skills. The teacher plans activities that will build group cohesion and positive interactions. Through successful participation in group efforts, low-achieving students can feel they are making positive contributions to the group, while more able students can try out leadership roles (Lyman & Foyle, 1990). Students learn from each other as they observe, imitate, and discuss ideas with their peers (Atkinson & Green, 1990).

Democratic Decision Making

Democratic values are learned through democratic decision making in group living and learning. Throughout the school year, students and teachers work together in setting learning goals and classroom rules and solving social problems that arise in the classroom. Choices are made about what and how they will learn, particularly when planning projects or thematic units. When a unit of study is developed, the process of brainstorming together and planning and implementing activities to accomplish unit learning objectives actualize democratic practices in learning. Individual and group work that is planned includes assigning varied responsibilities, monitoring progress of unit activities, and reporting the final results (Lenhoff & Huber, 2000).

Social problem solving can be addressed in democratic decision-making activities. The teacher can lead group discussions intended to elicit suggestions
for resolving the issue at hand. Class meeting techniques can be used (Glasser, 1969) to ensure that each child has the opportunity to speak, that children are guided in seeing and understanding the viewpoints of others, and that a solution to the problem is reached through consideration of the consequences of making suggestions and reaching conclusions.

Citizenship learning and socialization skills are part of the total school curriculum, but they are also part of the social studies curriculum. In the next section, I will consider how to organize or structure social studies in kindergarten through third grade as well the major role of integrated learning in the social science curriculum.

**Social Studies Curriculum in Kindergarten and the Primary Grades**

The preschool social science curriculum is divided into the categories of history, geography, economics, sociology, and anthropology; these subjects also form the framework for social studies in elementary and secondary school. Earlier chapters explained that studies in these areas are adapted to the experiences and abilities of children in the preoperational stage of development. In this chapter, social studies will be discussed using the same categories, but learning experiences for kindergarteners and primary-grade children will reflect their growing ability to understand concepts from a broader and more complex perspective. Moreover, social studies curriculum design will be approached from an integrated organization, reflecting the most meaningful way that young children can learn about themselves and others in their world.

The social studies curriculum emerges from the children in the individual classroom. The ethnic and cultural backgrounds of the students and the makeup of their larger community and region form the foundation for the topics and content to be studied. For example, children who live in Arizona will attend classes that have a different mix of cultures than would be found in Alaska or Wisconsin. Differences within cultures and ethnic groups can also be affected by where children live. The Hispanic culture in southern Florida may be affected by influences from Cuba and South America, whereas the Hispanic culture in California and Texas may have stronger influences and traditions from Mexico. When developing goals for social studies, teachers must keep in mind that the unique characteristics of each region's student population will affect the learning experiences that will be planned.

**Goals for Social Studies**

In 1994, the National Council for the Social Studies (NCSS) published Expectations of Excellence: Curriculum Standards for Social Studies (NCSS, 1994). Although it is not the only organization setting such standards in social studies, it is the professional organization that advocates for social studies in the public schools (Jantz & Seefeldt, 1999). The NCSS standards are concerned with developing good citizens. They also reflect constructivism and the integrated nature of learning. The introduction to the standards explains the intent of the social studies (NCSS, 1994, pp. 1–2):

1. Social studies programs have as a major purpose the promotion of civic competence—which is the knowledge, skills, and attitudes required of students to be able to assume the office of citizen (as Thomas Jefferson called it) in our democratic republic.
2. K–12 social studies programs integrate knowledge, skills, and attitudes within and across disciplines.
3. Social studies programs help students construct a knowledge base and attitudes drawn from academic disciplines as specialized ways of viewing reality.
4. Social studies programs reflect the changing nature of knowledge, fostering entirely new and highly integrated approaches of resolving issues of significance to humanity.

The NCSS further proposed that children at the primary levels should learn through highly integrated experiences across disciplines that could be constructed around themes. In the area of academic
disciplines, history, geography, political science, and sociology were described as the categories of discipline-based knowledge.

The standards for social studies are organized into 10 themes:

- Culture
- Time, Continuity, and Change
- People, Places, and Environments
- Individual Development and Identity
- Individuals, Groups, and Institutions
- Power, Authority, and Governance
- Production, Distribution, and Consumption
- Science, Technology, and Society
- Global Connections
- Civic Ideals and Practices

The academic disciplines listed in the standards are appropriate for the curriculum for children in kindergarten and the primary grades. In the following sections, history, geography, economics, sociology, and anthropology will be discussed when describing goals for social studies.

**History**

Children in kindergarten and the primary grades are beginning to develop concepts related to history. Two of the concepts, change and time, help children understand the notion of the past. Children first understand the passage of time through understanding the role of routines during the day. They can move from experiences measuring time to understanding that history is the study of things that happened in time that has passed. A sense of change that occurs over time also leads to an understanding of the meaning of history. Children can move from understanding changes in themselves to recognizing changes in their home and neighborhood. Through intergenerational contacts, they learn about continuity in life and that people of different ages represent the passage of time (Seefeldt, 2004). Holidays mark the passage of time during a calendar year as well as celebrations people observe today that were also observed in the past.

**Geography**

Learning geography helps children understand that the Earth is the home of humans. Geography helps them to be able to locate where places and things can be found on Earth. As children move toward concrete operational thinking, they begin to discriminate between living and nonliving things. They begin to understand that nonliving things cannot move themselves but can be moved by an outside force (Piaget, 1965).

Some concepts that can be understood between ages 5 and 8 include the following: the land and water surfaces on Earth, Earth as a part of the solar system, the way seasonal and climatic changes occur on Earth, and spatial directions. With an understanding of location and spatial directions, children can be introduced to the use of simple maps. They can learn how to represent places and locations by using such things as blocks and boxes. For example, kindergartners enjoy laying out an outline of a house using unit blocks. Drawing streets for small vehicles is also a possibility for beginning mapping experiences.

Geography concepts can be applied first within the local community and then within the immediate neighborhood surrounding the school. Nearby land and water surfaces, characteristics of local climate, and mapping of community places in relationship to the location of the school can lead to mapping more varied area characteristics at farther distances from the school and community.

