CHAPTER ONE

Integrated Developmentally Appropriate Curriculum

From Theory and Research to Practice

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The National Association for the Education of Young Children (NAEYC) published its position paper on developmentally appropriate practice in early childhood programs in 1987 (Bredekamp, 1987); since then, it has become the most influential document guiding the field of early childhood education today. The document stemmed from developmental theories about how young children think and learn (Bredekamp & Rosegrant, 1992). These guidelines have prompted practitioners to modify their classroom practices and researchers to empirically examine the effects of developmentally appropriate and inappropriate classroom practices on the development of young children from birth through age 8. The document has also generated much interest with thoughtful, sometimes "lively," discourse. Some professionals have questioned the conceptual base and breadth of developmentally appropriate practice and have encouraged a reconceptualization of the construct (e.g., Bloch, 1992;

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Fowell & Lawton, 1992; Jipson, 1991; Kessler, 1991a, 1991b; Lubeck, 1994; Lubeck, 1996; Walsh, 1991). This discourse has been healthy for the profession.

The position paper was designed to indicate current knowledge and thinking in the field; NAEYC has revised the guidelines to reflect not only new knowledge but new political trends as well (Bredekamp & Copple, 1997). Changes addressed some concerns expressed and should help clarify misconceptions about the concept. One of the major changes was an expanded definition of "developmentally appropriate" to more clearly portray the relationship among age, culture, and individual determinants of development. Vignettes illustrate the process of professional reflection that occurs in making decisions about developmentally appropriate practice (Bredekamp, 1995).

The purpose of this introductory chapter is to briefly (1) introduce readers to the concept of developmentally appropriate practice, (2) overview the recent debate on developmentally appropriate practice, and (3) discuss research findings to date concerning the efficacy of developmentally appropriate curriculum. Probably one of the most challenging areas for practitioners is translating the integrated curriculum guidelines that are a part of developmentally appropriate practice into classroom applications. It is hoped that this volume will go far in helping not only theorists, researchers, and practitioners understand integrated curriculum, but in promoting practical applications of the concept for teachers and parents as well.

Developmentally Appropriate Practice

Many child development and early childhood education professionals have expressed concerns that the increasing emphasis on formalized instruction for young children that is being pulled down from the upper grades is creating undue stress for young children and undermining opportunities for them to reach their full potential. This theme has been echoed by many in the field who argue that academic skill-based instruction is out of step with the developmental needs of young children (e.g., Charlesworth, 1985, 1989; Elkind, 1986; Hirsh-Pasek & Cone, 1989; Piccigallo, 1988; Schweinhart & Weikart, 1988). For instance, David Elkind (1986) has warned that increased stress levels followed by negative motivational, intellectual, and social

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consequences may likely ensue as a result of developmentally inappropriate classroom practices. In light of these concerns and theory promoting the view that children construct knowledge in an active rather than a passive manner in the context of interactions with materials, peers, and adults (e.g., Piaget, 1952; Erikson, 1963; Vygotsky, 1978), guidelines for matching curriculum with how it is believed young children think and learn have been formalized (see Bredekamp & Rosegrant, 1992; Hyson, in press; Krogh, this volume, for theoretical review).

In contrast with developmentally inappropriate practices (DIP), the child-centered perspective offered by developmentally appropriate practices (DAP) stresses that the child needs to be the primary source of the curriculum. As Williams (1994) states: "It is through observation of emerging physical, social, emotional, and cognitive capabilities in children's natural activity that teachers can discover the content and form of activities to foster children's growth across developmental domains" (p. 157). This, coupled with knowledge of cultural nuances and normative child development, should go far in constructing a tailored curriculum that meets the needs of all children, regardless of age, gender, disabilities, socioeconomic status, or race (e.g., Bredekamp & Rosegrant, 1992; Escobedo, 1993; Hale, 1992; Stremmel, chapter 14, this volume; Dugger-Wadsworth, chapter 13, this volume). DAP teachers provide options for children rather than expecting all children to always be doing the same thing at the same time. By facilitating child learning experiences with nondirective, mediating, and directive teaching approaches that are based on cues from the child, the likelihood of adjusting for individual differences is increased (Bredekamp & Rosegrant, 1992).

