

# Developmentally Appropriate Practice in Early Childhood Programs Serving Children from Birth through Age 8

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## *A position statement of the* National Association for the Education of Young Children

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Adopted July 1996

This statement defines and describes principles of developmentally appropriate practice in early childhood programs for administrators, teachers, parents, policy-makers, and others who make decisions about the care and education of young children. An early childhood program is any group program in a center, school, or other facility that serves children from birth through age 8. Early childhood programs include child care centers, family child care homes, private and public preschools, kindergartens, and primary-grade schools.

The early childhood profession is responsible for establishing and promoting standards of high-quality, professional practice in early childhood programs. These standards must reflect current knowledge and shared beliefs about what constitutes high-quality, developmentally appropriate early childhood education in the context within which services are delivered.

This position paper is organized into several components, which include the following:

1. a description of the current context in which early childhood programs operate;
2. a description of the rationale and need for NAEYC's position statement;
3. a statement of NAEYC's commitment to children;
4. the statement of the position and definition of *developmentally appropriate practice*;
5. a summary of the principles of child development and learning and the theoretical perspectives that inform decisions about early childhood practice;
6. guidelines for making decisions about developmentally appropriate practices that address the following integrated components of early childhood practice: creating a caring community of learners, teaching to enhance children's learning and development, constructing appropriate curriculum, assessing children's learning and development, and establishing reciprocal relationships with families;
7. a challenge to the field to move from *either/or* to *both/and* thinking; and
8. recommendations for policies necessary to ensure developmentally appropriate practices for all children.

This statement is designed to be used in conjunction with NAEYC's "Criteria for High Quality Early Childhood Programs," the standards for accreditation by the National Academy of Early Childhood Programs (NAEYC 1991), and with "Guidelines for Appropriate Curriculum Content and Assessment in Programs Serving Children Ages 3 through 8" (NAEYC & NAECS/SDE 1992; Bredekamp & Rosegrant 1992, 1995).

### ***The current context of early childhood programs***

The early childhood knowledge base has expanded considerably in recent years, affirming some of the profession's cherished beliefs about good practice and challenging others. In addition to gaining new knowledge, early childhood programs have experienced several important changes in recent years. The number of programs continues to increase not only in response to the growing demand for out-of-home child care but also in recognition of the critical importance of educational experiences during

the early years (Willer et al. 1991; NCES 1993). For example, in the late 1980s Head Start embarked on the largest expansion in its history, continuing this expansion into the 1990s with significant new services for families with infants and toddlers. The National Education Goals Panel established as an objective of Goal 1 that by the year 2000 all children will have access to high-quality, developmentally appropriate preschool programs (NEGP 1991). Welfare reform portends a greatly increased demand for child care services for even the youngest children from very-low-income families.

Some characteristics of early childhood programs have also changed in recent years. Increasingly, programs serve children and families from diverse cultural and linguistic backgrounds, requiring that all programs demonstrate understanding of and responsiveness to cultural and linguistic diversity. Because culture and language are critical components of children's development, practices cannot be developmentally appropriate unless they are responsive to cultural and linguistic diversity.

The Americans with Disabilities Act and the Individuals with Disabilities Education Act now require that all early childhood programs make reasonable accommodations to provide access for children with disabilities or developmental delays (DEC/CEC & NAEYC 1993). This legal right reflects the growing consensus that young children with disabilities are best served in the same community settings where their typically developing peers are found (DEC/CEC 1994).

The trend toward full inclusion of children with disabilities must be reflected in descriptions of recommended practices, and considerable work has been done toward converging the perspectives of early childhood and early childhood special education (Carta et al. 1991; Mallory 1992, 1994; Wolery, Strain, & Bailey 1992; Bredekamp 1993b; DEC Task Force 1993; Mallory & New 1994b; Wolery & Wilbers 1994).

Other important program characteristics include age of children and length of program day. Children are now enrolled in programs at younger ages, many from infancy. The length of the program day for all ages of children has been extended in response to the need for extended hours of care for employed families. Similarly, program sponsorship has become more diverse. The public schools in the majority of states now provide prekindergarten programs, some for children as young as 3, and many offer before- and after-school child care (Mitchell, Seligson, & Marx 1989; Seppanen, Kaplan deVries, & Seligson 1993; Adams & Sandfort 1994).

Corporate America has become a more visible sponsor of child care programs, with several key corporations leading the way in promoting high quality (for example, IBM, AT&T, and the American Business Collaboration). Family child care homes have become an increasingly visible sector of the child care community, with greater emphasis on professional development and the National Association for Family Child Care taking the lead in

establishing an accreditation system for high-quality family child care (Hollestelle 1993; Cohen & Modigliani 1994; Galinsky et al. 1994). Many different settings in this country provide services to young children, and it is legitimate—even beneficial—for these settings to vary in certain ways. However, since it is vital to meet children's learning and developmental needs wherever they are served, high standards of quality should apply to all settings.

The context in which early childhood programs operate today is also characterized by ongoing debates about how best to teach young children and discussions about what sort of practice is most likely to contribute to their development and learning. Perhaps the most important contribution of NAEYC's 1987 position statement on developmentally appropriate practice (Bredekamp 1987) was that it created an opportunity for increased conversation within and outside the early childhood field about practices. In revising the position statement, NAEYC's goal is not only to improve the quality of current early childhood practice but also to continue to encourage the kind of questioning and debate among early childhood professionals that are necessary for the continued growth of professional knowledge in the field. A related goal is to express NAEYC's position more clearly so that energy is not wasted in unproductive debate about apparent rather than real differences of opinion.

### ***Rationale for the position statement***

The increased demand for early childhood education services is partly due to the increased recognition of the crucial importance of experiences during the earliest years of life. Children's experiences during early childhood not only influence their later functioning in school but can have effects throughout life. For example, current research demonstrates the early and lasting effects of children's environments and experiences on brain development and cognition (Chugani, Phelps, & Mazziotta 1987; Caine & Caine 1991; Kuhl 1994). Studies show that, "From infancy through about age 10, brain cells not only form most of the connections they will maintain throughout life but during this time they retain their greatest malleability" (Dana Alliance for Brain Initiatives 1996, 7).

Positive, supportive relationships, important during the earliest years of life, appear essential not only for cognitive development but also for healthy emotional development and social attachment (Bowlby 1969; Stern 1985). The preschool years are an optimum time for development of fundamental motor skills (Gallahue 1993), language development (Dyson & Genishi 1993), and other key foundational aspects of development that have lifelong implications.

Recognition of the importance of the early years has heightened interest and support for early childhood education programs. A number of studies demonstrating long-term, positive

consequences of participation in high-quality early childhood programs for children from low-income families influenced the expansion of Head Start and public school prekindergarten (Lazar & Darlington 1982; Lee, Brooks-Gunn, & Schuur 1988; Schweinhart, Barnes, & Weikart 1993; Campbell & Ramey 1995). Several decades of research clearly demonstrate that high-quality, developmentally appropriate early childhood programs produce short- and long-term positive effects on children's cognitive and social development (Barnett 1995).

From a thorough review of the research on the long-term effects of early childhood education programs, Barnett concludes that "across all studies, the findings were relatively uniform and constitute overwhelming evidence that early childhood care and education can produce sizeable improvements in school success" (1995, 40). Children from low-income families who participated in high-quality preschool programs were significantly less likely to have been assigned to special education, retained in grade, engaged in crime, or to have dropped out of school. The longitudinal studies, in general, suggest positive consequences for programs that used an approach consistent with principles of developmentally appropriate practice (Lazar & Darlington 1982; Berreuta-Clement et al. 1984; Miller & Bizzell 1984; Schweinhart, Weikart, & Larner 1986; Schweinhart, Barnes, & Weikart 1993; Frede 1995; Schweinhart & Weikart 1996).

Research on the long-term effects of early childhood programs indicates that children who attend good-quality child care programs, even at very young ages, demonstrate positive outcomes, and children who attend poor-quality programs show negative effects (Vandell & Powers 1983; Phillips, McCartney, & Scarr 1987; Fields et al. 1988; Vandell, Henderson, & Wilson 1988; Arnett 1989; Vandell & Corasanti 1990; Burchinal et al. 1996). Specifically, children who experience high-quality, stable child care engage in more complex play, demonstrate more secure attachments to adults and other children, and score higher on measures of thinking ability and language development. High-quality child care can predict academic success, adjustment to school, and reduced behavioral problems for children in first grade (Howes 1988).

While the potential positive effects of high-quality child care are well documented, several large-scale evaluations of child care find that high-quality experiences are not the norm (Whitebook, Howes, & Phillips 1989; Howes, Phillips, & Whitebook 1992; Layzer, Goodson, & Moss 1993; Galinsky et al. 1994; Cost, Quality, & Child Outcomes Study Team 1995). Each of these studies, which included observations of child care and preschool quality in several states, found that good quality that supports children's health and social and cognitive development is being provided in only about 15% of programs.

Of even greater concern was the large percentage of classrooms and family child care homes that were rated "barely adequate" or "inadequate" for quality. From 12 to 20% of the children were in settings that were considered dangerous to their health and safety and harmful to their social and cognitive development. An alarming number of infants and toddlers (35 to 40%) were found to be in unsafe settings (Cost, Quality, & Child Outcomes Study Team 1995).

Experiences during the earliest years of formal schooling are also formative. Studies demonstrate that children's success or failure during the first years of school often predicts the course of later schooling (Alexander & Entwisle 1988; Slavin, Karweit, & Madden 1989). A growing body of research indicates that more developmentally appropriate teaching in preschool and kindergarten predicts greater success in the early grades (Frede & Barnett 1992; Marcon 1992; Charlesworth et al. 1993).

As with preschool and child care, the observed quality of children's early schooling is uneven (Durkin 1987, 1990; Hiebert & Papierz 1990; Bryant, Clifford, & Peisner 1991; Carnegie Task Force 1996). For instance, in a statewide observational study of kindergarten classrooms, Durkin (1987) found that despite assessment results indicating considerable individual variation in children's literacy skills, which would call for various teaching strategies as well as individual and small-group work, teachers relied on one instructional strategy—whole-group, phonics instruction—and judged children who did not learn well with this one method as unready for first grade. Currently, too many children—especially children from low-income families and some minority groups—experience school failure, are retained in grade, get assigned to special education, and eventually drop out of school (Natriello, McDill, & Pallas 1990; Legters & Slavin 1992).