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**Learning How To Make Maps**

A second-grade class engaged in a project to learn about mapmaking. Three concepts in geography were developed within the mapping unit: (a) representation and symbolization, (b) perspective, and (c) scale. All three concepts supported the purpose and use of maps. The teachers used sequences of concrete to abstract and experiencing and representing to help students understand unit concepts. The students constructed models of the classroom in small groups followed by drawn maps. The children's representations in the drawings included a combination
of different perspectives. Children were then asked to draw a map of their bedroom.

In the next phase of mapping, children developed an awareness of their community. A community map was enlarged to 3 feet by 4 feet. Children were able to place their houses on the map using milk cartons for the constructions. The children became aware of the logic of the bus routes related to location of homes and how near or far they lived to other students. Students picked another student's home and drew a map between the two homes and wrote about this discovery.

At the most abstract level, students discussed how they could map the sequence of events in their day. The class first discussed the schedule of their day in the classroom and made an experience chart to "map" the activities that occurred in the schedule. Then each student designed and drew a map of their own day.

Some children had difficulty with the concept of scale. They were not able to maintain proportion in objects they drew. The most important objects were larger than other objects in their drawings (Lenhoff & Huber, 2000).

Economics

Preschool children can understand what is involved in the buying and selling of goods and services. They have all gone shopping at some point in their lives and have experienced the exchanges of money, bank checks, and charge cards for groceries or clothes. Kindergarten and primary-grade children can understand the relationship between labor and production of goods and the economic characteristics of neighborhoods. They can understand, for example, the need to work to earn money, the concept of supply and demand, the implications of overproduction and scarcity, and the idea of savings (Seefeldt, 2004). Learning activities that will foster an understanding of these concepts include field trips to grocery stores,
freight yards, banks, drugstores, construction sites, and shopping malls.

Children can explore what it means to be a consumer. They can learn how consumers become informed about goods that are available for purchase through advertising and the difference between producing goods and providing services.

Young elementary students can also learn about businesses and how they function. In 1992, Junior Achievement introduced the Elementary School Program for kindergarten through sixth grade as a pilot project. Sequentially integrated themes were used. The kindergarten theme "Ourselves" is followed by "Our Families" in first grade and "Our Community" in second grade. A goal of the program is for students to understand economic principles and engage in problem solving (Van Scooter, Van Dusen, & Worthen, 1996).

Sociology and Anthropology

Young children need to learn about people and how they organize themselves into groups and communities. Preschool children can understand the family as the basic social unit, and primary-grade children can learn about communities beyond the local level. Children can also relate to how people live in other countries. They can become aware that we need to understand the similarities and differences in how people live in the nearby community as well as other parts of the world. Children in transition from preoperational thinking to concrete operational thinking can begin to use reasoning to understand the causes of war and the implications of racial and ethnic differences. Children need to discuss international topics so that they can have a perception of people beyond U.S. stereotypes. Discussing global topics will facilitate acquisition of international concepts. These studies must begin with young children if they are to build positive attitudes toward the diversity of people in the United States and other countries and avoid prejudices that can influence their points of view (Moyer, 1970).

Current Issues

Information in social studies is constantly changing. We live in a rapidly changing world, and because of the availability of visual information about current events on television, children can develop an awareness of changing situations and conditions in countries that are nearby as well as distant. For example, primary-grade children may be made aware of information about new countries that are being carved out of the former Soviet Union or are seeking to regain the historic status they had before the world wars. Current issues, such as ecology and environmental protection, being addressed by various media resources and local community groups and organizations are also part of young children's awareness.

Primary-grade children are able to study topics about their own community that can relate to topics in other parts of the world. They can develop an awareness of why economic issues can affect how countries react to the way they use their environment. By being shown concrete examples of conflicting needs of different populations in their own community, children can be guided in beginning to understand conflicts in other nations. For example, awareness of a local controversy over the location of a garbage dump site or an issue about the amount of garbage that accumulates in the community can establish a foundation for understanding that there are various types of pollution in the world that are addressed differently in individual countries because of differing circumstances.

Young children can understand principles of patriotism. They can appreciate why flags are used as symbols for a state or country, why we recite the "Pledge of Allegiance," and why countries have a national anthem. Especially now, children can become aware that countries experience change and that change in government can result in changes in how people live and work.

Although the NCGS standards call for a curriculum that should be a basic component in public school education, the reality is that social studies is not considered to be as important as other subjects. There is also the issue of teachers' commitment to social studies. With the emphasis on basic skills and standardized testing, teachers spend a majority of their time on reading, language arts, and mathematics. The fact that competing organizations are calling
for different curriculum topics such as multiculturalism and gender issues results in unclear directions for teachers in social studies (Jarolimek, 1996; Jantz & Seefeldt, 1999; Thornton & Houser, 1997).

**Designing Curriculum for Social Studies**

How, then, do teachers of young children from ages 3 to 8 plan and implement curriculum for social studies? To be consistent with the focus of this text, the social studies curriculum described will build on developmental continuity between the preschool and primary years. The social science topics will be developed to include topics that explore the elements of social studies discussed earlier in more depth.

The topics will be developed with the students' cognitive abilities in mind. I will consider the child's development toward using written language and making cognitive advances into concrete operational thinking as well as the principles of learning that have been basic to all curriculum development throughout the text. Reconstruction of knowledge through active participation in hands-on learning and student involvement in planning are basic to the way the curriculum is organized.

**The Integrated Curriculum in Social Studies**

The social studies curriculum lends itself naturally to thematic units in kindergarten and the primary grades. Because all areas of the curriculum can be part of a unit of study in social studies, the units also contribute to an integrated approach. The integrated social studies curriculum discussed in this section is described in terms of units and topics. The thematic units are divided into categories of global and cultural topics, social action topics, and character development topics.

**Global and Cultural Topics**

**Toys.** A study of toys and play can help children understand that toys are universals that are present in all cultures around the world. Students can understand similarities and differences among people through a unit study of toys and the roles they play in children's lives. A thematic unit on toys could be organized around different types of toys. Toys such as Babar and Pinocchio offer insights into children's literature from other countries. Toys from popular culture—such as Mickey Mouse and Barbie from the United States and Snow White from Great Britain—can be recognized by children in many countries.