Our interpretation of the NAEYC guidelines for developmentally appropriate practice as set forth by Bredekamp (1987) is that the extremes of DIP and DAP are defined and that there is a continuum from one extreme to the other (cf. Marcon, 1994). Recent research by Stipek, Daniels, Galluzzo, and Milburn (1992) and Charlesworth, Hart, Burts, Mosley, and Fleege (1993b) lends credence to this perspective. On one extreme, DIP attempts to pour in knowledge through lecture and other whole-group activities. Rather than being in a facilitator role, the teacher disseminates knowledge through more formal, direct-instructional means. Thus, "learning" occurs through workbook/worksheets, seatwork, and rote drill/practice activities that

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focus on discrete skills which must be completed by all children at once within an inflexible time frame.

Developmentally inappropriate classrooms are characterized by varying degrees of the following practices. The curriculum is compartmentalized into the traditional content areas (math, science, social studies, etc.), with no attempts to integrate across these domains through relevant and meaningful child hands-on activities. Moreover, little opportunity is allowed for children to move around the room, make choices, and actively explore a carefully crafted learning environment full of concrete experiences. The curriculum is also typified by an overreliance on punishment and extrinsic reward systems and the use of standardized assessment tests. Little attention is given to individual differences among children.

In contrast, developmentally appropriate practice as defined in the guidelines emphasizes the whole child (physical, social, emotional, and cognitive) while taking into account gender, culture, disabilities, and other factors that require varied applications of curriculum to meet both group and individual child needs and learning styles. For example, Charlesworth et al. (1993b) noted in a recent study measuring the developmental appropriateness of kindergarten teachers that DAP classrooms were all different and varied in the methods used to implement DAP. Moreover, activities were conducted in such a way in DAP classrooms that both African American and European American children were drawn into them. However, how children participated in these activities varied. Children were allowed to participate in ways that met their individual needs and learning styles. Teachers were flexible in modifying the course of activities while taking individual child differences into account. Interestingly, less stress-related behavior was observed during many of the activities administered in DAP classrooms when compared with similar but differently administered using "one-fits-all" approaches to activities occurring in DIP classrooms (Abshire, 1990; Burts et al., 1992; Charlesworth et al., 1993b).

The DAP curriculum is also designed as an interactive process utilizing activities that are relevant and meaningful for young children (e.g., Knapp, Shields, & Turnball, 1995). Rather than being taught in isolation, curriculum areas (e.g., science, math literacy, social studies) are integrated in the context of these activities (Jones & Nimmo, 1994; Krogh, 1995). The environment provides opportunities for

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active exploration and concrete, hands-on experiences. Positive guidance techniques are used, and children have opportunities to make choices. Learning through dramatic and other forms of play is also valued and facilitated by teachers in both indoor and outdoor settings (cf. Hart, 1993).

Motivation for learning in a DAP classroom is derived from children's natural curiosity and desire to make sense of their world. The curriculum is not an inflexible, prescriptive method; rather it is intended to be a framework that is adaptable to each individual group of children (Taylor, 1995). It is flexible and provides for a variety of different structures that meets both age group and individual, child-specific needs. Once the environment is set up, developmentally appropriate teachers actively facilitate interactive child-centered learning, using direct and indirect instruction as appropriate (e.g., Bredekamp & Rosegrant, 1992; Kostelnik, 1992; Stipek, 1994). How this all works is illustrated in the chapters that follow. It should be noted at the outset that such a curriculum is best facilitated by having at least two teachers in the classroom (e.g., a teacher and an aide). However, developmentally appropriate practices were implemented in classrooms with only one teacher that were part of the LSU studies described by Charlesworth et al. (1993a).

Developmentally Appropriate Practices Debate

Although few child developmentalists, reconceptualists, and early childhood professionals would argue that an overemphasis on academic skill-based instruction is in the best interest of young children, a growing number of scholars express concern that the framework of developmentally appropriate practice as currently conceptualized is too limited. It has been argued that the NAEYC guidelines set forth in the Bredekamp (1987) document promoting DAP based on child development research and theory is problematic in many ways. Many of the controversial points are thoughtfully explored in two recent edited volumes (Kessler & Swadener, 1992; Mallory & New, 1994). Presenting our view of all the criticisms regarding the construct of DAP is beyond the scope of this chapter. Many of them have already been discussed at length elsewhere (see Charlesworth et al., 1993a). In short, although we are not in agreement with many of the

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concerns, it is our view that questioning the construct of DAP has fostered valuable and constructive debate over what should best constitute theoretical and philosophical underpinnings for developmentally appropriate practice. This will ultimately lead to the strengthening of the construct in areas where it might be lacking.