Results such as these indicate that while early childhood programs have the potential for producing positive and lasting effects on children, this potential will not be achieved unless more attention is paid to ensuring that all programs meet the highest standards of quality. As the number and type of early childhood programs increase, the need increases for a shared vision and agreed-upon standards of professional practice.

### ***NAEYC's commitment to children***

It is important to acknowledge at the outset the core values that undergird all of NAEYC's work. As stated in NAEYC's *Code of Ethical Conduct*, standards of professional practice in early childhood programs are based on commitment to certain fundamental values that are deeply rooted in the history of the early childhood field:

- appreciating childhood as a unique and valuable stage of the human life cycle [and valuing the quality of children's lives in the present, not just as preparation for the future];
- basing our work with children on knowledge of child development [and learning];
- appreciating and supporting the close ties between the child and family;
- recognizing that children are best understood in the context of family, culture, and society;
- respecting the dignity, worth, and uniqueness of each individual (child, family member, and colleague); and
- helping children and adults achieve their full potential in the context of relationships that are based on trust, respect, and positive regard. (Feeney & Kipnis 1992, 3)

### **Statement of the position**

Based on an enduring commitment to act on behalf of children, NAEYC's mission is to promote high-quality, developmentally appropriate programs for all children and their families. Because we define developmentally appropriate programs as programs that contribute to children's development, we must articulate our goals for children's development. The principles of practice advocated in this position statement are based on a set of goals for children: what we want for them, both in their present lives and as they develop to adulthood, and what personal characteristics should be fostered because these contribute to a peaceful, prosperous, and democratic society.

As we approach the 21st century, enormous changes are taking place in daily life and work. At the same time, certain human capacities will undoubtedly remain important elements in individual and societal well-being—no matter what economic or technological changes take place. With a recognition of both the continuities in human existence and the rapid changes in our world, broad agreement is emerging (e.g., Resnick 1996) that when today's children become adults they will need the ability to

- communicate well, respect others and engage with them to work through differences of opinion, and function well as members of a team;
- analyze situations, make reasoned judgments, and solve new problems as they emerge;
- access information through various modes, including spoken and written language, and intelligently employ complex tools and technologies as they are developed; and
- continue to learn new approaches, skills, and knowledge as conditions and needs change.

Clearly, people in the decades ahead will need, more than ever, fully developed literacy and numeracy skills, and these abilities are key goals of the educational process. In science, social studies (which includes history and geography), music and the visual arts, physical education and health, children need to acquire a body of knowledge and skills, as identified by those in the various disciplines (e.g., Bredekamp & Rosegrant 1995).

Besides acquiring a body of knowledge and skills, children must develop positive dispositions and attitudes. They need to understand that effort is necessary for achievement, for example, and they need to have curiosity and confidence in themselves as learners. Moreover, to live in a highly pluralistic society and world, young people need to develop a positive self-identity and a tolerance for others whose perspective and experience may be different from their own.

Beyond the shared goals of the early childhood field, every program for young children should establish its own goals in collaboration with families. All early childhood programs will not have identical goals; priorities may vary in some respects because programs serve a diversity of children and families. Such differences notwithstanding, NAEYC believes that all high-quality, developmentally appropriate programs will have certain attributes in common. A high-quality early childhood program is one that provides a safe and nurturing environment that promotes the physical, social, emotional, aesthetic, intellectual, and language development of each child while being sensitive to the needs and preferences of families.

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. Developmentally appropriate programs are based on what is known about how children develop and learn; such programs promote the development and enhance the learning of each individual child served.

*Developmentally appropriate practices* result 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.

Furthermore, each of these dimensions of knowledge—human development and learning, individual characteristics and experiences, and social and cultural contexts—is dynamic and changing, requiring that early childhood teachers remain learners throughout their careers.

An example illustrates the interrelatedness of these three dimensions of the decisionmaking process. Children all over the world acquire language at approximately the same period of the life span and in similar ways (Fernald 1992). But tremendous individual variation exists in the rate and pattern of language acquisition (Fenson et al. 1994). Also, children acquire the language or languages of the culture in which they live (Kuhl 1994). Thus, to adequately support a developmental task such as language acquisition, the teacher must draw on at least all three interrelated dimensions of knowledge to determine a developmentally appropriate strategy or intervention.

### **Principles of child development and learning that inform developmentally appropriate practice**

Taken together, these core values define NAEYC's basic commitment to children and underlie its position on developmentally appropriate practice.

Developmentally appropriate practice is based on knowledge about how children develop and learn. As Katz states, "In a developmental approach to curriculum design, . . . [decisions] about what should be learned and how it would best be learned depend on what we know of the learner's developmental status and our understanding of the relationships between early experience and subsequent development" (1995, 109). To guide their decisions about practice, all early childhood teachers need to understand the developmental changes that typically occur in the years from birth through age 8 and beyond, variations in development that may occur, and how best to support children's learning and development during these years.

A complete discussion of the knowledge base that informs early childhood practice is beyond the scope of this document (see, for example, Seefeldt 1992; Sroufe, Cooper, & DeHart 1992; Kostelnik, Soderman, & Whiren 1993; Spodek 1993; Berk 1996). Because development and learning are so complex, no one theory is sufficient to explain these phenomena. However, a broad-based review of the literature on early childhood education generates a set of principles to inform early childhood practice. *Principles* are generalizations that are sufficiently reliable that they should be taken into account when making decisions (Katz & Chard 1989; Katz 1995). Following is a list of

empirically based principles of child development and learning that inform and guide decisions about developmentally appropriate practice.

1. **Domains of children's development—physical, social, emotional, and cognitive—are closely related. Development in one domain influences and is influenced by development in other domains.**

Development in one domain can limit or facilitate development in others (Sroufe, Cooper, & DeHart 1992; Kostelnik, Soderman, & Whiren 1993). For example, when babies begin to crawl or walk, their ability to explore the world expands, and their mobility, in turn, affects their cognitive development. Likewise, children's language skill affects their ability to establish social relationships with adults and other children, just as their skill in social interaction can support or impede their language development.

Because developmental domains are interrelated, educators should be aware of and use these interrelationships to organize children's learning experiences in ways that help children develop optimally in all areas and that make meaningful connections across domains.

Recognition of the connections across developmental domains is also useful for curriculum planning with the various age groups represented in the early childhood period. Curriculum with infants and toddlers is almost solely driven by the need to support their healthy development in all domains. During the primary grades, curriculum planning attempts to help children develop conceptual understandings that apply across related subject-matter disciplines.

2. **Development occurs in a relatively orderly sequence, with later abilities, skills, and knowledge building on those already acquired.**

Human development research indicates that relatively stable, predictable sequences of growth and change occur in children during the first nine years of life (Piaget 1952; Erikson 1963; Dyson & Genishi 1993; Gallahue 1993; Case & Okamoto 1996). Predictable changes occur in all domains of development—physical, emotional, social, language, and cognitive—although the ways that these changes are manifest and the meaning attached to them may vary in different cultural contexts. Knowledge of typical development of children within the age span served by the program provides a general framework to guide how teachers prepare the learning environment and plan realistic curriculum goals and objectives and appropriate experiences.

### 3. Development proceeds at varying rates from child to child as well as unevenly within different areas of each child's functioning.

Individual variation has at least two dimensions: the inevitable variability around the average or normative course of development and the uniqueness of each person as an individual (Sroufe, Cooper, & DeHart 1992). Each child is a unique person with an individual pattern and timing of growth, as well as individual personality, temperament, learning style, and experiential and family background. All children have their own strengths, needs, and interests; for some children, special learning and developmental needs or abilities are identified. Given the enormous variation among children of the same chronological age, a child's age must be recognized as only a crude index of developmental maturity.

Recognition that individual variation is not only to be expected but also valued requires that decisions about curriculum and adults' interactions with children be as individualized as possible. Emphasis on individual appropriateness is not the same as "individualism." Rather, this recognition requires that children be considered not solely as members of an age group, expected to perform to a predetermined norm and without adaptation to individual variation of any kind. Having high expectations for all children is important, but rigid expectations of group norms do not reflect what is known about real differences in individual development and learning during the early years. Group-norm expectancy can be especially harmful for children with special learning and developmental needs (NEGP 1991; Mallory 1992; Wolery, Strain, & Bailey 1992).

### 4. Early experiences have both cumulative and delayed effects on individual children's development; optimal periods exist for certain types of development and learning.

Children's early experiences, either positive or negative, are cumulative in the sense that if an experience occurs occasionally, it may have minimal effects. If positive or negative experiences occur frequently, however, they can have powerful, lasting, even "snowballing," effects (Katz & Chard 1989; Kostelnik, Soderman, & Whiren 1993; Wieder & Greenspan 1993). For example, a child's social experiences with other children in the preschool years help him develop social skills and confidence that enable him to make friends in the early school years, and these experiences further enhance the child's social competence. Conversely, children who fail to develop minimal social competence and are neglected or rejected by peers are at significant risk to drop out of school, become delinquent, and experience mental health problems in adulthood (Asher, Hymel, & Renshaw 1984; Parker & Asher 1987).

Similar patterns can be observed in babies whose cries and other attempts at communication are regularly responded to, thus enhancing their own sense of efficacy and increasing communicative competence. Likewise, when children have or do not have early literacy experiences, such as being read to regularly, their later success in learning to read is affected accordingly. Perhaps most convincing is the growing body of research demonstrating that social and sensorimotor experiences during the first three years directly affect neurological development of the brain, with important and lasting implications for children's capacity to learn (Dana Alliance for Brain Initiatives 1996).

Early experiences can also have delayed effects, either positive or negative, on subsequent development. For instance, some evidence suggests that reliance on extrinsic rewards (such as candy or money) to shape children's behavior, a strategy that can be very effective in the short term, under certain circumstances lessens children's intrinsic motivation to engage in the rewarded behavior in the long term (Dweck 1986; Kohn 1993). For example, paying children to read books may over time undermine their desire to read for their own enjoyment and edification.

At certain points in the life span, some kinds of learning and development occur most efficiently. For example, the first three years of life appear to be an optimal period for verbal language development (Kuhl 1994). Although delays in language development due to physical or environmental deficits can be ameliorated later on, such intervention usually requires considerable effort. Similarly, the preschool years appear to be optimum for fundamental motor development (that is, fundamental motor skills are more easily and efficiently acquired at this age) (Gallahue 1995). Children who have many opportunities and adult support to practice large-motor skills (running, jumping, hopping, skipping) during this period have the cumulative benefit of being better able to acquire more sophisticated, complex motor skills (balancing on a beam or riding a two-wheel bike) in subsequent years. On the other hand, children whose early motor experiences are severely limited may struggle to acquire physical competence and may also experience delayed effects when attempting to participate in sports or personal fitness activities later in life.