Some toys are more classic and reflect the historical heritage of a country. Nested dolls from the former Soviet Union, Chinese kites, and dragon puppets are traditional toys from various parts of the world. Cultures can be compared through toys that are representative of a country's traditions or customs. Bride and groom dolls, toy vehicles, miniature dwellings, and toy environments such as farms or medieval castles can be used to compare current and historical lifestyles.

Experiences can be developed to integrate learning across the curriculum. Children can make puppets from various media, explore children's literature related to toys, and make puppets representing other cultures. The study of toys from an international perspective can be developed into extended projects and used as sources for writing stories and reports and discussing social issues (Swiniarski, 1991).

**Communities.** Students in the primary grades can be introduced to different cultures through the study of communities in different countries. Students can use library books, Internet searches, and other resources to study cultural traits such as diet, clothing, shelter, education, and family structures of different cultures. The types of physical characteristics of a country—such as vegetation, wildlife, weather, temperature, rainfall, and natural resources—can be matched with the environmental characteristics of a country. The effects of a country's physical characteristics on the cultural traits can be explored for relationships between the two. The reverse issue can also be applied regarding how the inhabitants of an area affect the natural environment of the country.

Community studies can incorporate written reports, collages of community characteristics, and graphs of comparisons of physical characteristics of countries,
such as weather, temperature, and rainfall, to provide authentic experiences in mathematics and science. Murals of communities in different countries allow students to depict what they have learned in a visual format.

**Biographies of Global Leaders.** Students can learn social studies through integration with literacy. They can write biographies about leaders in social studies topics they are studying as well as a separate thematic unit. They might study explorers as a topic. They might develop biographies on Columbus, Marco Polo, or Lewis and Clark. They could describe the lives of heroes such as George Washington, Nelson Mandela, or Crazy Horse. Through writing profiles of leaders both historical and more contemporary, students learn about history and political science while developing their own reading and writing skills.

**Children’s Literature and Social Studies.** Children's literature can foster social science concepts, especially in developing an understanding and appreciation of multiple cultures. They can study the universals of cultures such as language, government, economic systems, religion, family, and education. Children's books can be helpful in learning about the form that cultural universals take, no matter what culture the child is in. Books that will familiarize children with cultural understanding can be used for topics related to family relationships, daily living, and cultural rituals, such as weddings, funerals, graduations, and christenings. Students also can learn about one culture at a time through thematic units and then compare cultures (Barnes, 1991).

**Holiday Celebrations.** When teachers of young children consider social studies, one of the topics they usually think of is the celebration of holidays. Although there is an abundance of ideas on how to study and experience holiday celebrations, many of the existing activities have become stereotyped or sterile. Curriculum themes for holidays can be fresh and innovative if teachers and children plan thematic units based on children's interests and backgrounds.

One way to get a new perspective is to have a brainstorming session at the beginning of the year to include parents, children, and teachers. The planning group can focus on theme ideas that are appealing to them and can bring new approaches to understanding holidays that are relevant to the cultures of the local community as well as other cultures both in nearby communities and across the world.

**Social Action**

**Addressing Community Needs.** As students conduct community studies, they can focus on how the environment affects community life. To better understand the characteristics of the community, students can examine and compare two communities and determine the advantages and disadvantages of living in each one. As students conduct an in-depth study of the quality of life in their community, they can identify ways that their community can be improved; in addition, they can design an action plan where they can contribute to the desired improvement. Class discussions, group research, reading, and writing can be used to accomplish all the goals of their investigation.

Students in a large city studied two areas within the city to compare what was available for elementary students to do after school. The students discovered that one area they studied had many resources, whereas the other had not, and they approached two churches with their concern. One church not only became interested but also coordinated efforts with the neighborhood elementary school to conduct after-school activities both at the church and at the school. The students studied their community from the perspective of the availability of the quality of life for children in different areas of the city. When they understood that there was a lack of resources for children in one of the areas, they designed a plan that engaged them in the process of social action to improve the situation.

**A Social Studies Unit on Legislative Processes.** Children in an elementary classroom in Pennsylvania engaged in social action as they sought to have the firefly adopted as the state insect in Pennsylvania
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The younger students reacted very positively to their experiences with the older students. They would wave to their older "Buddies" when they passed in the hallway in the school.

CURRICULUM FOR PHYSICAL EDUCATION

Although much attention is paid to the need for play in the preschool years, the same cannot be said for the elementary school years; moreover, the emphasis on play periods for 5-year-olds may be very different among programs at different settings. Child care centers and private schools are more likely to devote time for unstructured play than are public schools. Five- to 8-year-olds continue in their need for activities that promote motor development; however, schools and homes do not always provide the kinds of physical activities that are desirable.

Physical Development of Children Ages 5 to 8

I have described motor development in the preschool years more specifically as perceptual motor development, and I divided the skills into fine motor and gross motor skills. Play for preschool children was discussed in terms of physical play and its relationship to social and cognitive development. The indoor and outdoor preschool play environments provide for fine and gross motor skills in a context of play experiences that encompass sociodramatic play, cognitive play, and creative expression.

Gross motor and fine motor skills, body awareness, spatial awareness, balancing, and integrated movement as described for preschool children continue to develop in the early elementary years. The rapid rate of growth during the preschool years slows down with major development now occurring in the trunk and limbs. Childhood obesity can occur, a condition that is prevalent and increasing among children of these ages (Bark, 2001; Epstein, Wing, & Vakili, 1985; Wortham, 2005e).
Motor development during these years is a process of improving fine and gross motor skills. Children acquire improved skills rapidly and become competent at physical games. Galashue (1993) describes motor development and movement skill acquisition in terms of stages and age periods of development. He describes children in kindergarten and the primary grades as moving from the fundamental movement phase into the specialized movement phase. They are moving from the mature stage of fundamental movement to the transition stage of specialized movement.

The child in the primary grades enjoys demonstrating the skills that are being acquired. Hughes (1991) gives the example of the young boy who begged his parents for a skateboard and then derived much satisfaction from daily performances of the latest accomplishments that had been mastered. Children become interested in gymnastics, dance lessons, and organized sports. Improvement in fine motor skills makes hobbies possible, such as assembling models, sewing, making crafts, and participating in other activities that require dexterity. Many children become adept at writing and are able to use smaller writing. However, not all children develop this fine motor maturity and are penalized if school expectations for handwriting are too difficult for their level of fine motor development.