Specifically, it has been argued that DAP does not meet the needs of culturally and otherwise diverse populations, thus perpetuating social inequity to the advantage of the dominant classes (Lubeck, 1994). It is stated (1) that DAP does not include considerations of family and social contexts (Kessler, 1991a; Ludlow & Berkeley, 1994); (2) that the ideology "is too narrowly conceived to address the range of problems faced by ethnic, racial, and linguistic minority children and families" (Lubeck, 1994, p. 30); (3) that DAP is heavily biased toward European American middle-class values (Jipson, 1991; O'Loughlin, 1992); and (4) that DAP relies too heavily on the contributions of child development theory and research to the exclusion of the important influences of gender, politics, culture, and history (e.g., Bloch, 1991, 1992; Graue, 1992; Kessler & Swadener, 1992; Lubeck, 1996; Stott & Bowman, 1996).

In response to these types of criticisms, Bredekamp (1991) has reminded us that normative data and theory on child development are not the sole basis for NAEYC's definition of appropriateness. Thus, child development should not be the only consideration in programming for young children. Moreover, some of the basic foundations for criticisms against using child development theory as a basis for DAP are currently in question (e.g., Lourenco & Machado, 1996). Another dimension of appropriate practice is that of "individual appropriateness" (p. 202). This requires attention to individual and cultural differences. Knowledge of the culture and values of individual children as well as those of the family and community are also important sources for curriculum development (Bredekamp & Rosegrant, 1992). It has been further argued, however, that the way culture is considered in determining individual appropriateness "misses the essential point" (Lubeck, 1994, p. 34) and that the current construct of DAP maintains social inequity, giving the dominant classes an advantage. In our view, empirical data at hand are not supportive of this latter perspective. We now turn to the research literature that we believe supports our view.

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Research Support for Developmentally Appropriate Practice

Before directly addressing the equity issue, it would be important to review the research on DAP in general. Although findings are not entirely supportive of DAP, the weight of evidence appears to favor the approach (cf. Bredekamp & Copple, 1997; Frede, 1995). Research involving several different samples suggests that both preschool and kindergarten-age children who attend less developmentally appropriate classrooms exhibit about twice the levels of stress-related behaviors when compared with those in more developmentally appropriate programs (Burts et al., 1990; Burts et al., 1992; Hart et al., in press; Love, Ryer, & Faddis, 1992).

Attendance in academically focused preschool and kindergarten classrooms that have been identified as low-quality and/or more developmentally inappropriate has yielded a further pattern of consistent findings. Children enrolled in such classrooms have been found to display more negative academic achievement (Bryant et al., 1994; Frede & Barnett, 1992; Mantzicopoulos & Neuharth-Pritchett, 1995; Marcon, 1993), behavioral (Mantzicopoulos & Neuharth-Pritchett, 1995; Marcon, 1994), and motivational outcomes (Hirsh-Pasek, 1991; Stipek et al., 1995) when compared with children attending more child-initiated/DAP programs. Moreover, the general thrust of findings from these studies suggests that it is children who attend more child-centered/DAP programs who perform better in all of these domains. Achievement findings favor DAP curriculum approaches, even when compared with programs that enact mixed curriculum models (Marcon, 1992, 1994).

Postkindergarten follow-up studies into the early and middle elementary school years are also telling. Findings suggest that less developmentally appropriate preschool and kindergarten classroom experiences are linked to: poorer academic achievement; lower work habit grades; more distractibility; and less prosocial/conforming behavior during the early grade school years. In contrast, attendance in DAP programs appears to be linked with overall positive benefits in terms of later achievement and behavioral outcomes in elementary school for children from varying backgrounds (Burts et al., 1993; Charlesworth et al., 1993a; Hart, Charlesworth, Burts & Dewolf, 1993; Larsen & Robinson, 1989; Marcon, 1994).

Other findings, however, have indicated some positive benefits for children in DIP programs. Stipek and colleagues have found that

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children in programs that emphasized basic skills had higher scores on a letters/reading achievement test (Feiler, 1994; Stipek, 1993; Stipek et al., 1995) and had better classroom work habits (i.e., effort while working on tasks, utilization of classroom resources, asking for help) than children in more child-centered programs (Feiler, 1994). These results, coupled with those mentioned above, have led some to conclude that while there may be some advantages in the use of didactic programs, they may come with costs for children's motivational factors (Stipek et al., 1995).