### 5. Development proceeds in predictable directions toward greater complexity, organization, and internalization.

Learning during early childhood proceeds from behavioral knowledge to symbolic or representational knowledge (Bruner 1983). For example, children learn to navigate their homes and other familiar settings long before they can understand the words *left* and *right* or read a map of the house. Developmentally

appropriate programs provide opportunities for children to broaden and deepen their behavioral knowledge by providing a variety of firsthand experiences and by helping children acquire symbolic knowledge through representing their experiences in a variety of media, such as drawing, painting, construction of models, dramatic play, verbal and written descriptions (Katz 1995).

Even very young children are able to use various media to represent their understanding of concepts. Furthermore, through representation of their knowledge, the knowledge itself is enhanced (Edwards, Gandini, & Forman 1993; Malaguzzi 1993; Forman 1994). Representational modes and media also vary with the age of the child. For instance, most learning for infants and toddlers is sensory and motoric, but by age 2 children use one object to stand for another in play (a block for a phone or a spoon for a guitar).

#### **6. Development and learning occur in and are influenced by multiple social and cultural contexts.**

Bronfenbrenner (1979, 1989, 1993) provides an ecological model for understanding human development. He explains that children's development is best understood within the sociocultural context of the family, educational setting, community, and broader society. These various contexts are interrelated, and all have an impact on the developing child. For example, even a child in a loving, supportive family within a strong, healthy community is affected by the biases of the larger society, such as racism or sexism, and may show the effects of negative stereotyping and discrimination.

We define *culture* as the customary beliefs and patterns of and for behavior, both explicit and implicit, that are passed on to future generations by the society they live in and/or by a social, religious, or ethnic group within it. Because culture is often discussed in the context of diversity or multiculturalism, people fail to recognize the powerful role that culture plays in influencing the development of *all* children. Every culture structures and interprets children's behavior and development (Edwards & Gandini 1989; Tobin, Wu, & Davidson 1989; Rogoff et al. 1993). As Bowman states, "Rules of development are the same for all children, but social contexts shape children's development into different configurations" (1994, 220). Early childhood teachers need to understand the influence of sociocultural contexts on learning, recognize children's developing competence, and accept a variety of ways for children to express their developmental achievements (Vygotsky 1978; Wertsch 1985; Forman, Minick, & Stone 1993; New 1993, 1994; Bowman & Stott 1994; Mallory & New 1994a; Phillips 1994; Bruner 1996; Wardle 1996).

Teachers should learn about the culture of the majority of the children they serve if that culture differs from their own. However, recognizing that development and learning are influenced by social and cultural contexts does not require teachers to understand all the nuances of every cultural group they may encounter in their practice; this would be an impossible task. Rather, this fundamental recognition sensitizes teachers to the need to acknowledge how their own cultural experience shapes their perspective and to realize that multiple perspectives, in addition to their own, must be considered in decisions about children's development and learning.

Children are capable of learning to function in more than one cultural context simultaneously. However, if teachers set low expectations for children based on their home culture and language, children cannot develop and learn optimally. Education should be an additive process. For example, children whose primary language is not English should be able to learn English without being forced to give up their home language (NAEYC 1996a). Likewise, children who speak only English benefit from learning another language. The goal is that all children learn to function well in the society as a whole and move comfortably among groups of people who come from both similar and dissimilar backgrounds.

#### **7. Children are active learners, drawing on direct physical and social experience as well as culturally transmitted knowledge to construct their own understandings of the world around them.**

Children contribute to their own development and learning as they strive to make meaning out of their daily experiences in the home, the early childhood program, and the community. Principles of developmentally appropriate practice are based on several prominent theories that view intellectual development from a constructivist, interactive perspective (Dewey 1916; Piaget 1952; Vygotsky 1978; DeVries & Kohlberg 1990; Rogoff 1990; Gardner 1991; Kamii & Ewing 1996).

From birth, children are actively engaged in constructing their own understandings from their experiences, and these understandings are mediated by and clearly linked to the sociocultural context. Young children actively learn from observing and participating with other children and adults, including parents and teachers. Children need to form their own hypotheses and keep trying them out through social interaction, physical manipulation, and their own thought processes—observing what happens, reflecting on their findings, asking questions, and formulating answers. When objects, events, and other people challenge 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. Throughout early childhood, the child in processing new experiences continually reshapes, expands, and reorganizes mental structures (Piaget 1952; Vygotsky 1978; Case & Okamoto 1996). When teachers and other adults use various strategies to encourage children to reflect on their experiences by planning beforehand and “revisiting” afterward, the knowledge and understanding gained from the experience is deepened (Copple, Sigel, & Saunders 1984; Edwards, Gandini, & Forman 1993; Stremmel & Fu 1993; Hohmann & Weikart 1995).

In the statement of this principle, the term “physical and social experience” is used in the broadest sense to include children’s exposure to physical knowledge, learned through firsthand experience of using objects (observing that a ball thrown in the air falls down), and social knowledge, including the vast body of culturally acquired and transmitted knowledge that children need to function in the world. For example, children progressively construct their own understanding of various symbols, but the symbols they use (such as the alphabet or numerical system) are the ones used within their culture and transmitted to them by adults.

In recent years, discussions of cognitive development have at times become polarized (see Seifert 1993). Piaget’s theory stressed that development of certain cognitive structures was a necessary prerequisite to learning (i.e., development precedes learning), while other research has demonstrated that instruction in specific concepts or strategies can facilitate development of more mature cognitive structures (learning precedes development) (Vygotsky 1978; Gelman & Baillargeon 1983). Current attempts to resolve this apparent dichotomy (Seifert 1993; Sameroff & McDonough 1994; Case & Okamoto 1996) acknowledge that essentially both theoretical perspectives are correct in explaining aspects of cognitive development during early childhood. Strategic teaching, of course, can enhance children’s learning. Yet, direct instruction may be totally ineffective; it fails when it is not attuned to the cognitive capacities and knowledge of the child at that point in development.

#### **8. Development and learning result from interaction of biological maturation and the environment, which includes both the physical and social worlds that children live in.**

The simplest way to express this principle is that human beings are products of both heredity and environment and these forces are interrelated. Behaviorists focus on the environmental influences that determine learning, while maturationists emphasize the unfolding of predetermined, hereditary characteristics. Each perspective is true to some extent, and yet neither perspective is sufficient to explain learning or development. More often

today, development is viewed as the result of an interactive, transactional process between the growing, changing individual and his or her experiences in the social and physical worlds (Scarr & McCartney 1983; Plomin 1994a, b). For example, a child’s genetic makeup may predict healthy growth, but inadequate nutrition in the early years of life may keep this potential from being fulfilled. Or a severe disability, whether inherited or environmentally caused, may be ameliorated through systematic, appropriate intervention. Likewise, a child’s inherited temperament—whether a predisposition to be wary or outgoing—shapes and is shaped by how other children and adults communicate with that child.

#### **9. Play is an important vehicle for children’s social, emotional, and cognitive development, as well as a reflection of their development.**

Understanding that children are active constructors of knowledge and that development and learning are the result of interactive processes, early childhood teachers recognize that children’s play is a highly supportive context for these developing processes (Piaget 1952; Fein 1981; Bergen 1988; Smilansky & Shefatya 1990; Fromberg 1992; Berk & Winsler 1995). Play gives children opportunities to understand the world, interact with others in social ways, express and control emotions, and develop their symbolic capabilities. Children’s play gives adults insights into children’s development and opportunities to support the development of new strategies. Vygotsky (1978) believed that play leads development, with written language growing out of oral language through the vehicle of symbolic play that promotes the development of symbolic representation abilities. Play provides a context for children to practice newly acquired skills and also to function on the edge of their developing capacities to take on new social roles, attempt novel or challenging tasks, and solve complex problems that they would not (or could not) otherwise do (Mallory & New 1994b).

Research demonstrates the importance of sociodramatic play as a tool for learning curriculum content with 3- through 6-year-old children. When teachers provide a thematic organization for play; offer appropriate props, space, and time; and become involved in the play by extending and elaborating on children’s ideas, children’s language and literacy skills can be enhanced (Levy, Schaefer, & Phelps 1986; Schrader 1989, 1990; Morrow 1990; Pramling 1991; Levy, Wolfgang, & Koorland 1992).

In addition to supporting cognitive development, play serves important functions in children’s physical, emotional, and social development (Herron & Sutton-Smith 1971). Children express and represent their ideas, thoughts, and feelings when engaged in symbolic play. During play a child can learn to deal with emotions, to interact with others, to resolve conflicts, and to gain



a sense of competence—all in the safety that only play affords. Through play, children also can develop their imaginations and creativity. Therefore, child-initiated, teacher-supported play is an essential component of developmentally appropriate practice (Fein & Rivkin 1986).

**10. Development advances when children have opportunities to practice newly acquired skills as well as when they experience a challenge just beyond the level of their present mastery.**

Research demonstrates that children need to be able to successfully negotiate learning tasks most of the time if they are to maintain motivation and persistence (Lary 1990; Brophy 1992). Confronted by repeated failure, most children will simply stop trying. So most of the time, teachers should give young children tasks that with effort they can accomplish and present them with content that is accessible at their level of understanding. At the same time, children continually gravitate to situations and stimuli that give them the chance to work at their “growing edge” (Berk & Winsler 1995; Bodrova & Leong 1996). Moreover, in a task just beyond the child’s independent reach, the adult and more-competent peers contribute significantly to development by providing the supportive “scaffolding” that allows the child to take the next step.

Development and learning are dynamic processes requiring that adults understand the continuum, observe children closely to match curriculum and teaching to children’s emerging competencies, needs, and interests, and then help children move forward by targeting educational experiences to the edge of children’s changing capacities so as to challenge but not frustrate them. Human beings, especially children, are highly motivated to understand what they almost, but not quite, comprehend and to master what they can almost, but not quite, do (White 1965; Vygotsky 1978). The principle of learning is that children can do things first in a supportive context and then later independently and in a variety of contexts. Rogoff (1990) describes the process of adult-assisted learning as “guided participation” to emphasize that children actively collaborate with others to move to more complex levels of understanding and skill.