Motor development is interrelated with social and cognitive development. As children move from pre-operational to concrete operational thinking, their emerging cognitive and social-emotional needs affect their play interests. In the primary grades, children become more aware of peer approval. It is very important to them to be accepted by the group. Cognitive abilities make it possible for children to engage in games with rules, increasing the opportunities to engage in group activities and enjoy organized sports, which require group efforts and competition.

Games with rules can involve gross or fine motor skills. The typical games familiar in American culture, such as baseball, soccer, hide-and-seek, and hopscotch, exercise gross motor skills. Marbles, checkers, and jacks require fine motor skills, whereas Monopoly and other board games advance intellectual skills. Children between the ages of 5 and 8 enjoy all these opportunities for participating in physical activity and games that require physical and mental competence.

There are issues and lack of agreement concerning what kinds of physical activities should be promoted.
and how much importance should be given to physical development in kindergarten and primary grades. The issues that are most common relate to the following questions: What emphasis should be placed on physical education in the primary grades? Should physical education curriculum involve structured or unstructured play periods? And what is the appropriate role for organized sports in the early elementary grades?

Planning for Physical Development

The preschool teacher has the primary responsibility for all areas of the curriculum in most program settings. This organization changes radically in elementary schools as specialist teachers assume some of the instruction of young students. As early as kindergarten, children may be served by a music teacher, physical education teacher, computer center technologist, and art teacher. If the school is limited in special teachers, the physical education teacher is the specialist most likely to be hired. The common perception, then, is that physical education is a separate subject of the curriculum. The physical education teacher plans the physical education program as a structured curriculum with goals and objectives for motor development and physical fitness. The classroom teacher no longer has the responsibility for physical development beyond fine motor skills related to classroom experiences. It is possible that no one has the responsibility for the child’s total physical development and for providing a balance between exercise and fitness and play opportunities that foster the interrelated benefits of social, cognitive, expressive, and physical play.

Furthermore, there is great concern that physical development is neglected in elementary schools. Concurrent with the back-to-basics movement in the latter 1980s, less time was devoted to physical education, and more time was scheduled for academic instruction. There is evidence that physical fitness has declined in the past decades. Although some of the problem is attributed to increased television watching and poor diet, decreased emphasis in the public schools on physical education is also a major factor (Coop & Rotella, 1991). An estimated 15% of children 6 to 11 years are overweight as shown on the results from the 1999–2000 National Health and Nutrition Examination Survey (NHANES). In the time interval between 1976–1980 to 1999–2000, the prevalence of overweight among children 6 to 11 years increased from an estimated 7% to 15% (National Center for Health Statistics, 2004; Ogden, Flegal, Carroll, & Johnson, 2002). Childhood obesity can result in medical problems. Many obese children have high cholesterol and blood pressure, while others have a high incidence of orthopedic problems, asthma, and liver disease (Togian, 2002).

Efforts are being made to encourage children to eat healthy foods and to be more physically active. Not only are schools encouraged to provide better food choices at school and to include physical activities in the curriculum, but parents and public parks personnel are encouraged to help children live healthy and active lifestyles (Togian, 2002).

Galahue (1993) proposes that the motor and perceptual development of young children should not be left to chance. He suggests that children follow a progression in the development of movement skills. If children fail to develop and refine those skills, it will lead to later frustration and failure in sports and recreational activities. Bad movement habits can develop that are difficult to correct beyond the early childhood years.

The issue of participation in organized sports in early elementary years is another concern in planning for physical development in elementary schools. In past decades, unstructured play periods were part of the school day. Children had time to be outdoors and to select their own play activity. Although they were likely to organize group games during these periods, the activities were supervised by but not directed by adults. In schools today, most outdoor periods are limited to adult-directed physical education periods. Adults select and direct the activities, and children are required to participate. In addition, many primary-grade children participate in organized sports after school. Time for unstructured play after school and on weekends has diminished for many children. As a result, some of the advantages of unstructured, child-initiated play are lost.
Games that are initiated and conducted by children promote social and psychological development in addition to physical development. Children cease the games and rules and learn leadership skills, diplomacy, and compromise within the social group engaged in the games. These possibilities are lost in adult-directed sports. Not only is the child relegated to an adult-controlled world, but the spontaneous qualities of child-initiated play and games are lost to school-age children (Pellegrini & Byrdland, 1996).

There are negative physical consequences of overemphasis on organized sports. Children who participate excessively in organized sports can experience burnout (Rotella, Hanson, & Coop, 1991). In addition, they are subject to sports injuries (Taft, 1991). Young children who participate in organized sports may experience injuries from overuse, such as tendinitis and stress fractures. Taft states that children seldom experience this kind of injury in free-play sports because children will stop playing when they are tired or feel pain. In organized sports, however, adults tend to encourage children to train, exercise, and compete at a level that is not appropriate to their level of development. Moreover, when parents encourage children to participate in more than one organized sport, the possibilities for injury or overuse of muscles and tendons may be compounded. There are, however, elements of play in sports. In addition to interest in winning the game, children also engage in playful pranks, verbal banter, and trading insults. Sports allow children to enjoy being with their friends and engaging in playful behaviors (Hilliard, 1996).

**Designing Curriculum for Physical Development and Education**

**The Role of the Teacher**

Although the classroom teacher may not have a responsibility for developing a curriculum for physical development, the teacher should be responsible for ensuring that kindergarten and primary-grade children have a balance between unstructured and structured play during the school day. If present policies preclude outdoor play periods for young kindergarten and elementary children, then the teacher should seek to inform administrators about the need for unstructured play. Developmentally, these children need the social, cognitive, and physical benefits of outdoor play on a well-designed, safe playground just as much as do younger preschool children. Although primary-grade students are interested in organized games, they still engage in sociodramatic play during these years. After
they are 8 or 9 years old, this interest diminishes; nevertheless, kindergarten, first-grade, and second-grade children still benefit from sociodramatic play in overall development.

The classroom teacher can plan and develop physical activities that are suitable for children who are making the transition to the primary-grade years. With the child's advancing abilities in physical skills and changing interests in games with rules, the teacher organizes the classroom and outdoor environment to accommodate a range in children's physical and cognitive development and interests. Many of the activities used with preschool children are appropriate for 5- to 8-year-olds. As school-age children begin to need more challenges in materials and equipment, new possibilities are added to the opportunities available for play.