Equity in Outcome Variables

With regard to the equity issue, findings from our research program, though far from conclusive, suggest that developmentally appropriate curriculum based on child development research and theory promotes equity in developmental outcomes, at least when considering African American and European American male and female children from socioeconomically diverse backgrounds. Our concurrent (Burts et al., 1990, 1992a; Hart et al., in press) and prospective, longitudinal research program has targeted children who attended DAP and DIP preschool and kindergarten classrooms (summarized in Charlesworth et al., 1993a).

Specifically, our findings have indicated that classrooms typified by varied applications of DAP curriculum to meet diverse child needs (as described above) reduce stress to a supportive level. These classrooms also appear to provide strong foundational experiences for males and females from different racial and socioeconomic backgrounds, thus minimizing inequitable outcomes. Regarding the stress studies cited above, children who appeared to be most adversely affected by DIP classrooms were males, low-SES children, and African Americans. In contrast, all children (regardless of SES, racial background, or gender) in DAP classrooms exhibited less stress-related behavior as a function of this curriculum type (Burts et al., 1992; Hart et al., in press).

With regard to academic achievement findings, no differences in California Achievement Test scores have been found between higher- and lower-SES children from DAP kindergarten classrooms. Moreover, children in DAP kindergarten classrooms scored no differently on this test than children in DIP kindergarten classrooms (Burts, Charlesworth,

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& Fleege, 1991). These results also suggested that children from DAP classrooms were performing on par one with another, notwithstanding standardized assessments are not deemed developmentally appropriate and have been found to induce high levels of stress-related behavior in kindergarten-age children (Fleege et al., 1992). In contrast, higher-SES children in DIP classrooms were found to score better than lower-SES children in DIP classrooms (see Charlesworth et al., 1993a). This follows past research indicating standardized test scores favor high-SES children (cf. Alexander & Entwisle, 1988; Patterson, Kupersmidt, & Vaden, 1990; Shakiba-Nejad & Yellin, 1981), but suggests that this may be the case only in DIP classrooms during the early childhood years.

Additional findings suggest DAP classroom settings may be beneficial for low-income African American children. Marcon (1992, 1994) found both short- and long-term gains (through grade 4) for disadvantaged children who attended child-initiated (DAP) preschool and kindergarten classrooms. These children outperformed those from similar backgrounds in both academically directed programs (DIP) and mixed programs (DAP and DIP) in academic, social, and physical skill domains. Using measures of achievement and preacademic skills, Bryant et al. (1994) recently obtained similar short-term results for Head Start African American children, favoring DAP over DIP classrooms, even after controlling for the quality of home environment. Other studies also lend support to such findings (cf. Hirsh-Pasek, Hyson, & Rescorla, 1990; Mantzicopoulos, Neuharth-Pritchett, & Morelock, 1994).

Along similar lines, research by Weikart and Schweinhart (1986, 1991) showed positive long-term sociobehavioral gains for disadvantaged children at age 15 who were randomly assigned to a child-initiated (DAP) versus a teacher-controlled, direct instruction-oriented preschool program (DIP). Moreover, children from the more child-centered program showed additional lasting gains through age 27 (Schweinhart, Barnes, & Weikart, 1993). In contrast, recent evidence indicates that children who attended the direct instruction program (as compared with those who participated in the child-centered program) were more likely to have had more work and criminal related problems in adulthood (Schweinhart & Weikart, in press).

In our own longitudinal research program targeting children who attended DAP and DIP kindergarten classrooms, we have noted gains

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for all children, regardless of SES and racial background, who attended DAP as opposed to DIP classrooms (see Charlesworth et al., 1993a). Specifically, whereas higher-SES and European American children appear to do equally well in achievement and behavior whether they attended DIP or DAP kindergartens, lower-SES and lower-SES African American children appear to gain an equal advantage with regard to better academic achievement if they had a DAP kindergarten experience (Charlesworth et al., 1993a). Lower-SES students from DAP kindergartens have continued to hold this gain into the early primary grades when compared with those from DIP classrooms (Burts et al., 1993; Charlesworth et al., 1993a).