**11. Children demonstrate different modes of knowing and learning and different ways of representing what they know.**

For some time, learning theorists and developmental psychologists have recognized that human beings come to understand the world in many ways and that individuals tend to have preferred or stronger modes of learning. Studies of differences in learning modalities have contrasted visual, auditory, or tactile learners. Other work has identified learners as field-dependent or indepen-

dent (Witkin 1962). Gardner (1983) expanded on this concept by theorizing that human beings possess at least seven “intelligences.” In addition to having the ones traditionally emphasized in schools, linguistic and logical-mathematical, individuals are more or less proficient in at least these other areas: musical, spatial, bodily-kinesthetic, intrapersonal, and interpersonal.

Malaguzzi (1993) used the metaphor of “100 languages” to describe the diverse modalities through which children come to understand the world and represent their knowledge. The processes of representing their understanding can with the assistance of teachers help children deepen, improve, and expand their understanding (Copple, Sigel, & Saunders 1984; Forman 1994; Katz 1995). The principle of diverse modalities implies that teachers should provide not only opportunities for individual children to use their preferred modes of learning to capitalize on their strengths (Hale-Benson 1986) but also opportunities to help children develop in the modes or intelligences in which they may not be as strong.

**12. Children develop and learn best in the context of a community where they are safe and valued, their physical needs are met, and they feel psychologically secure.**

Maslow (1954) conceptualized a hierarchy of needs in which learning was not considered possible unless physical and psychological needs for safety and security were first met. Because children’s physical health and safety too often are threatened today, programs for young children must not only provide adequate health, safety, and nutrition but may also need to ensure more comprehensive services, such as physical, dental, and mental health and social services (NASBE 1991; U.S. Department of Health & Human Services 1996). In addition, children’s development in all areas is influenced by their ability to establish and maintain a limited number of positive, consistent primary relationships with adults and other children (Bowlby 1969; Stern 1985; Garbarino et al. 1992). These primary relationships begin in the family but extend over time to include children’s teachers and members of the community; therefore, practices that are developmentally appropriate address children’s physical, social, and emotional needs as well as their intellectual development.

**Guidelines for decisions about developmentally appropriate practice**

A linear listing of principles of child development and learning, such as the above, cannot do justice to the complexity of the phenomena that it attempts to describe and explain. Just as all domains of development and learning are interrelated, so, too, there are relationships among the principles. Similarly, the

following guidelines for practice do not match up one-to-one with the principles. Instead, early childhood professionals draw on all these fundamental ideas (as well as many others) when making decisions about their practice.

An understanding of the nature of development and learning during the early childhood years, from birth through age 8, generates guidelines that inform the practices of early childhood educators. Developmentally appropriate practice requires that teachers integrate the many dimensions of their knowledge base. They must know about child development and the implications of this knowledge for how to teach, the content of the curriculum—what to teach and when—how to assess what children have learned, and how to adapt curriculum and instruction to children’s individual strengths, needs, and interests. Further, they must know the particular children they teach and their families and be knowledgeable as well about the social and cultural context.

The following guidelines address five interrelated dimensions of early childhood professional practice: creating a caring community of learners, teaching to enhance development and learning, constructing appropriate curriculum, assessing children’s development and learning, and establishing reciprocal relationships with families. (The word *teacher* is used to refer to any adult responsible for a group of children in any early childhood program, including infant/toddler caregivers, family child care providers, and specialists in other disciplines who fulfill the role of teacher.)

Examples of appropriate and inappropriate practice in relation to each of these dimensions are given for infants and toddlers (Part 3, pp. 72–90), children 3 through 5 (Part 4, pp. 123–35), and children 6 through 8 (Part 5, pp. 161–78). In the references at the end of each part, readers will be able to find fuller discussion of the points summarized here and strategies for implementation.

### **1. Creating a caring community of learners**

Developmentally appropriate practices occur within a context that supports the development of relationships between adults and children, among children, among teachers, and between teachers and families. Such a community reflects what is known about the social construction of knowledge and the importance of establishing a caring, inclusive community in which all children can develop and learn.

- A. The early childhood setting functions as a community of learners in which all participants consider and contribute to each other’s well-being and learning.
- B. Consistent, positive relationships with a limited number of adults and other children are a fundamental determinant of healthy human development and provide the context for children to learn about themselves and their world and also how to develop positive, constructive relationships with other people. The early childhood classroom is a community in which each child is valued. Children learn to respect and acknowledge differences in abilities and talents and to value each person for his or her strengths.
- C. Social relationships are an important context for learning. Each child has strengths or interests that contribute to the overall functioning of the group. When children have opportunities to play together, work on projects in small groups, and talk with other children and adults, their own development and learning are enhanced. Interacting with other children in small groups provides a context for children to operate on the edge of their developing capacities. The learning environment enables children to construct understanding through interactions with adults and other children.
- D. The learning environment is designed to protect children’s health and safety and is supportive of children’s physiological needs for activity, sensory stimulation, fresh air, rest, and nourishment. The program provides a balance of rest and active movement for children throughout the program day. Outdoor experiences are provided for children of all ages. The program protects children’s psychological safety; that is, children feel secure, relaxed, and comfortable rather than disengaged, frightened, worried, or stressed.
- E. Children experience an organized environment and an orderly routine that provides an overall structure in which learning takes place; the environment is dynamic and changing but predictable and comprehensible from a child’s point of view. The learning environment provides a variety of materials and opportunities for children to have firsthand, meaningful experiences.

## 2. Teaching to enhance development and learning

Adults are responsible for ensuring children's healthy development and learning. From birth, relationships with adults are critical determinants of children's healthy social and emotional development and serve as well as mediators of language and intellectual development. At the same time, children are active constructors of their own understanding, who benefit from initiating and regulating their own learning activities and interacting with peers. Therefore, early childhood teachers strive to achieve an optimal balance between children's self-initiated learning and adult guidance or support.

Teachers accept responsibility for actively supporting children's development and provide occasions for children to acquire important knowledge and skills. Teachers use their knowledge of child development and learning to identify the range of activities, materials, and learning experiences that are appropriate for a group or individual child. This knowledge is used in conjunction with knowledge of the context and understanding about individual children's growth patterns, strengths, needs, interests, and experiences to design the curriculum and learning environment and guide teachers' interactions with children. The following guidelines describe aspects of the teachers' role in making decisions about practice:

**A.** Teachers respect, value, and accept children and treat them with dignity at all times.

**B.** Teachers make it a priority to know each child well.

- (1) Teachers establish positive, personal relationships with children to foster the child's development and keep informed about the child's needs and potentials. Teachers listen to children and adapt their responses to children's differing needs, interests, styles, and abilities.
- (2) Teachers continually observe children's spontaneous play and interaction with the physical environment and with other children to learn about their interests, abilities, and developmental progress. On the basis of this information, teachers plan experiences that enhance children's learning and development.
- (3) Understanding that children develop and learn in the context of their families and communities, teachers establish relationships with families that increase their knowledge of children's lives outside the classroom and their awareness of the perspectives and priorities of those individuals most significant in the child's life.

- (4) Teachers are alert to signs of undue stress and traumatic events in children's lives and aware of effective strategies to reduce stress and support the development of resilience.
- (5) Teachers are responsible at all times for all children under their supervision and plan for children's increasing development of self-regulation abilities.

**C.** Teachers create an intellectually engaging, responsive environment to promote each child's learning and development.

- (1) Teachers use their knowledge about children in general and the particular children in the group as well as their familiarity with what children need to learn and develop in each curriculum area to organize the environment and plan curriculum and teaching strategies.
- (2) Teachers provide children with a rich variety of experiences, projects, materials, problems, and ideas to explore and investigate, ensuring that these are worthy of children's attention.
- (3) Teachers provide children with opportunities to make meaningful choices and time to explore through active involvement. Teachers offer children the choice to participate in a small-group or a solitary activity, assist and guide children who are not yet able to use and enjoy child-choice activity periods, and provide opportunities for practice of skills as a self-chosen activity.
- (4) Teachers organize the daily and weekly schedule and allocate time so as to provide children with extended blocks of time in which to engage in play, projects, and/or study in integrated curriculum.

**D.** Teachers make plans to enable children to attain key curriculum goals across various disciplines, such as language arts, mathematics, social studies, science, art, music, physical education, and health (see "Constructing appropriate curriculum," pp. 20–21).

- (1) Teachers incorporate a wide variety of experiences, materials and equipment, and teaching strategies in constructing curriculum to accommodate a broad range of children's individual differences in prior experiences, maturation rates, styles of learning, needs, and interests.
- (2) Teachers bring each child's home culture and language into the shared culture of the school so that the unique contributions of each group are recognized and valued by others.

(3) Teachers are prepared to meet identified special needs of individual children, including children with disabilities and those who exhibit unusual interests and skills. Teachers use all the strategies identified here, consult with appropriate specialists, and see that the child gets the specialized services he or she requires.

**E.** Teachers foster children's collaboration with peers on interesting, important enterprises.

(1) Teachers promote children's productive collaboration without taking over to the extent that children lose interest.

(2) Teachers use a variety of ways of flexibly grouping children for the purposes of instruction, supporting collaboration among children, and building a sense of community. At various times, children have opportunities to work individually, in small groups, and with the whole group.

**F.** Teachers develop, refine, and use a wide repertoire of teaching strategies to enhance children's learning and development.

(1) To help children develop their initiative, teachers encourage them to choose and plan their own learning activities.

(2) Teachers pose problems, ask questions, and make comments and suggestions that stimulate children's thinking and extend their learning.

(3) Teachers extend the range of children's interests and the scope of their thought through presenting novel experiences and introducing stimulating ideas, problems, experiences, or hypotheses.

(4) To sustain an individual child's effort or engagement in purposeful activities, teachers select from a range of strategies, including but not limited to modeling, demonstrating specific skills, and providing information, focused attention, physical proximity, verbal encouragement, reinforcement and other behavioral procedures, as well as additional structure and modification of equipment or schedules as needed.

(5) Teachers coach and/or directly guide children in the acquisition of specific skills as needed.

(6) Teachers calibrate the complexity and challenge of activities to suit children's level of skill and knowledge, increasing the challenge as children gain competence and understanding.

(7) Teachers provide cues and other forms of "scaffolding" that enable the child to succeed in a task that is just beyond his or her ability to complete alone.

(8) To strengthen children's sense of competence and confidence as learners, motivation to persist, and willingness to take risks, teachers provide experiences for children to be genuinely successful and to be challenged.

(9) To enhance children's conceptual understanding, teachers use various strategies that encourage children to reflect on and "revisit" their learning experiences.