The emerging ability to concentrate on games with rules creates a demand for board and card games. The teacher begins with easy games with simple rules that are easily understood and followed. Carpentry tools requiring more physical coordination can be added to the simple tools made available to preschool children. Small motor abilities can be fostered through handicraft materials for leatherwork, embroidery, beadwork, and painting and glazing child-made clay pieces. These activities also promote creativity and pride in accomplishment.

More complex manipulative materials that focus on higher cognitive skills are enjoyed, as are more challenging art activities and drawing materials.

Large motor skills also develop through an evolving interest in games with rules. Although the children may be most interested in baseball, other games also encourage beginning group play and motor skill development. Croquet, tetherball, volleyball, and basketball are commonly available. Badminton is another possible game for beginners (Elison & Jenkins, 1999). The classroom teacher can see that these large motor games are accessible for outdoor play periods.

The Role of the Physical Education Teacher

There are guidelines for organized curriculum for exercise and fitness for young elementary school children. Responding to information that young American children are declining in fitness, the President's Council on Physical Fitness and Sports conducted a nationwide study confirming that American youth are not in good physical condition. The report proposed that schools need to again emphasize physical education. Primary-age children need daily physical education periods that provide exercise and physical fitness. A typical physical education period includes both fitness and exercise. Figure 13.1 lists

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<thead>
<tr>
<th>Activity</th>
<th>Time (minutes)</th>
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<tr>
<td>Presentation of fitness or health</td>
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<tr>
<td>concept: Teacher discussion and</td>
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<td>explanation</td>
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FIGURE 13.1 Typical physical education class activities.

suggestions for activities presented in a typical physical education class (Greene & Adeyanju, 1991).

It is recommended that physical fitness and exercise activities used with elementary school children be those that students are most likely to continue as adults. Walking, aerobics, dance, calisthenics, swimming, bicycling, and jogging are among the possibilities that children will enjoy and continue later in life.

The physical education program should also inform students about fitness and health. Children need to know why they need to engage in physical activities and exercise and how they can lead a healthy lifestyle. The lesson format in Figure 13.1 begins with an opportunity that allows the teacher to introduce and explain health and fitness concepts. The goal of promoting a healthy lifestyle should be encouraged through observance of the following guidelines (Greene & Adeyanju, 1991, p. 442):

1. Stress the importance of aerobic conditioning and total body fitness and promote an understanding of the physiological concepts of fitness.
2. Teach children to become responsible for their own fitness. Demonstrate to them the importance of sufficient physical activity to stimulate normal growth and development.
3. Provide experiences that will enable children to understand the necessity of maintaining good health-related fitness.
4. Incorporate motivational schemes to promote positive attitudes toward physical fitness.
5. Discuss with students the immediate and long-term effects of health-related fitness.
6. Provide information on running economy and pacing oneself when exercising.
7. Allow children to test their knowledge about health-related fitness and total fitness.

Although the guidelines just mentioned were designed for physical education teachers, they can apply to classroom teachers as well. All teachers can promote healthy lifestyles and stress the need for physical fitness. Physical education and regular classroom teachers can work together in planning and providing activities for fine and gross motor skills and health and physical fitness.

The Integrated Curriculum for Physical Development

Can integrated curriculum that centers on physical development and education be designed in kindergarten and the primary grades? Many resources on curriculum design do not include motor development as one of the content areas to be addressed in curriculum development. Physical movement is sometimes identified merely as movement and grouped with music. The categorization of physical education as a component of education separate from classroom instruction also reduces the interest in using physical development and education as a focus for integrated curriculum design. There are good examples of how integrated curriculum can be designed and implemented, however. Integrated Learning Activities for Young Children (Trostle & Yawkey, 1990) contains many examples of activities that feature or incorporate physical education or movement education. An example from this resource is provided in Figure 13.2. "Physical Education" in Figure 13.2 has children use an arc activity to create movement pictures. In a writing activity, the children describe exercise routines that are compiled into a booklet. The class selects a sport and exercise routine they wish to learn. Other related activities include language experience stories and discussions about the process of learning a sport.

Many other topics come to mind that can correlate physical education with other components of the curriculum. The history of baseball can be studied to explore changes in rules, equipment, and uniforms. Students might learn about early baseball fields and how foods served at baseball games became popular. Students might visit a local school team or professional team workout to learn the role of physical fitness in preparing for participation in a sport. Books describing what has been learned can be written for the class library, and a mural depicting a baseball
PHYSICAL EDUCATION (Movement Education)

Overview: The children learn how nice it is to feel good physically. They depict movement activities in a creatively pictorial way and then learn the steps involved in their favorite sport. Later, they write exercise routine booklets so all the children can play.

Objective: Expanding physical education knowledge and creativity.

Supplies: Construction paper; glue or paste; small tan or brown circles; mats; crayons or felt-tip markers

Words You'll Like: sports, sportswear, circle, movement, physical exercise, routine, booklet, authors

Getting Started
Distribute ten tan or brown one-inch circles to each youngster. Also provide colored construction paper, crayons, and glue. The children randomly paste the circles on the colored paper. They draw faces, hats, sportswear, and scenery around and on the circles to depict their favorite or imaginary movement or sport.
Help them write titles for their movement pictures at the bottom of the page. Titles for the movement pictures from one group of creative first-graders included Playing Football, Strike One, Super Skaters, Physical Ed., Bowling Boys, and Swim and Sun.

Target
Ask the youngsters to display their pictures from Getting Started. They imitate the sport or movement they have drawn. Then vote on one activity that they would most like to learn. Compile with the youngsters a set of written directions for mastering the skills involved in the sport. Provide the equipment or supplies, if possible. Youngsters may wish to learn somersaulting, bowling, kite flying, bicycle riding, skipping, rope jumping, ball throwing, or basket weaving. Invite them to pretend that they are a famous person while they perform each.

Moving Ahead
The children become authors. They work in teams of three or four and compile an exercise routine booklet. In the booklet, they write the exercises they feel are most interesting for their classmates. The list might include As if exercises or skills, such as Make believe that you are a famous gymnast:
1. Do a forward roll.
2. Do a backward roll.
3. Hop ten times on your left foot.
4. Do a headstand.
5. Count to twenty while standing on one foot.