Additional findings (as referred to earlier) by Stipek et al. (1995) have indicated that enrollment of economically disadvantaged and middle-class preschoolers and kindergartners in DAP classrooms was associated with positive outcomes on measures of motivation. Specifically, when compared to children in DIP programs, children in DAP programs rated their abilities significantly higher, had higher expectations for success on academic tasks, evidenced more pride in their accomplishments, showed less dependency on adults for permission and approval, and claimed to worry less about school. Program effects appeared to be the same for both preschool and kindergarten children whether they were from economically disadvantaged or middle-class backgrounds.

Equity in Activity Type Participation

There are also data that suggest that children from diverse backgrounds may all similarly benefit not only from DAP but have more opportunities for equal access to developmentally appropriate activities in DAP classrooms (although DAP curriculum administration is varied somewhat across DAP classrooms to meet individual child needs). As will be seen, a cautious interpretation of the extant data indicates that foundational experiences necessary for building skills through appropriate experiences appear less available to low-SES and African American children in DIP classrooms. Such does not appear to be the case in DAP classrooms.

It has been suggested that minority children (relative to the predominant European American middle class) may be directed by some teachers into more conformance-oriented activities in teacher-directed

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group settings. This is because many teachers and parents believe that is what these children need to be successful in the predominant culture (e.g., Delpit, 1988, 1995; Goldenberg, 1994; Knapp & Shields, 1990; Lubeck, 1994; Pine & Hilliard, 1990; Powell, 1994; Stipek, 1993; Stipek & Byler, in press). Recent research further indicates that parents with low incomes and relatively poor education are more likely to endorse structured, basic skills-oriented programs for young children (Rescorla et al., 1990; Stipek et al., 1992). This literature also suggests that teachers may select, prioritize, and expose children to instructional strategies based on what teachers perceive as the children's capacity and need to profit from these strategies. Capacity and need are based on the teachers perceptions of culture, SES factors, and parental expectations. For example, factors such as home background and parental pressure have been found to be weighted into teacher decisions regarding the type of reading curriculum exposure for older children (Haller & Waterman, 1985; Reutzel & Cooter, 1996) and the structural degree of skills-based programs for younger children (Stipek & Byler, in press).

Greater exposure to conformance-based activities may be particularly difficult for African American children, even though such approaches may be viewed by minority cultures as a means for helping their children succeed in the mainstream culture (Delpit, 1988). Compared with their European American counterparts, past research indicates that African American children tend to thrive more on people-oriented activities where freedom, variation, and novelty abound (Charlesworth, 1996). Because of this, Hale (1981, 1992) stresses that for successful learning to occur, African American children need a more physically active, socially oriented environment to support their high energy level.

Tentative results of our studies including African American children indicate that this more active, socially oriented environment was not occurring in DIP kindergarten classrooms. In contrast, DAP teachers appeared to strike a balance between these culture-specific needs and group practices in ways that maximized opportunities for all children, regardless of racial background. For example, our data show that African American children in DIP kindergarten classrooms were observed less frequently participating in group story and music activities and more frequently in whole-group, waiting, and teacher-directed transitions when compared with their European American counterparts in the same classes (Burts et al., 1992).

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Of particular concern was accompanying qualitative data indicating that these African American children appeared to be funneled (Abshire, 1990) more into whole-group, waiting, and group-managed transitional activities where there was greater teacher control over their high activity level. Not surprisingly, quantitatively higher levels of stress-related behavior were observed for these African American children in DIP classrooms during whole-group, waiting, and group-managed transitional activities (Burts et al., 1992). No such activity type differences or stress manifestation differences within activity type were found between African American and European American children in DAP classrooms.

In short, the developmentally inappropriate curriculum appeared to foster racial inequity by not providing more experiences that were adaptable to the interaction and learning styles of African American children and that were balanced in ways that would meet needs of the whole group regardless of racial background (cf. Delpit, 1988; Kessler, 1992). Such did not appear to be the case in DAP classrooms.

Similar findings have been obtained regarding SES. In the Burts et al. (1992) sample, lower-SES children had tendencies to be less involved in developmentally appropriate activities than higher-SES children. These findings were extended in a separate sample of preschool-age children (Hart et al., in press). Lower-SES children were found to participate in more conformance-oriented waiting and academically oriented workbook/worksheet activities in teacher-directed small-group settings. This, coupled with their lesser involvement in other classroom activities involving group story, music, and center activities (when offered in DIP classrooms), suggests that these children did not have as much access to developmentally appropriate classroom activities when they were available. In contrast, no significant activity type participation differences were found in this sample between higher- and lower-SES children in DAP classrooms.