**G.** Teachers facilitate the development of responsibility and self-regulation in children.

(1) Teachers set clear, consistent, and fair limits for children's behavior and hold children accountable to standards of acceptable behavior. To the extent that children are able, teachers engage them in developing rules and procedures for behavior of class members.

(2) Teachers redirect children to more acceptable behavior or activity or use children's mistakes as learning opportunities, patiently reminding children of rules and their rationale as needed.

(3) Teachers listen and acknowledge children's feelings and frustrations, respond with respect, guide children to resolve conflicts, and model skills that help children to solve their own problems.

**3. Constructing appropriate curriculum**

The content of the early childhood curriculum is determined by many factors, including the subject matter of the disciplines, social or cultural values, and parental input. In developmentally appropriate programs, decisions about curriculum content also take into consideration the age and experience of the learners. Achieving success for all children depends, among other essentials, on providing a challenging, interesting, developmentally appropriate curriculum. NAEYC does not endorse specific curricula. However, one purpose of these guidelines is as a framework for making decisions about developing curriculum or selecting a curriculum model. Teachers who use a validated curriculum model benefit from the evidence of its effectiveness and the accumulated wisdom and experience of others.

In some respects, the curriculum strategies of many teachers today do not demand enough of children and in other ways demand too much of the wrong thing. On the one hand,

narrowing the curriculum to those basic skills that can be easily measured on multiple-choice tests diminishes the intellectual challenge for many children. Such intellectually impoverished curriculum underestimates the true competence of children, which has been demonstrated to be much higher than is often assumed (Gelman & Baillargeon 1983; Gelman & Meck 1983; Edwards, Gandini, & Forman 1993; Resnick 1996). Watered-down, oversimplified curriculum leaves many children unchallenged, bored, uninterested, or unmotivated. In such situations, children's experiences are marked by a great many missed opportunities for learning.

On the other hand, curriculum expectations in the early years of schooling sometimes are not appropriate for the age groups served. When next-grade expectations of mastery of basic skills are routinely pushed down to the previous grade and whole group and teacher-led instruction is the dominant teaching strategy, children who cannot sit still and attend to teacher lectures or who are bored and unchallenged or frustrated by doing workbook pages for long periods of time are mislabeled as immature, disruptive, or unready for school (Shepard & Smith 1988). Constructing appropriate curriculum requires attention to at least the following guidelines for practice:

- A. Developmentally appropriate curriculum provides for all areas of a child's development: physical, emotional, social, linguistic, aesthetic, and cognitive.
- B. Curriculum includes a broad range of content across disciplines that is socially relevant, intellectually engaging, and personally meaningful to children.
- C. Curriculum builds upon what children already know and are able to do (activating prior knowledge) to consolidate their learning and to foster their acquisition of new concepts and skills.
- D. Effective curriculum plans frequently integrate across traditional subject-matter divisions to help children make meaningful connections and provide opportunities for rich conceptual development; focusing on one subject is also a valid strategy at times.
- E. Curriculum promotes the development of knowledge and understanding, processes and skills, as well as the dispositions to use and apply skills and to go on learning.
- F. Curriculum content has intellectual integrity, reflecting the key concepts and tools of inquiry of recognized disciplines in ways that are accessible and achievable for young children, ages 3 through 8 (e.g., Bredekamp & Rosegrant 1992, 1995). Children directly participate in study of the disciplines, for instance, by conducting scientific experiments, writing, performing, solving mathematical problems, collecting and analyzing data, collecting oral history, and performing other roles of experts in the disciplines.
- G. Curriculum provides opportunities to support children's home culture and language while also developing all children's abilities to participate in the shared culture of the program and the community.
- H. Curriculum goals are realistic and attainable for most children in the designated age range for which they are designed.
- I. When used, technology is physically and philosophically integrated in the classroom curriculum and teaching. (See "NAEYC Position Statement: Technology and Young Children—Ages Three through Eight" [NAEYC 1996b].)

#### **4. Assessing children's learning and development**

Assessment of individual children's development and learning is essential for planning and implementing appropriate curriculum. In developmentally appropriate programs, assessment and curriculum are integrated, with teachers continually engaging in observational assessment for the purpose of improving teaching and learning.

Accurate assessment of young children is difficult because their development and learning are rapid, uneven, episodic, and embedded within specific cultural and linguistic contexts. Too often, inaccurate and inappropriate assessment measures have been used to label, track, or otherwise harm young children. Developmentally appropriate assessment practices are based on the following guidelines:

- A. Assessment of young children's progress and achievements is ongoing, strategic, and purposeful. The results of assessment are used to benefit children—in adapting curriculum and teaching to meet the developmental and learning needs of

children, communicating with the child's family, and evaluating the program's effectiveness for the purpose of improving the program.

- B.** The content of assessments reflects progress toward important learning and developmental goals. The program has a systematic plan for collecting and using assessment information that is integrated with curriculum planning.
- C.** The methods of assessment are appropriate to the age and experiences of young children. Therefore, assessment of young children relies heavily on the results of observations of children's development, descriptive data, collections of representative work by children, and demonstrated performance during authentic, not contrived, activities. Input from families as well as children's evaluations of their own work are part of the overall assessment strategy.
- D.** Assessments are tailored to a specific purpose and used only for the purpose for which they have been demonstrated to produce reliable, valid information.
- E.** Decisions that have a major impact on children, such as enrollment or placement, are never made on the basis of a single developmental assessment or screening device but are based on multiple sources of relevant information, particularly observations by teachers and parents.
- F.** To identify children who have special learning or developmental needs and to plan appropriate curriculum and teaching for them, developmental assessments and observations are used.
- G.** Assessment recognizes individual variation in learners and allows for differences in styles and rates of learning. Assessment takes into consideration such factors as the child's facility in English, stage of language acquisition, and whether the child has had the time and opportunity to develop proficiency in his or her home language as well as in English.
- H.** Assessment legitimately addresses not only what children can do independently but what they can do with assistance from other children or adults. Teachers study children as individuals as well as in relationship to groups by documenting group projects and other collaborative work.

(For a more complete discussion of principles of appropriate assessment, see the position statement *Guidelines for Appropriate Curriculum Content and Assessment for Children Ages 3 through 8* [NAEYC & NAECS/SDE 1992]; see also Shepard 1994.)

### ***5. Establishing reciprocal relationships with families***

Developmentally appropriate practices derive from deep knowledge of individual children and the context within which they develop and learn. The younger the child, the more necessary it is for professionals to acquire this knowledge through relationships with children's families. The traditional approach to families has been a parent education orientation in which the professionals see themselves as knowing what is best for children and view parents as needing to be educated. There is also the limited view of parent involvement that sees PTA membership as the primary goal. These approaches do not adequately convey the complexity of the partnership between teachers and parents that is a fundamental element of good practice (Powell 1994).

When the parent education approach is criticized in favor of a more family-centered approach, this shift may be misunderstood to mean that parents dictate all program content and professionals abdicate responsibility, doing whatever parents want regardless of whether professionals agree that it is in children's best interest. Either of these extremes oversimplifies the importance of relationships with families and fails to provide the kind of environment in which parents and professionals work together to achieve shared goals for children; such programs with this focus are characterized by at least the following guidelines for practice:

- A.** Reciprocal relationships between teachers and families require mutual respect, cooperation, shared responsibility, and negotiation of conflicts toward achievement of shared goals.
- B.** Early childhood teachers work in collaborative partnerships with families, establishing and maintaining regular, frequent two-way communication with children's parents.
- C.** Parents are welcome in the program and participate in decisions about their children's care and education. Parents observe and participate and serve in decisionmaking roles in the program.

- D.** Teachers acknowledge parents' choices and goals for children and respond with sensitivity and respect to parents' preferences and concerns without abdicating professional responsibility to children.
- E.** Teachers and parents share their knowledge of the child and understanding of children's development and learning as part of day-to-day communication and planned conferences. Teachers support families in ways that maximally promote family decisionmaking capabilities and competence.
- F.** To ensure more accurate and complete information, the program involves families in assessing and planning for individual children.
- G.** The program links families with a range of services, based on identified resources, priorities, and concerns.
- H.** Teachers, parents, programs, social service and health agencies, and consultants who may have educational responsibility for the child at different times should, with family participation, share developmental information about children as they pass from one level or program to another.

### Moving from either/or to both/and thinking in early childhood practice

Some critical reactions to NAEYC's (1987) position statement on developmentally appropriate practice reflect a recurring tendency in the American discourse on education: the polarizing into *either/or* choices of many questions that are more fruitfully seen as *both/ands*. For example, heated debates have broken out about whether children in the early grades should receive whole-language or phonics instruction, when, in fact, the two approaches are quite compatible and most effective in combination.

It is true that there are practices that are clearly inappropriate for early childhood professionals—use of physical punishment or disparaging verbal comments about children, discriminating against children or their families, and many other examples that could be cited (see Parts 3, 4, and 5 for examples relevant to different age groups). However, most questions about practice require more complex responses. It is not that children need food **or** water; they need both.

To illustrate the many ways that early childhood practice draws on *both/and* thinking and to convey some of the complexity and interrelationship among the principles that guide our practice, we offer the following statements as **examples**:

- 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 enormous capacities to learn and 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 -structured activities, projects, and experiences.

The above list is not exhaustive. Many more examples could be cited to convey the interrelationships among the principles of child development and learning or among the guidelines for early childhood practice.

