Background information

The National Association for the Education of Young Children (NAEYC) and the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE) jointly developed these guidelines to inform decisions about curriculum content and assessment in programs serving children 3 through 8 years of age. The purpose of this document is to guide teachers and supervisors to: (1) make informed decisions about appropriate curriculum content and assessment, (2) evaluate existing curriculum and assessment practices, and (3) advocate for more appropriate approaches. This document is designed to assist teachers and administrators with only one part of their complex jobs—their important roles as curriculum decision makers and evaluators.

Curriculum decisions not only involve questions about how children learn, but also what learning is appropriate and when it is best learned (Katz, 1989). In addition, the way learning is assessed directly influences what is taught and when it is expected to be learned. Therefore, these guidelines address both curriculum and assessment. The early childhood profession believes that curriculum and assessment should be planned based on the best knowledge of theory and research about how children develop and learn, with attention given to individual children's needs and interests in relation to program goals.

Curriculum is an organized framework that delineates the content children are to learn, the processes through which children achieve the identified curricular goals, what teachers do to help children achieve these goals, and the context in which teaching and learning occur. The early childhood profession defines curriculum in its broadest sense, encompassing prevailing theories, approaches, and models. Assessment is the process of observing, recording and otherwise documenting the work children do and how they do it, as a basis for a variety of educational decisions that affect the child, including planning for groups and individual children and communicating with parents. Assessment encompasses the many forms of evaluation available to educational decision makers. Assessment in the service of curriculum and learning requires teachers to observe and analyze regularly what the children are doing in light of the content goals and the learning processes.

The need for guidelines

The decade of the 1980s saw numerous calls for widespread school reform, with changes recommended in teacher education, graduation requirements, school structure, and accountability measures. With the advent of the 1990s, school reform finally took on the essential question: what to teach (Rothman, 1989). Critiques of prevailing curriculum content and methods and calls for sweeping change were issued by national organizations representing the subject-matter disciplines and administrators, including the National Council of Teachers of Mathematics (1989), the American Association for the Advancement of Science (1989), the International Reading Association (1989), the National Council of Teachers of English (Lloyd-Jones & Lunsford, 1989), the National Commission for the Social Studies (1989), the National Association of Elementary School Teachers (1989), and the National Association for the Education of Young Children (NAEYC).
Principals (1990), the National Association of State Boards of Education (1988), and the Association for Supervision and Curriculum Development (1989), among others. The early childhood profession, represented by the National Association for the Education of Young Children (NAEYC), entered the educational reform debate by issuing influential position statements defining developmentally appropriate practices for young children (Bredekamp, 1987).

These reports reflect a growing consensus that the traditional scope and sequence approach to curriculum, with its emphasis on drill and practice of isolated, academic skills, does not reflect current knowledge of human learning and fails to produce students who possess the kind of higher-order thinking and problem-solving abilities that will be needed in the 21st century. Past success in improving basic skills in the 3 Rs has not been matched by success in improving reading comprehension, writing fluency, or math problem-solving ability. In addition, it is evident that our schools are failing to produce future generations with even a working knowledge of the natural, physical, and social sciences, much less the kinds of minds that will create new knowledge in these areas. Specifically, these national organizations call for schooling to place greater emphasis on active, hands-on learning; conceptual learning that leads to understanding along with acquisition of basic skills; meaningful, relevant learning experiences; interactive teaching and cooperative learning; and a broad range of relevant content, integrated across traditional subject matter divisions. At the same time, these organizations unanimously criticize rote memorization, drill and practice on isolated academic skills, teacher lecture, and repetitive seatwork.

Along with calling for change in curriculum, major national organizations have raised concerns about the negative effects of traditional methods of evaluation, particularly standardized paper-and-pencil, multiple-choice achievement tests. There is increasing recognition that curriculum reform must be accompanied by testing reform. National organizations are now calling for more performance-based assessments that align with current views of curriculum and more accurately reflect children’s learning (FairTest, 1990; Kamii, 1990; NCTM, 1989; NAEYC, 1988; NAECS/SDE, 1987; National Commission on Testing and Public Policy, 1990).

The emerging consensus about needed curriculum and assessment reform is very encouraging but has been slow to result in real change in curriculum and assessment practices in the early grades. The basic problem is that in some ways current curriculum does not demand enough of children, and in other ways it demands too much of the wrong thing. On one hand, the accountability movement, with its emphasis on standardized test scores, has narrowed the curriculum to those basic skills that can be easily measured on multiple choice tests, thus diminishing the intellectual challenge for many children. This narrow focus also leads to children’s being drilled on content that is devoid of meaning for many children. On the other hand, current curriculum expectations in the early years of schooling often are not appropriate for the age groups served. Overemphasis on standardized test scores has contributed to a curriculum in which next grade expectations of mastery of basic skills are routinely pushed down to the previous grade (Shepard & Smith, 1988). As a result, what used to be taught in first grade is now routinely taught in kindergarten, and what used to be taught in kindergarten appears on the entrance test for admittance to school. The trend toward drill and practice on isolated academic skills in kindergarten and first grade has trickled down further to programs for 3- and 4-year-olds. As a result, the early school experiences of many children are marred by unnecessary struggle and failure.