Research Summary

Taken together, these child outcome and activity participation findings indicate that an integrated curriculum that is part of a DAP classroom experience may indeed meet the needs of a diverse population and promote equality rather than inequity. By taking into account cultural, SES,

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and gender differences, the studies reviewed above indicate that all children benefit from similar types of developmental experiences that vary according to the "age" and "individuality" of the children (Bredekamp, 1987). Based on the evidence at hand, it appears that the universal child development-based guidelines as currently portrayed by DAP coupled with culture-specific understandings have substantial positive merit in the early education of young children (Bredekamp & Copple, 1997). This is not to imply that reconceptualists have ever suggested that inequities may or may not occur in DIP classrooms. The data simply illustrate that, contrary to what would be expected from arguments about inequity promoted by DAP, no significant racial/SES activity participation or concurrent/ longitudinal child outcome differences as a function of SES or race have been found for children with DAP experiences. In contrast, data appear to suggest that such inequity is promoted by DIP classroom experiences.

Notwithstanding, these conclusions based on the extant data that have been deemed supportive of our view should be treated with caution for several reasons. First, none of the studies reviewed above were designed specifically to assess the equity issue. Thus, causal relationships between curriculum and equity cannot be certain. Second, outcome variables addressed in these studies could have different meanings depending on their sociocultural context. Third, although findings have been remarkably similar across different samples, most of these studies do not take into account possible confounding family background characteristics of the child (e.g., parenting styles, patterns of family functioning, etc.). Fourth, only European American and African American children of varying socioeconomic backgrounds have been studied in this regard. There is no guarantee that these findings will translate to other groups. Fifth, the mechanisms by which all of this may be happening are not clearly understood. No simultaneous beliefs data from DAP and DIP teachers about what type of curriculum activities they perceive children from different backgrounds might need were collected in our studies mentioned above.

Outline of the Volume

With this research background in mind and our biases clearly stated, we now turn to an overview of what is ahead. In this volume we have attempted to bring together a group of scholars and practitioners who

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not only understand and can implement developmentally appropriate practices, but who can take their own content area specialty and integrate it with others.

In order to maintain a degree of uniformity across the volume a format was suggested for structuring the chapters (occasionally, content areas necessitated variation from the prescribed format). First, each chapter is grounded in the framework for integrated developmentally appropriate curriculum outlined by Krogh (chapter 2, this volume). Second, research-based developmental trends for each curriculum content area (e.g., math, science, social studies) are covered from infancy/toddlerhood through grade 3. Third, tables and figures are included in most chapters for quick and easy reference to important points each author makes. Fourth, explicit examples of integrated curriculum activities involving each content area for infants/toddlers, ages 3–5, and ages 6–8 are included. These examples demonstrate how each curriculum area is connected to others (e.g., math, science, art, music, social studies, literacy, social development, etc.) Fifth, sample webs are included in each curriculum content area chapter that illustrate how curriculum can be integrated across content domains. Some chapters are longer and more in-depth than others, reflecting varied degrees of diversity and/or bulk of research and content that are available within each of the designated areas that are directly related to young children. Finally, each content area's national standards are related to DAP. These sections complement the more in-depth content standards/DAP discussions in the second volume of *Potentials* (Bredekamp & Rosegrant, 1995).

This volume is organized into two major parts. Part 1 deals with specific curriculum areas (i.e., mathematics, science, art, music, social studies, language arts, physical activities) and how they can be integrated across these areas in developmentally appropriate classrooms. Part 2 addresses selected topics and special issues that are integral to developmentally appropriate practice and an integrated curriculum.

Chapter 2, "How Children Develop and Why It Matters: The Foundation for the Developmentally Appropriate Integrated Early Childhood Curriculum," by Suzanne Krogh lays the foundation for the volume. Krogh provides a definition of developmentally appropriate practice as established by the National Association for the Education of Young Children (NAEYC). She then presents an overview of some of the predominant theoretical perspectives on child

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development that are influencing the field of early childhood education. She describes how these perspectives relate to curriculum creation and integration. Suggestions of ways the curriculum can be integrated through the use of thematic studies and webbing are presented. Krogh concludes with four questions critical to the design and implementation of an integrated curriculum in developmentally appropriate classrooms.