## Policies essential for achieving developmentally appropriate early childhood programs

Early childhood professionals working in diverse situations with varying levels of funding and resources are responsible for implementing practices that are developmentally appropriate for the children they serve. Regardless of the resources available, professionals have an ethical responsibility to practice, to the best of their ability, according to the standards of their profession. Nevertheless, the kinds of practices advocated in this position statement are more likely to be implemented within an infrastructure of supportive policies and resources. NAEYC strongly recommends that policymaking groups at the state and local levels consider the following when implementing early childhood programs:

1. A comprehensive professional preparation and development system is in place to ensure that early childhood programs are staffed with qualified personnel (NAEYC 1994).
  - A system exists for early childhood professionals to acquire the knowledge and practical skills needed to practice through college-level specialized preparation in early childhood education/child development.
  - Teachers in early childhood programs are encouraged and supported to obtain and maintain, through study and participation in inservice training, current knowledge of child development and learning and its application to early childhood practice.
  - Specialists in early childhood special education are available to provide assistance and consultation in meeting the individual needs of children in the program.
  - In addition to management and supervision skills, administrators of early childhood programs have appropriate professional qualifications, including training specific to the education and development of young children, and they provide teachers time and opportunities to work collaboratively with colleagues and parents.
2. Funding is provided to ensure adequate staffing of early childhood programs and fair staff compensation that promotes continuity of relationships among adults and children (Willer 1990).
  - Funding is adequate to limit the size of the groups and provide sufficient numbers of adults to ensure individualized and appropriate care and education. Even the most well-qualified teacher cannot individualize instruction and adequately supervise too large a group of young children. An acceptable adult-child ratio for 4- and 5-year-olds is two adults with no more than 20 children (Ruopp et al. 1979; Francis & Self 1982; Howes 1983; Taylor & Taylor 1989; Howes, Phillips, & Whitebook 1992; Cost, Quality, & Child Outcomes Study Team 1995; Howes, Smith, & Galinsky 1995). Younger children require much smaller groups. Group size and ratio of children to adults should increase gradually through the primary grades, but one teacher with no more than 18 children or two adults with no more than 25 children is optimum (Nye et al. 1992; Nye, Boyd-Zaharias, & Fulton 1994). Inclusion of children with disabilities may necessitate additional adults or smaller group size to ensure that all children's needs are met.
3. Resources and expertise are available to provide safe, stimulating learning environments with a sufficient number and variety of appropriate materials and equipment for the age group served (Bronson 1995; Kendrick, Kaufmann, & Messenger 1995).
4. Adequate systems for regulating and monitoring the quality of early childhood programs are in place (see position on licensing [NAEYC 1987]; accreditation criteria and procedures [NAEYC 1991]).
5. Community resources are available and used to support the comprehensive needs of children and families (Kagan 1991; NASBE 1991; Kagan et al. 1995; NCSL 1995).
6. When individual children do not make expected learning progress, neither grade retention nor social promotion are used; instead, initiatives such as more focused time, individu-



alized instruction, tutoring, or other individual strategies are used to accelerate children's learning (Shepard & Smith 1989; Ross et al. 1995).

7. Early childhood programs use multiple indicators of progress in all development domains to evaluate the effect of the program on children's development and learning and regularly report children's progress to parents. Group-administered, standardized, multiple-choice achievement tests are not used before third grade, preferably before fourth grade. When such tests are used to demonstrate public accountability, a sampling method is used (see Shepard 1994).

## References

- Adams, G., & J. Sandfort. 1994. *First steps, promising futures: State prekindergarten initiatives in the early 1990s*. Washington, DC: Children's Defense Fund.
- Alexander, K.L., & D.R. Entwisle. 1988. *Achievement in the first 2 years of school: Patterns and processes*. Monographs of the Society for Research in Child Development, vol. 53, no. 2, serial no. 218. Ann Arbor: University of Michigan.
- Arnett, J. 1989. Caregivers in day-care centers: Does training matter? *Journal of Applied Developmental Psychology* 10 (4): 541–52.
- Asher, S., S. Hymel, & P. Renshaw. 1984. Loneliness in children. *Child Development* 55: 1456–64.
- Barnett, W.S. 1995. Long-term effects of early childhood programs on cognitive and school outcomes. *The Future of Children* 5 (3): 25–50.
- Bergen, D. 1988. *Play as a medium for learning and development*. Portsmouth, NH: Heinemann.
- Berk, L.E. 1996. *Infants and children: Prenatal through middle childhood*. 2d ed. Needham Heights, MA: Allyn & Bacon.
- Berk, L., & A. Winsler. 1995. *Scaffolding children's learning: Vygotsky and early childhood education*. Washington, DC: NAEYC.
- Berruetta-Clement, J.R., L.J. Schweinhart, W.S. Barnett, A.S. Epstein, & D.P. Weikart. 1984. *Changed lives: The effects of the Perry Preschool Program on youths through age 19*. Monographs of the High/Scope Educational Research Foundation, no. 8. Ypsilanti, MI: High/Scope Press.
- Bodrova, E., & D. Leong. 1996. *Tools of the mind: The Vygotskian approach to early childhood education*. Englewood Cliffs, NJ: Merrill/Prentice Hall.
- Bowlby, J. 1969. *Attachment and loss: Vol. 1. Attachment*. New York: Basic.
- Bowman, B. 1994. The challenge of diversity. *Phi Delta Kappan* 76 (3): 218–25.
- Bowman, B., & F. Stott. 1994. Understanding development in a cultural context: The challenge for teachers. In *Diversity and developmentally appropriate practices: Challenges for early childhood education*, eds. B. Mallory & R. New, 119–34. New York: Teachers College Press.
- Bredekamp, S., ed. 1987. *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. Exp. ed. Washington, DC: NAEYC.
- Bredekamp, S. 1993a. Reflections on Reggio Emilia. *Young Children* 49 (1): 13–17.
- Bredekamp, S. 1993b. The relationship between early childhood education and early childhood special education: Healthy marriage or family feud? *Topics in Early Childhood Special Education* 13 (3): 258–73.
- Bredekamp, S., & T. Rosegrant, eds. 1992. *Reaching potentials: Appropriate curriculum and assessment for young children, volume 1*. Washington, DC: NAEYC.
- Bredekamp, S., & T. Rosegrant, eds. 1995. *Reaching potentials: Transforming early childhood curriculum and assessment, volume 2*. Washington, DC: NAEYC.
- Bronfenbrenner, U. 1979. *The ecology of human development: Experiments by nature and design*. Cambridge, MA: Harvard University Press.
- Bronfenbrenner, U. 1989. Ecological systems theory. In *Annals of child development*, Vol. 6, ed. R. Vasta, 187–251. Greenwich, CT: JAI Press.
- Bronfenbrenner, U. 1993. The ecology of cognitive development: Research models and fugitive findings. In *Development in context*, eds. R.H. Wozniak & K.W. Fischer, 3–44. Hillsdale, NJ: Erlbaum.
- Bronson, M.B. 1995. *The right stuff for children birth to 8: Selecting play materials to support development*. Washington, DC: NAEYC.
- Brophy, J. 1992. Probing the subtleties of subject matter teaching. *Educational Leadership* 49 (7): 4–8.
- Bruner, J.S. 1983. *Child's talk: Learning to use language*. New York: Norton.
- Bruner, J.S. 1996. *The culture of education*. Cambridge, MA: Harvard University Press.
- Bryant, D.M., R. Clifford, & E.S. Peisner. 1991. Best practices for beginners: Developmental appropriateness in kindergarten. *American Educational Research Journal* 28 (4): 783–803.
- Burchinal, M., J. Robert, L. Nabo, & D. Bryant. 1996. Quality of center child care and infant cognitive and language development. *Child Development* 67 (2): 606–20.
- Burke, D. 1996. Multi-year teacher/student relationships are a long-overdue arrangement. *Phi Delta Kappan* 77 (5): 360–61.
- Caine, R., & G. Caine. 1991. *Making connections: Teaching and the human brain*. New York: Addison-Wesley.
- Campbell, F., & C. Ramey. 1995. Cognitive and school outcomes for high-risk African-American students at middle adolescence: Positive effects of early intervention. *American Educational Research Journal* 32 (4): 743–72.

- Carnegie Task Force on Learning in the Primary Grades. 1996. *Years of promise: A comprehensive learning strategy for America's children*. New York: Carnegie Corporation of New York.
- Carta, J., I. Schwartz, J. Atwater, & S. McConnell. 1991. Developmentally appropriate practice: Appraising its usefulness for young children with disabilities. *Topics in Early Childhood Special Education* 11 (1): 1–20.
- Case, R., & Y. Okamoto. 1996. *The role of central conceptual structures in the development of children's thought*. Monographs of the Society of Research in Child Development, vol. 61, no. 2, serial no. 246. Chicago: University of Chicago Press.
- Charlesworth, R., C.H. Hart, D.C. Burts, & M. DeWolf. 1993. The LSU studies: Building a research base for developmentally appropriate practice. In *Perspectives on developmentally appropriate practice*, vol. 5 of *Advances in early education and day care*, ed. S. Reifel, 3–28. Greenwich, CT: JAI Press.
- Chugani, H., M.E. Phelps, & J.C. Mazziotta. 1987. Positron emission tomography study of human brain functional development. *Annals of Neurology* 22 (4): 495.
- Cohen, N., & K. Modigliani. 1994. The family-to-family project: Developing family child care providers. In *The early childhood career lattice: Perspectives on professional development*, eds. J. Johnson & J.B. McCracken, 106–10. Washington, DC: NAEYC.
- Copple, C., I.E. Sigel, & R. Saunders. 1984. *Educating the young thinker: Classroom strategies for cognitive growth*. Hillsdale, NJ: Erlbaum.
- Cost, Quality, & Child Outcomes Study Team. 1995. *Cost, quality, and child outcomes in child care centers, public report*. 2d ed. Denver: Economics Department, University of Colorado at Denver.
- Dana Alliance for Brain Initiatives. 1996. *Delivering results: A progress report on brain research*. Washington, DC: Author.
- DEC/CEC (Division for Early Childhood of the Council for Exceptional Children). 1994. Position on inclusion. *Young Children* 49 (5): 78.
- DEC (Division for Early Childhood) Task Force on Recommended Practices. 1993. *DEC recommended practices: Indicators of quality in programs for infants and young children with special needs and their families*. Reston, VA: Council for Exceptional Children.
- DEC/CEC & NAEYC (Division for Early Childhood of the Council for Exceptional Children & the National Association for the Education of Young Children). 1993. *Understanding the ADA—The Americans with Disabilities Act: Information for early childhood programs*. Pittsburgh, PA, & Washington, DC: Authors.
- DeVries, R., & W. Kohlberg. 1990. *Constructivist early education: Overview and comparison with other programs*. Washington, DC: NAEYC.
- Dewey, J. 1916. *Democracy and education: An introduction to the philosophy of education*. New York: Macmillan.
- Durkin, D. 1987. A classroom-observation study of reading instruction in kindergarten. *Early Childhood Research Quarterly* 2 (3): 275–300.
- Durkin, D. 1990. Reading instruction in kindergarten: A look at some issues through the lens of new basal reader materials. *Early Children Research Quarterly* 5 (3): 299–316.
- Dweck, C. 1986. Motivational processes affecting learning. *American Psychologist* 41: 1030–48.
- Dyson, A.H., & C. Genishi. 1993. Visions of children as language users: Language and language education in early childhood. In *Handbook of research on the education of young children*, ed. B. Spodek, 122–36. New York: Macmillan.
- Edwards, C.P., & L. Gandini. 1989. Teachers' expectations about the timing of developmental skills: A cross-cultural study. *Young Children* 44 (4): 15–19.
- Edwards, C., L. Gandini, & G. Forman, eds. 1993. *The hundred languages of children: The Reggio Emilia approach to early childhood education*. Norwood, NJ: Ablex.
- Erikson, E. 1963. *Childhood and society*. New York: Norton.
- Feeney, S., & K. Kipnis. 1992. *Code of ethical conduct & statement of commitment*. Washington, DC: NAEYC.
- Fein, G. 1981. Pretend play: An integrative review. *Child Development* 52: 1095–118.
- Fein, G., & M. Rivkin, eds. 1986. *The young child at play: Reviews of research*. Washington, DC: NAEYC.
- Fenson, L., P. Dale, J.S. Reznick, E. Bates, D. Thal, & S. Pethick. 1994. *Variability in early communicative development*. Monographs of the Society for Research in Child Development, vol. 59, no. 2, serial no. 242. Chicago: University of Chicago Press.
- Fernald, A. 1992. Human maternal vocalizations to infants as biologically relevant signals: An evolutionary perspective. In *The adapted mind: Evolutionary psychology and the generation of culture*, eds. J.H. Barkow, L. Cosmides, & J. Tooby, 391–428. New York: Oxford University Press.
- Fields, T., W. Masi, S. Goldstein, S. Perry, & S. Parl. 1988. Infant day care facilities preschool social behavior. *Early Childhood Research Quarterly* 3 (4): 341–59.
- Forman, G. 1994. Different media, different languages. In *Reflections on the Reggio Emilia approach*, eds. L. Katz & B. Cesarone, 37–46. Urbana, IL: ERIC Clearinghouse on ECE.
- Forman, E.A., N. Minick, & C.A. Stone. 1993. *Contexts for learning: Sociocultural dynamics in children's development*. New York: Oxford University Press.
- Francis, P., & P. Self. 1982. Imitative responsiveness of young children in day care and home settings: The importance of the child to caregiver ratio. *Child Study Journal* 12: 119–26.