Let's Talk
1. Ask each child to relate an experience to his or her Getting Started picture.
   Write one sentence on a language experience chart for each storyteller.
2. Discuss feelings (a) when we cannot perform an exercise or sport, (b) when we are learning the sport, and (c) after we have succeeded in mastering skills.
3. Invite the youngsters to locate pictures of famous athletes. Discuss the achievements and contributions of each famous athlete.

FIGURE 13.2 Integrated curriculum for physical education.
Another unit might be based on jump ropes and jump rope chants. Children might look to other children and older members of the community for different chants that are used for jumping rope. They could also research print resources with the librarian's assistance. Different types of jump ropes could be studied as well as jumping with a single rope or a pair of ropes. Contests might be conducted for the highest number of completed jumps, most improved jumper, and so on. Students might write letters to another class inviting them to come and learn new chants.

Brainstorming with parents and other teachers could result in a number of interesting topics that integrate physical education with other content areas. Once an interesting topic has been planned and implemented, others will follow. The physical education teacher is a valuable resource for planning integrated units. The librarian can also be helpful in researching information and locating books on famous athletes, stories about sports that include children, and other books that relate to a physical education topic.

The units that appear in the appendices all contain examples of physical development activities that support the theme of the unit. Activities that require the children to use fine or gross motor skills have been described for each unit in the curriculum web and summary of activities. In addition, attention has been given to the inclusion of activities for health, safety, and nutrition. Through incorporation of physical education in integrated curriculum, children can be reminded of the importance of physical exercise and fitness.

SUMMARY

Children who are making the transition from preschool into kindergarten and the primary grades are in the later years of early childhood education. The curriculum that is planned for them reflects the continuing importance of development, both to ensure that experiences are developmentally appropriate and to accommodate curriculum activities to changing development.

Children ages 5 to 8 are continuing to acquire social skills. They are more aware of peer perceptions and acceptance. They are developing moral reasoning in the process of developing attitudes and values. In addition to acquiring their own values, they are becoming aware of the values and attitudes of others. Teachers have the responsibility to guide children in avoiding prejudice and stereotypic attitudes toward students from different ethnic and economic groups. This goal of equality and fairness for all students is nurtured through a positive classroom climate that nurtures cooperation, mutual respect, self-esteem, and good citizenship practices.

The social studies curriculum also addresses the goal of helping students understand themselves and others. The social studies components of history,
geography, economics, sociology, and anthropology are taught within an integrated organization of content. Examples of topics ranging from Oriental silkworms to untraditional ways to celebrate holidays were described as approaches to integrating the curriculum.

The curriculum for physical development and physical education changes as children move from preschool to elementary school programs. One difference is that the need for play and physical activity may not receive the priority that it should have. Another difference is that the physical education teacher usually has the responsibility for developing the curriculum for physical development.

There are issues regarding physical education and development in the primary grades. One concern is the poor fitness level of American children and the recommendation that public schools devote more time and effort to helping children develop fitness programs and healthy lifestyles. Another concern is whether physical activities should be limited to formal physical education periods. Because children in kindergarten and the primary grades benefit from unstructured outdoor play periods, there is a need for teachers and other school personnel to advocate for young children to have the opportunity for daily outdoor play beyond formal physical education periods. Parents and teachers also need to be aware of potential problems in overscheduling organized sports for primary-grade children and seek to ensure opportunities for unstructured play outside of school.

Curriculum for physical development and physical education should respond to the changing physical and cognitive abilities of the students. Opportunities for games with rules for fine motor and gross motor skills should be provided. Although much of the time devoted to providing opportunities to engage in games with rules falls within the physical education curriculum, the classroom teacher can also help ensure a balanced curriculum in physical development and make equipment and materials available for group games.

The integrated curriculum is appropriate for physical education topics. Although teachers may be less familiar with using the process with physical education, many topics can be designed into thematic units with supportive experiences drawn from other content areas.

STUDY QUESTIONS

1. How does the social studies curriculum for the primary grades differ from the preschool curriculum? How is it similar?
2. Why is Erikson’s industry-versus-intimacy stage significant for young children in the primary grades?
3. What role should the teacher have in the young child’s moral development?
4. How can an attitude of prejudice be prevented in young children?
5. Why are class discussions effective for developing democratic values and practices?
6. How do young children ages 5 to 8 learn about history?
7. Can primary-grade children construct maps? What kinds?
8. Why do young children need to be conscientious consumers?
9. Why do young children need to understand changes in countries at the present time?
10. What are some current social studies issues that young children could address (beyond the examples given in the text)?
11. Why does the social studies curriculum need to include topics from a global perspective?
12. Why is children’s literature especially helpful in planning integrated social studies curriculum?
13. Why do public schools devote less time for outdoor play than other school settings that serve children 5 to 8 years old?
14. What does motor development imply for curriculum development in the early elementary grades?
15. How do games with rules relate to cognitive and physical development in kindergarten and primary-grade children?
16. Why should the physical education program focus on physical fitness and exercise?
17. Why are public schools accused of neglecting physical development in elementary schools?
18. Why do kindergarten and primary-grade children need free play in addition to a period for physical education?

19. What is the classroom teacher's role in nurturing physical development?
20. Why should the physical education program stress long-term health and fitness?
Teaching in the Real World
In this book, I have tried to help teachers and future teachers of young children in the early childhood years become informed about quality educational programs. I have discussed some of the issues, problems, and possibilities involved with the practices used with curriculum and instruction in early childhood programs today. One purpose of this book has been to describe how teachers can develop curriculum and learning experiences that are appropriate for the young children they teach.

Undergraduate students are often confused and frustrated when they engage in field experiences because they observe situations that are not the same as described in their texts. Even though universities are increasing the types of field activities and the time that students spend in early childhood classrooms, students expect that all classrooms will reflect the "ideals" that they learned in their university-based course work.