In her chapter, "Mathematics in the Developmentally Appropriate Integrated Curriculum" (chapter 3), Rosalind Charlesworth begins with the current view of mathematics instruction based on theoretical and research foundations and direction from professional societies. She suggests ways that the immersed model and webbed model presented in chapter 2 can be used to meet mathematics standards through developmentally appropriate instruction. Resources and materials that can be used to assist the early childhood professional in instituting a developmentally appropriate integrated mathematics program are included. A brief description of appropriate assessment that evolves from instruction is also provided.

In chapter 4, Karen Lind focuses on science in the integrated curriculum. She describes how the early childhood curriculum can be built on constructivism and developmental foundations. Lind highlights the importance of development and warns that if the science content is not appropriate for the cognitive capactiy of the children at different stages of their development, scientific misconceptions, including alternative or naive understandings, will occur. Inquiry-oriented instruction is discussed, and strategies and processes that encourage children to think using inquiry are presented.

In her chapter on "Music in the Developmentally Appropriate Integrated Curriculum" (chapter 5), Susan Kenney explores some common misconceptions about music knowledge using examples of music development in other cultures. She states that "music may be the most used and the least understood of all subjects in early childhood curriculum." In her discussion of the theoretical foundations of developmental music instruction, she focuses on the works of Jean Piaget and Howard Gardner. With the idea that music is a basic intelligence available to all human beings, Kenney presents typical music behaviors for various ages and suggests teaching strategies appropriate for each developmental level. She describes how music can be integrated with other subjects in the curriculum while at the same time helping children develop musical behaviors and musical knowledge.

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Chapter 6 deals with integrating physical activities with the other curriculum areas. V. Gregory Payne and Judith Rink begin by defining a physically educated person, highlighting five major focus areas. They proceed by clarifying what is meant by a developmental perspective in physical education. Motor development from birth to 8 years is presented with emphasis on infant reflexes, voluntary movements, and fundamental movement. Payne and Rink note that motor development of most prekindergarten children has received little attention, and most early childhood programs do little more than provide for naturalistic experiences. Appropriate content and structure for developmentally appropriate integrated early childhood programs are addressed.

In chapter 7, "Social Studies in the Integrated Curriculum," Carol Seefeldt begins with an example that illustrates how *not* to create a meaningful, integrated curriculum. While the "very definition of social studies conveys the integrative nature of the field," the all-encompassing nature of the social studies also brings disorder. Seefeldt describes how learned societies have provided frameworks that serve to bring order to the field. She focuses on three of the social studies—history, geography, and economics. She then presents key concepts in these areas and examples of how they can be interwoven to present an integrated curriculum that serves to enhance the total development of the young child.

Cynthia Colbert begins chapter 8 on the visual arts by discussing two philosophical positions held by many adults concerning art instruction with young children. The noninterventionist view holds that children should have little interference from adults. Those who take the opposing view believe that children need instruction in creating work or discussing the work they have created. Colbert continues with an overview of how children's artistic abilities develop. In discussing the issue of integration with other curriculum areas, Colbert emphasizes that while the visual arts are an excellent vehicle for integrating the curriculum, the integrity of the discipline (i.e., visual arts) must be maintained. She provides examples of how to take trivial activities that are sometimes labeled as "art" and modify them so they become meaningful art experiences.

The final chapter in part 1 (chapter 9), "Integrating Literacy Learning for Young Children: A Balanced Literacy Perspective," was written by D. Ray Reutzel. Reutzel describes the stages of reading and writing development and then makes a comparison between the two. Later in

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the chapter, he describes a model he developed for balanced literacy classrooms based on recent literacy environmental research. In the final portion of his chapter, he describes elements of a balanced literacy program and presents examples of developmentally appropriate instructional practices focusing on reading and writing to, with, and by children.

The remainder of this volume focuses on other topics and issues integral to the integrated developmentally appropriate curriculum. Topics in part 2 include social development, guidance, assessment practices, students with disabilities, diversity and the multicultural perspective, informal learning in the home, and parents and administrators.