- Frede, E. 1995. The role of program quality in producing early childhood program benefits. *The Future of Children*, 5 (3): 115–132.
- Frede, E., & W.S. Barnett. 1992. Developmentally appropriate public school preschool: A study of implementation of the High/Scope curriculum and its effects on disadvantaged children's skills at first grade. *Early Childhood Research Quarterly* 7 (4): 483–99.
- Fromberg, D. 1992. Play. In *The early childhood curriculum: A review of current research*, 2d ed., ed. C. Seefeldt, 35–74. New York: Teachers College Press.
- Galinsky, E., C. Howes, S. Kontos, & M. Shinn. 1994. *The study of children in family child care and relative care: Highlights of findings*. New York: Families and Work Institute.
- Gallahue, D. 1993. Motor development and movement skill acquisition in early childhood education. In *Handbook of research on the education of young children*, ed. B. Spodek, 24–41. New York: Macmillan.
- Gallahue, D. 1995. Transforming physical education curriculum. In *Reaching potentials: Transforming early childhood curriculum and assessment, volume 2*, eds. S. Bredekamp & T. Rosegrant, 125–44. Washington, DC: NAEYC.
- Garbarino, J., N. Dubrow, K. Kostelny, & C. Pardo. 1992. *Children in danger: Coping with the consequences of community violence*. San Francisco: Jossey-Bass.
- Gardner, H. 1983. *Frames of mind: The theory of multiple intelligences*. New York: Basic.
- Gardner, H. 1991. *The unschooled mind: How children think and how schools should teach*. New York: Basic.
- Gelman, R., & R. Baillargeon. 1983. A review of some Piagetian concepts. In *Handbook of Child Psychology*, vol. 3, ed. P.H. Mussen, 167–230. New York: Wiley.
- Gelman, R., & E. Meck. 1983. Preschoolers' counting: Principles before skill. *Cognition* 13: 343–59.
- Hale-Benson, J. 1986. *Black children: Their roots, cultures, and learning styles*. Rev. ed. Baltimore: Johns Hopkins University Press.
- Herron, R., & B. Sutton-Smith. 1971. *Child's play*. New York: Wiley.
- Hiebert, E.H., & J.M. Papierz. 1990. The emergent literacy construct and kindergarten and readiness books of basal reading series. *Early Childhood Research Quarterly* 5 (3): 317–34.
- Hohmann, M., & D. Weikart. 1995. *Educating young children: Active learning practices for preschool and child care programs*. Ypsilanti, MI: High/Scope Educational Research Foundation.
- Hollestelle, K. 1993. At the core: Entrepreneurial skills for family child care providers. In *The early childhood career lattice: Perspectives on professional development*, eds. J. Johnson & J.B. McCracken, 63–65. Washington, DC: NAEYC.
- Howes, C. 1983. Caregiver behavior in center and family day care. *Journal of Applied Developmental Psychology* 4: 96–107.
- Howes, C. 1988. Relations between early child care and schooling. *Developmental Psychology* 24 (1): 53–57.
- Howes, C., D.A. Phillips, M. Whitebook. 1992. Thresholds of quality: Implications for the social development of children in center-based child care. *Child Development* 63 (2): 449–60.
- Howes, C., E. Smith, & E. Galinsky. 1995. *The Florida child care quality improvement study*. New York: Families and Work Institute.
- Kagan, S.L. 1991. *United we stand: Collaboration for child care and early education services*. New York: Teachers College Press.
- Kagan, S., S. Goffin, S. Golub, & E. Pritchard. 1995. *Toward systematic reform: Service integration for young children and their families*. Falls Church, VA: National Center for Service Integration.
- Kamii, C., & J.K. Ewing. 1996. Basing teaching on Piaget's constructivism. *Childhood Education* 72 (5): 260–64.
- Katz, L. 1995. *Talks with teachers of young children: A collection*. Norwood, NJ: Ablex.
- Katz, L., & S. Chard. 1989. *Engaging children minds: The project approach*. Norwood, NJ: Ablex.
- Katz, L., D. Evangelou, & J. Hartman. 1990. *The case for mixed-age grouping in early education*. Washington, DC: NAEYC.
- Kendrick, A., R. Kaufmann, & K. Messenger, eds. 1995. *Healthy young children: A manual for programs*. Washington, DC: NAEYC.
- Kohn, A. 1993. *Punished by rewards*. Boston: Houghton Mifflin.
- Kostelnik, M., A. Soderman, & A. Whiren. 1993. *Developmentally appropriate programs in early childhood education*. New York: Macmillan.
- Kuhl, P. 1994. Learning and representation in speech and language. *Current Opinion in Neurobiology* 4: 812–22.
- Lary, R.T. 1990. Successful students. *Education Issues* 3 (2): 11–17.
- Layzer, J.I., B.D. Goodson, & M. Moss. 1993. *Life in preschool: Volume one of an observational study of early childhood programs for disadvantaged four-year-olds*. Cambridge, MA: Abt Association.
- Lazar, I., & R. Darlington. 1982. *Lasting effects of early education: A report from the consortium for longitudinal studies*. Monographs of the Society for Research in Child Development, vol. 47, nos. 2-3, serial no. 195. Chicago: University of Chicago Press.
- Lee, V.E., J. Brooks-Gunn, & E. Schuur. 1988. Does Head Start work? A 1-year follow-up comparison of disadvantaged children attending Head Start, no preschool, and other preschool programs. *Developmental Psychology* 24 (2): 210–22.

- Legters, N., & R.E. Slavin. 1992. Elementary students at risk: A status report. Paper commissioned by the Carnegie Corporation of New York for meeting on elementary-school reform. 1–2 June.
- Levy, A.K., L. Schaefer, & P.C. Phelps. 1986. Increasing preschool effectiveness: Enhancing the language abilities of 3- and 4-year-old children through planned sociodramatic play. *Early Childhood Research Quarterly* 1 (2): 133–40.
- Levy, A.K., C.H. Wolfgang, & M.A. Koorland. 1992. Sociodramatic play as a method for enhancing the language performance of kindergarten age students. *Early Childhood Research Quarterly* 7 (2): 245–62.
- Malaguzzi, L. 1993. History, ideas, and basic philosophy. In *The hundred languages of children: The Reggio Emilia approach to early childhood education*, eds. C. Edwards, L. Gandini, & G. Forman, 41–89. Norwood, NJ: Ablex.
- Mallory, B. 1992. Is it always appropriate to be developmental? Convergent models for early intervention practice. *Topics in Early Childhood Special Education* 11 (4): 1–12.
- Mallory, B. 1994. Inclusive policy, practice, and theory for young children with developmental differences. In *Diversity and developmentally appropriate practices: Challenges for early childhood education*, eds. B. Mallory & R. New, 44–61. New York: Teachers College Press.
- Mallory, B.L., & R.S. New. 1994a. *Diversity and developmentally appropriate practices: Challenges for early childhood education*. New York: Teachers College Press.
- Mallory, B.L., & R.S. New. 1994b. Social constructivist theory and principles of inclusion: Challenges for early childhood special education. *Journal of Special Education* 28 (3): 322–37.
- Marcon, R.A. 1992. Differential effects of three preschool models on inner-city 4-year-olds. *Early Childhood Research Quarterly* 7 (4): 517–30.
- Maslow, A. 1954. *Motivation and personality*. New York: Harper & Row.
- Miller, L.B., & R.P. Bizzell. 1984. Long-term effects of four preschool programs: Ninth and tenth-grade results. *Child Development* 55 (4): 1570–87.
- Mitchell, A., M. Seligson, & F. Marx. 1989. *Early childhood programs and the public schools*. Dover, MA: Auburn House.
- Morrow, L.M. 1990. Preparing the classroom environment to promote literacy during play. *Early Childhood Research Quarterly* 5 (4): 537–54.
- NAEYC. 1987. *NAEYC position statement on licensing and other forms of regulation of early childhood programs in centers and family day care*. Washington, DC: Author.
- NAEYC. 1991. *Accreditation criteria and procedures of the National Academy of Early Childhood Programs*. Rev. ed. Washington, DC: Author.
- NAEYC. 1993. *Compensation guidelines for early childhood professionals*. Washington, DC: Author.
- NAEYC. 1994. NAEYC position statement: A conceptual framework for early childhood professional development, adopted November 1993. *Young Children* 49 (3): 68–77.
- NAEYC. 1996a. NAEYC position statement: Responding to linguistic and cultural diversity—Recommendations for effective early childhood education. *Young Children* 51 (2): 4–12.
- NAEYC. 1996b. NAEYC position statement: Technology and young children—Ages three through eight. *Young Children* 51 (6): 11–16.
- NAEYC & NAECS/SDE (National Association of Early Childhood Specialists in State Departments of Education). 1992. Guidelines for appropriate curriculum content and assessment in programs serving children ages 3 through 8. In *Reaching potentials: Appropriate curriculum and assessment for young children, volume 1*, eds. S. Bredekamp & T. Rosegrant, 9–27. Washington, DC: NAEYC.
- NASBE (National Association of State Boards of Education). 1991. *Caring communities: Supporting young children and families*. Alexandria, VA: Author.
- Natriello, G., E. McDill, & A. Pallas. 1990. *Schooling disadvantaged children: Racing against catastrophe*. New York: Teachers College Press.
- NCES (National Center for Education Statistics). 1993. *The condition of education, 1993*. Washington, DC: U.S. Department of Education.
- NCSL (National Conference of State Legislatures). 1995. *Early childhood care and education: An investment that works*. Denver: Author.
- NEGP (National Education Goals Panel). 1991. *National education goals report: Building a nation of learners*. Washington, DC: Author.
- New, R. 1993. Cultural variations on developmentally appropriate practice: Challenges to theory and practice. In *The hundred languages of children: The Reggio Emilia approach to early childhood education*, eds. C. Edwards, L. Gandini, & G. Forman, 215–32. Norwood, NJ: Ablex.
- New, R. 1994. Culture, child development, and developmentally appropriate practices: Teachers as collaborative researchers. In *Diversity and developmentally appropriate practices: Challenges for early childhood education*, eds. B. Mallory & R. New, 65–83. New York: Teachers College Press.
- Nye, B.A., J. Boyd-Zaharias, & B.D. Fulton. 1994. *The lasting benefits study: A continuing analysis of the effect of small class size in kindergarten through third grade on student achievement test scores in subsequent grade levels—seventh grade (1992–93), technical report*. Nashville: Center of Excellence for Research in Basic Skills, Tennessee State University.
- Nye, B.A., J. Boyd-Zaharias, B.D. Fulton, & M.P. Wallenhorst. 1992. Smaller classes really are better. *The American School Board Journal* 179 (5): 31–33.