Because there are various types of early childhood settings and because early childhood programs vary within a community, between communities, and among different areas of the nation, early childhood teachers work under diverse kinds of circumstances. How teachers in early childhood programs design and implement curriculum and instruction in their own program setting depends on their unique backgrounds and experiences and the way in which their individual teaching styles fit into the particular environment where they work with young children. The early childhood teacher seeking employment will want to be aware of the different possibilities available in the community. In addition, the teacher entering the profession will want to be aware of the philosophy and approach being used in the early childhood setting where employment is sought to determine what type of a program is in place or being developed. Many teachers feel that they have no choice, that they must take whatever teaching opportunity is available. If this is the case and the program is not appropriate, the teacher might look toward improving the situation or seek a better position in another setting. On the other hand, the teacher might have the opportunity to join a group of teachers who are in the process of restructuring their program and curriculum to be developmentally appropriate. Moreover, there are early childhood settings in many states that have been offering developmentally appropriate quality programs for many years. The teachers hired to join this type of setting have the advantage of being able to learn from fellow teachers.

In the following sections, 10 early childhood educators are introduced. Their stories can serve to illustrate the opportunities and realities that exist in current programs for young children. The reader is invited to evaluate the potential for developing, improving, or advocating a developmentally appropriate early childhood program in each setting.

BETH

Beth has been teaching first grade in a suburban school district for 6 years. She is working on a master's degree in early childhood education. She considers herself well informed about issues and practices in the field. Although her school district has a reputation for being progressive and is highly respected in the immediate area, Beth is frustrated. She has a new principal who is very concerned with her own success as an administrator. The principal is worried about achievement test scores in her school and how they will reflect on her effectiveness as an administrator. She expects teachers in her school to focus on a skills approach to teaching and learning that will result in good test scores. Beth is particularly frustrated with the new principal because the school district encourages her to attend staff development sessions for implementing integrated curriculum with a child-centered approach. Beth knows that the school district supports developmentally appropriate curriculum, but it is discouraged in her particular school. She resists using precious time and energy so that she can be an assertive advocate for an appropriate program for her first-grade children. Beth is uncertain how to proceed with curriculum planning because she is not clear about the future direction of her particular school and how much of her recent training she should try to implement with her students. The school has two vacancies for teachers in first-grade classrooms. Beth will be involved in interviewing candidates. She is uncertain about what
RENEE

Renée teaches kindergarten in the same school district as Beth. She originally taught in a child development laboratory school in a university in the Midwest. She has relocated to the Southwest because there are more teaching opportunities in this area, where the population is steadily increasing each year. When Renée first arrived, she was discouraged because the school where she was teaching was very academically oriented and she found the program to be rigid and demanding compared with the developmental program she taught previously. When the school district opened a new school at the beginning of the current year, Renée was chosen to be one of the kindergarten teachers. The principal had a background in early childhood education; moreover, the school had applied for and received a grant to develop innovative programs. Renée is very pleased to be able to try new approaches in her classroom. She is confident that she and her fellow teachers are creating an exciting program for young children. However, she sometimes has moments of doubt because standardized achievement tests are administered in her school. She and her colleagues are afraid that if test scores drop, they will be required to return to a more academic approach. Usually, though, she enjoys the opportunity to be the kind of teacher she has envisioned being. Another kindergarten teacher will be hired for a new classroom next year. Renée hopes that the new teacher will be knowledgeable about a developmentally based program and will bring new ideas and strategies to share with her and the other early childhood teachers.

YOLANDA

Yolanda has taught for 20 years, most of which she has spent working with young Hispanic children in a small rural school district. Yolanda is Hispanic herself and feels that she can help these young children in their preschool classroom for 4-year-olds. Although the school district has limited funds and the children come from families who are poorly paid farm workers, Yolanda's school has been recognized as an exemplary school by the state. For several years the school has served as a family resource center in the community. Families are an important part of the program, and parents volunteer regularly to assist in classrooms. Yolanda and her fellow teachers design the curriculum to reflect the children's backgrounds and learning levels and the population of the community. They look to parents and community businesses to help them provide learning experiences that will broaden the world where these young children live. Walking field trips to nearby locations are a frequent activity. Yolanda uses thematic curriculum for social studies but also believes that structured teaching, using direct strategies, is important. She uses commercial curriculum materials and learning centers to extend learning experiences for her children. Yolanda hopes that new teachers hired for her school will understand the cultural backgrounds of the children in her community and be prepared to continue the type of program that nurtures this particular population of children.

SUSAN

Susan is a teacher in a private early childhood center that combines a preschool program with child care. The center calls itself a child enrichment center. It is located in a community of professional parents. The center is new and well equipped. There is a beautiful playscape, and each classroom has computers and an abundance of software. Susan has a degree in music but no teaching certificate. Her training for her position has been primarily through local workshops given by a junior college. Susan is very interested in using the fine arts in her classroom. She supplements supplies that the center provides with materials that she buys herself. Susan also buys resource and idea books through catalogs at the center. She is beginning to understand a little about designing curriculum around a theme. She is currently trying out some ideas she found in one of her books. She is thinking about
the possibility of contacting a nearby university to work toward becoming certified, but she likes the freedom she has to pursue her own ideas as a teacher at the center. The pay is poor compared with the salaries of public school teachers, however, Susan enjoys her small class of children, which would be much larger in a public school setting in her community. She also has an interest in opening her own center and further developing the expressive arts for young children. One frustration that Susan encounters is the frequent change in teachers at the center. The turnover is so high that teachers do not have time to adjust to the children and the program before they have moved on to find a position that offers higher pay.

ROLLO AND NANCY

Rollo operates his own early childhood center. He lives in a small city on the East Coast. Rollo and his wife, Nancy, have two children in elementary school. They are very interested in new trends in lifestyles and in teaching children to be socially responsible. Rollo opened the New Age School for children ages 2 to 5. He perceives his program to be suitable for parents who want a school that reflects the values of their upper-middle-class culture. Children attend the preschool program for a half day. Child care services are not a part of the program. Rollo’s background is in psychology, and Nancy has a master’s degree in English. Both of them have taken courses in early childhood education through an extension program offered by a local college. They opened the school originally for their own children. The program features expressive experiences and trips to museums and other cultural centers, activities that Rollo and Nancy believe are missing in other preschool settings. The curriculum reflects an awareness of ecology, animal rights, natural foods, and the fine arts. They prefer to hire teachers with a liberal arts background who agree with their philosophy of education. This is possible because policies requiring teacher certification do not apply to private and parochial schools in their state. They train their staff themselves and hold several orientation sessions each year for prospective parents. The school has a waiting list; therefore, Rollo and Nancy are considering opening a second center or expanding the current program.