In chapter 10, "Social Development and Behavior in the Integrated Curriculum," Michele DeWolf and Joan Benedict state that "socialization is the common thread that ties the entire curriculum together." They present an eclectic approach to viewing children's social development based on the models/theories of Bandura, Piaget, Dodge, Rubin, and Erikson. DeWolf and Benedict highlight children's social skill development from infancy to age 8 and present activities adults can do to encourage social development during these years. Later in the chapter they explore the family and school as contexts for supporting social development. The indirect and direct ways families influence peer relations and the ways schools impact children's social (and academic) competence through enhancement of play, peer relationships, classroom organization, and teacher–child relationships are discussed.

The adoption of a developmentally appropriate, integrated curriculum has implications not only for classroom activities but also for the way practitioners guide, direct, manage, control, and influence children's behaviors. Marion Hyson and Shawn Christiansen address the issue of "Developmentally Appropriate Guidance and the Integrated Curriculum" in chapter 11. They present a historical perspective on the guidance of young children, noting that consensus has not been reached concerning the goals of guidance nor about the best ways to implement those goals. Hyson and Christiansen discuss three areas of theory and research—early emotional development, motivation, and sociomoral understanding and prosocial behavior—which have implications for establishing guidance strategies consistent with a developmentally appropriate, integrated curriculum. They highlight some of the unique guidance challenges that face practitioners using the integrated approach and present ways these challenges can be dealt with.

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Another issue related to the integrated curriculum in developmentally appropriate classrooms is that of assessment. Alternative forms of assessment have become more popular partly as a means of implementing developmentally appropriate practices in classrooms and as an avenue for integrating assessment with curriculum. In chapter 12, Pamela Fleege provides an overview of assessment as defined by NAEYC using assessment snapshots to help the reader better visualize the integration of instruction and assessment. Fleege describes various methods of assessment and how assessment can be accomplished with different age children. Suggestions for teachers and/or schools developing an assessment plan are included, along with resources available to those beginning an assessment project.

One of the most timely topics related to developmentally appropriate practice and the integrated curriculum is that of working with children with disabilities. In chapter 13, Donna Dugger-Wadsworth presents some of the similarities and differences between early childhood education (ECE) and early childhood special education (ECSE). She explores the controversy between ECE and ECSE focusing on four primary issues. Dugger-Wadsworth explains how developmentally appropriate practice can be incorporated into an early childhood special education curriculum. Throughout the chapter she points out the importance of resolving issues related to working with families and with personnel from other disciplines who may have different knowledge and theoretical perspectives.

Andrew Stremmel addresses the highly complex and political issue of multicultural education in chapter 14, "Diversity and the Multicultural Perspective." As a basis for his arguments, Stremmel draws on the constructivist perspectives of Piaget and Vygotsky and on feminist epistemology to form his sociocultural framework. He begins with an examination of children's awareness of diversity and moves to a discussion of perspectives about multicultural education. He then addresses how to provide developmentally appropriate and culturally sensitive curriculum and how to prepare teachers to be caring and responsive to the needs of diverse children.

Parents play a major role in children's development and cannot be overlooked in the developmentally appropriate integrated early childhood curriculum. Chapter 15, "Integrating Home and School: Building a Partnership," presents two avenues for integrating home and school in ways that can facilitate optimal child development. In this chapter,

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Jean Larsen and Julie Haupt remind us that early childhood educators have a responsibility to assist parents in fulfilling their role as the child's first and most important teacher in the home through parent education and training efforts. Parents also need to be involved in the child's school. Research literature illustrating what works and practical ways to facilitate parents as partners in the education process are reviewed and expanded upon.

The full benefits of developmentally appropriate practice will not be realized without the support of teachers, administrators, and parents. Making the change from a less developmentally appropriate approach to more developmentally appropriate classroom practices is an involved process. Julia Haupt and Margaret Ostlund address this process in the final chapter of this volume (chapter 16), "Educating Parents, Administrators, and Teachers about Developmentally Appropriate Practices." They assert that teachers are in a unique position to influence the parents they serve and the other teachers and administrators they work with. Haupt and Ostlund provide specific strategies for nurturing the change process for each of these groups.

In sum, this volume describes many ways to implement an integrated developmentally appropriate curriculum by touching on all areas of a child's development. Advances in our understanding of how children's growth and development are enhanced by developmentally appropriate practices is just beginning. It is hoped that this volume will provide a springboard for future research on and applications for the integrated curriculum approach to facilitating optimal child development during the early childhood years.

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