- Parker, J.G., & S.R. Asher. 1987. Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychology Bulletin* 102 (3): 357-89.
- Phillips, C.B. 1994. The movement of African-American children through sociocultural contexts: A case of conflict resolution. In *Diversity and developmentally appropriate practices: Challenges for early childhood education*, eds. B. Mallory & R. New, 137-54. New York: Teachers College Press.
- Phillips, D.A., K. McCartney, & S. Scarr. 1987. Child care quality and children's social development. *Developmental Psychology* 23 (4): 537-43.
- Piaget, J. 1952. *The origins of intelligence in children*. New York: International Universities Press.
- Plomin, R. 1994a. *Genetics and experience: The interplay between nature and nurture*. Thousand Oaks, CA: Sage.
- Plomin, R. 1994b. Nature, nurture, and social development. *Social Development* 3: 37-53.
- Powell, D. 1994. Parents, pluralism, and the NAEYC statement on developmentally appropriate practice. In *Diversity and developmentally appropriate practices: Challenges for early childhood education*, eds. B. Mallory & R. New, 166-82. New York: Teachers College Press.
- Pramling, I. 1991. Learning about "the shop": An approach to learning in preschool. *Early Children Research Quarterly* 6 (2): 151-66.
- Resnick, L. 1996. Schooling and the workplace: What relationship? In *Preparing youth for the 21st century*, 21-27. Washington, DC: Aspen Institute.
- Rogoff, B. 1990. *Apprenticeship in thinking: Cognitive development in social context*. New York: Oxford University Press.
- Rogoff, B., J. Mistry, A. Goncu, & C. Mosier. 1993. *Guided participation in cultural activity by toddlers and caregivers*. Monographs of the Society for Research in Child Development, vol. 58, no. 8, serial no. 236. Chicago: University of Chicago Press.
- Ross, S.M., L.J. Smith, J. Casey, & R.E. Slavin. 1995. Increasing the academic success of disadvantaged children: An examination of alternative early intervention programs. *American Educational Research Journal* 32 (4): 773-800.
- Ruopp, R., J. Travers, F. Glantz, & C. Coelen. 1979. *Children at the center: Final report of the National Day Care Study*. Cambridge, MA: ABT Associates.
- Sameroff, A., & S. McDonough. 1994. Educational implications of developmental transitions: Revisiting the 5- to 7-year shift. *Phi Delta Kappan* 76 (3): 188-93.
- Scarr, S., & K. McCartney. 1983. How people make their own environments: A theory of genotype-environment effects. *Child Development* 54: 425-35.
- Schrader, C.T. 1989. Written language use within the context of young children's symbolic play. *Early Childhood Research Quarterly* 4 (2): 225-44.
- Schrader, C.T. 1990. Symbolic play as a curricular tool for early literacy development. *Early Childhood Research Quarterly* 5 (1): 79-103.
- Schweinhart, L.J., & D.P. Weikart. 1996. *Lasting differences: The High/Scope preschool curriculum comparison study through age 23*. Monographs of the High/Scope Educational Research Foundation, no 12. Ypsilanti, MI: High/Scope Press.
- Schweinhart, L.J., H.V. Barnes, & D.P. Weikart. 1993. *Significant benefits: The High/Scope Perry Preschool Study through age 27*. Monographs of the High/Scope Educational Research Foundation, no. 10, Ypsilanti, MI: High/Scope Press.
- Schweinhart, L.J., D.P. Weikart, & M.B. Larner. 1986. Child-initiated activities in early childhood programs may help prevent delinquency. *Early Childhood Research Quarterly* 1 (3): 303-12.
- Seefeldt, C., ed. 1992. *The early childhood curriculum: A review of current research*. 2d ed. New York: Teachers College Press.
- Seifert, K. 1993. Cognitive development and early childhood education. In *Handbook of research on the education of young children*, ed. B. Spodek, 9-23. New York: Macmillan.
- Seppanen, P.S., D. Kaplan deVries, & M. Seligson. 1993. *National study of before and after school programs*. Portsmouth, NH: RMC Research Corp.
- Shepard, L. 1994. The challenges of assessing young children appropriately. *Phi Delta Kappan* 76 (3): 206-13.
- Shepard, L.A., & M.L. Smith. 1988. Escalating academic demand in kindergarten: Some nonsolutions. *Elementary School Journal* 89 (2): 135-46.
- Shepard, L.A., & M. L. Smith. 1989. *Flunking grades: Research and policies on retention*. Bristol, PA: Taylor & Francis.
- Slavin, R., N. Karweit, & N. Madden, eds. 1989. *Effective programs for students at-risk*. Boston: Allyn & Bacon.
- Smilansky, S., & L. Shefatya. 1990. *Facilitating play: A medium for promoting cognitive, socioemotional, and academic development in young children*. Gaithersburg, MD: Psychosocial & Educational Publications.
- Spodek, B., ed. 1993. *Handbook of research on the education of young children*. New York: Macmillan.
- Sroufe, L.A., R.G. Cooper, & G.B. DeHart. 1992. *Child development: Its nature and course*. 2d ed. New York: Knopf.
- Stern, D. 1985. *The psychological world of the human infant*. New York: Basic.
- Stremmel, A.J., & V.R. Fu. 1993. Teaching in the zone of proximal development: Implications for responsive teaching practice. *Child and Youth Care Forum* 22 (5): 337-50.
- Taylor, J.M., & W.S. Taylor. 1989. *Communicable diseases and young children in group settings*. Boston: Little, Brown.

- Tobin, J., D. Wu, & D. Davidson. 1989. *Preschool in three cultures*. New Haven, CT: Yale University Press.
- U.S. Department of Health & Human Services. 1996. *Head Start performance standards*. Washington, DC: Author.
- Vandell, D.L., & M.A. Corasanti. 1990. Variations in early child care: Do they predict subsequent social, emotional, and cognitive differences? *Early Childhood Research Quarterly* 5 (4): 555-72.
- Vandell, D.L., & C.D. Powers. 1983. Day care quality and children's freeplay activities. *American Journal of Orthopsychiatry* 53 (4): 493-500.
- Vandell, D.L., V.K. Henderson, & K.S. Wilson. 1988. A longitudinal study of children with day-care experiences of varying quality. *Child Development* 59 (5): 1286-92.
- Vygotsky, L. 1978. *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- Wardle, F. 1996. Proposal: An anti-bias and ecological model for multicultural education. *Childhood Education* 72 (3): 152-56.
- Wertsch, J. 1985. *Culture, communication, and cognition: Vygotskian perspectives*. New York: Cambridge University Press.
- White, S.H. 1965. Evidence for a hierarchical arrangement of learning processes. In *Advances in child development and behavior*, eds. L.P. Lipsitt & C.C. Spiker, 187-220. New York: Academic Press.
- Whitebook, M., C. Howes, & D. Phillips. 1989. *The national child care staffing study: Who cares? Child care teachers and the quality of care in America*. Final report. Oakland, CA: Child Care Employee Project.
- Wieder, S., & S.I. Greenspan. 1993. The emotional basis of learning. In *Handbook of research on the education of young children*, ed. B. Spodek, 77-104. New York: Macmillan.
- Willer, B. 1990. *Reaching the full cost of quality in early childhood programs*. Washington, DC: NAEYC.
- Willer, B., S.L. Hofferth, E.E. Kisker, P. Divine-Hawkins, E. Farquhar, & F.B. Glantz. 1991. *The demand and supply of child care in 1990*. Washington, DC: NAEYC.
- Witkin, H. 1962. *Psychological differentiation: Studies of development*. New York: Wiley.
- Wolery, M., & J. Wilbers, eds. 1994. *Including children with special needs in early childhood programs*. Washington, DC: NAEYC.
- Wolery, M., P. Strain, & D. Bailey. 1992. Reaching potentials of children with special needs. In *Reaching Potentials: Appropriate curriculum and assessment for young children, volume 1*, eds. S. Bredekamp & T. Rosegrant, 92-111. Washington, DC: NAEYC.
- Zero to Three: The National Center. 1995. *Caring for infants and toddlers in groups: Developmentally appropriate practice*. Arlington, VA: Author.