GLADYS

Gladys is an African American teacher at a public school in Oregon that serves children from many cultural backgrounds. The school includes a program for non-English-speaking 4-year-olds as well as kindergarten through third grade. The school is located within a housing development for low-income families. Because all types of families seek work in the area, the children represent 12 different cultural backgrounds. Language acquisition is the most important component of the curriculum. Curriculum development is usually centered on different cultures represented by the children in the school. Gladys teaches second grade. Most of her children have acquired some facility in English, but there are a few every year who are still very limited in the use of expressive English or are unfamiliar with standard English. Gladys and her fellow teachers do a great deal of team planning. They also exchange children throughout the day to better place the children in activities that are appropriate for their level of language and cognitive development. Curriculum planning is done by teams of teachers representing at least two grade levels, but, frequently, multiage grouping across three grade levels is more useful for the children. Several new teachers will be hired for the coming school year. Gladys and her colleagues hope the new teachers will quickly adjust to the style of teaching they have developed in the school. They have also heard rumors that their principal will be transferred to a larger school. They are uneasy about having a new principal next year who might not understand and support their program.

HECTOR

Hector retired from the military as a result of downsizing at his air force base. He and many other exmilitary personnel received their training to become teachers in an alternative certification program that
accelerates teacher preparation and requires many fewer hours of course work before beginning an internship in the schools. Hector had many questions about pursuing alternative certification. First, it was very expensive. Second, he did not receive college credit for the course work. Third, he was uncertain if he was ready when he entered the classroom after completing four courses. It was not easy to acquire the first teaching position that also served as the internship year. Hector lives in an urban area that has many school districts. Some of the districts will not consider teachers trained in the alternative certification program. Others have reputations for poor educational programs and many problems with parents and students. In addition, most districts that hire alternative certification program participants are in high-crime neighborhoods. Hector took the elementary preparation program that also included kindergarten in the certification. He was hired in a classroom for 4-year-olds in a school with a 98% poverty level. The first week of school, he lost one of his children after recess. The physical education teacher for the upper grades found the child crying after the class had left the playground. During the first year, Hector learned about young children and how to manage a classroom and discipline and finally felt he understood the curriculum. His children, who were Spanish speaking, adored having a man teacher. Hector found he was able to nurture and enjoy very young children. At the end of the first year, Hector was approved for elementary certification. After much thought, he has decided to apply for a transfer to an intermediate grade. His fellow early childhood teachers are disappointed with his decision. They feel that they have helped in his training and were looking forward to working with him next year.

LORETTA

Loretta is the principal in an inner-city elementary school. Her school includes kindergarten through fifth grade. In addition, an early childhood wing for children with various disabilities has programs for 3- to 5-year-olds; these children also participate in regular classroom activities. Until recently, the school district required an academic approach to curriculum and instruction. Loretta belongs to a national early childhood organization, as does the early childhood supervisor for the district. As a result of the efforts of Loretta and the supervisor to inform district administrators about the inappropriate practices that are currently in use in early childhood classrooms, the district has decided to develop a model early childhood program in Loretta's school that will use multi-age grouping to try to eliminate the high numbers of children failing the primary grades. Although all of Loretta's teachers in kindergarten through third grade have expressed an interest in the training being offered to prepare for implementing the new program, Loretta has some concern. She believes that some of her teachers are reluctant to leave self-contained classrooms and a more traditional curriculum. She is considering suggesting that some teachers might like to transfer to another school in the district and then replacing them with either new or experienced teachers who have a more flexible approach to teaching. She is also concerned that she will not have time to participate in the training and curriculum development process. Her school experiences crises frequently, and Loretta has a Reading Recovery program starting up this semester as well. She is looking for volunteers to serve as reading tutors and makes frequent visits to local organizations that might be interested in helping. Loretta sometimes feels that she is trying to implement more than she and the teachers can manage. On the other hand, she feels she owes it to the students and parents to provide the best early childhood education possible. She and the teachers are hoping that the district will be able to provide financial support for the materials needed to implement the new model that will be developed.

LOISA

Loisa has been teaching for 5 years. She is married and has three children; two are in high school, and one is in middle school. Loisa completed her training to become an elementary teacher 20 years ago but
did not begin teaching until her children were well along in school. Loisa teaches first grade. The state education agency recently rewrote learning objectives for kindergarten and the primary grades that focus on development rather than skills. Loisa is uneasy about using the new objectives. She believes she is a competent teacher, a firm believer in giving children a good start in the first grade. Loisa feels very comfortable with the commercial textbooks and materials purchased by her school and uses them to make sure that her children acquire the skills they need to achieve in school. However, the school district is pushing a developmental approach using the developmental objectives that will require her to design her own curriculum. She has studied the new objectives and finds them to be very general and vague. Loisa has agreed to attend meetings where the new developmental objectives will be explained and where there will be discussions about how the objectives can be used to design curriculum experiences for children with different rates of development. Loisa has doubts about the changes that are being discussed and is concerned that too much work will be required to prepare for teaching. She wants to keep an open mind but is confused by the many terms—such as alternative assessments, emergent literacy, and outcome-based learning—that are being discussed by her fellow teachers. She feels that it has taken her this long to master how to teach first grade and does not want to have to start over with some new fad that probably will change yet again.

Teachers who are moving into professional teaching positions may find themselves teaching with early childhood educators similar to those described in this chapter. They may find that teaching in the real world is either very similar to or different from approaches to teaching suggested in this text. Whatever the educational environment in which teachers of young children find themselves, there will be opportunities to work toward developing a quality program in their classroom. They may find themselves in the position of becoming advocates for the type of program they believe is best for young children. As professionals in the field of early childhood education, they will want to maintain currency with new developments. To achieve this status, they will want to consider joining two organizations that address issues and disseminate information about early childhood education in the United States. Both the Association for Childhood Education International and the National Association for the Education of Young Children welcome new members and publish excellent journals and educational materials.

Today's new teachers will become tomorrow's educational leaders. There is much work to be done to improve early childhood education in this country. Early childhood educators in the 21st century will be continually adjusting their programs as society, children, and educational resources continue to evolve and change. The early childhood educator can make a difference in the lives and learning of very young children. The challenge is awesome, as is the opportunity.
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