The most common solutions to the problem of early school failure—testing children for kindergarten entry and placement; raising the entrance age to kindergarten; adding an extra, “transitional” year between kindergarten and first grade; or retaining children in preschool, kindergarten, or first grade (as many as 20 to 30% in some districts)—are all veiled attempts to obtain an older, more capable cohort of children at each grade level. These strategies reveal the fact that current curriculum expectations do not match the developmental level of the children for whom the grade is intended. In effect, these strategies blame the victims, the children, rather than confronting the real problem—an inappropriate curriculum.

Since major national organizations have issued position statements on curriculum and evaluation that are congruent with the early childhood profession’s positions, what is the rationale for developing this set of guidelines for early childhood curriculum and assessment? NAEYC’s previously published positions (Bredekamp, 1987) provide clear guidance about how to teach young children but are less specific about content, what to teach. In implementing developmentally appropriate practice, teachers and administrators must make decisions about what to teach and when, and how to best assess that learning has taken place. This document is designed to help guide those important decisions about curriculum content and assessment.

The development of guidelines for curriculum content and assessment is a challenging task. As professionals, we place great value on individualization. Justifiably, we refuse to dictate curriculum because good curriculum must be individually appropriate to the needs and interests of the children in
a program. In addition, it must be culturally salient and locally relevant and meaningful in the context of a specific community. Historically, early childhood educators have hesitated to officially address the issue of curriculum because we place great value on emergent curriculum, what successful teachers do in conjunction with and in response to children. However, others have not hesitated to fill the void (Bennett, 1988; Hirsch, 1987). Most often, curriculum decisions are abdicated to commercial textbook publishers, distributors of packaged curricula, and developers of standardized tests. These practices have been disastrous for children and can no longer go unchallenged. When policies and practices are necessary to “protect” children from school and when kindergarten and first grade are routinely described as “aversive environments,” something is seriously wrong with the curriculum.

Curriculum development should take into account the many sources of curriculum: child development knowledge, individual characteristics of children, the knowledge base of various disciplines, the values of our culture, parents’ desires, and the knowledge children need to function competently in our society (Spodek, 1988; 1977; in press). The task of developing curriculum is made more difficult by the fact that these diverse sources of curriculum may be in conflict with one another. For example, the values and priorities of parents and the community are significant factors to be considered in determining what should be learned; however, parents and the community will not necessarily agree on all goals. The expertise of early childhood professionals should also influence decisions about appropriate goals for children (Katz, 1989). To some extent, curriculum decisions represent a negotiation process, with parent and community expectations about what is taught influenced by professional expertise about how to teach and when content is appropriate.

Content versus process: The curriculum debate

In establishing guidelines for curriculum, it is advisable to heed the warnings of Eisner and Vallance (1974) against the three most common fallacies that mark curriculum debate. One fallacy is to emphasize process to the exclusion of content, placing utmost importance on how children learn rather than what they learn. The opposite error is to emphasize content over process, assuming that there is a body of content that all students should master and that emphasizing content is necessary to ensure academic rigor. A logical extension of this argument leads to the third fallacy: that there is a universal curriculum that is “best” for all children.

Early childhood education covers a broad age-span. For example, programs for 3- and 4-year-olds tend to emphasize process rather than content. As a result, in evaluating early childhood programs, it quickly becomes apparent that the “curriculum” may vary from the intellectually important to the trivial. At the other end of the early childhood continuum, many primary grade schools have stressed the acquisition of content, primarily basic academic skills and only recently have some begun to emphasize the development of learning processes such as writing, thinking, and problem solving. Finally, early childhood professional organizations are so opposed to the specter of one best curriculum that in the past we have avoided the task of defining appropriate curriculum.

The fact remains that the question of which is more important, content or process, is really a moot point. In order to write, think, or solve problems, learners must have something to write about, to think about, or some real problem to solve. In short, these important learning processes require content. Similarly, content cannot be learned without learning processes being engaged; the question is more one of the effectiveness or value of the learning processes. The content-versus-process debate should be put to rest because “any form of learning can deal with the intellectually trivial as well as the intellectually significant” (Eisner & Vallance, p. 14) and “no matter how well something is taught, if it is not worth teaching, it is not worth teaching well” (Eisner, 1990, p. 524).

In developing these guidelines, NAEYC and NAECS/SDE acknowledge the importance of rich, meaningful content in a program of developmentally appropriate teaching practices. We draw on prevailing theories of development and learning to guide process, and we look to well-established traditions in curriculum theory to support decisions about appropriate content. We do not advocate any one model curriculum. Instead, we offer guidelines—a framework for decision making—about appropriate curriculum content and assessment.

Curriculum planning: A metaphor

There are many legitimate approaches to curriculum planning, just as there are many ways to plan a menu. For example, in meal planning, one can be guided by knowledge of nutrition derived from theory and research. Meals planned from this perspective will undoubtedly be nourishing. However, without attention given to the interests and preferences of the diner, the nourishing meal may go uneaten. Some menus are based simply on what the eaters like. Again, without attention to nutritional needs, the meal may be consumed but provide less value. Some menus are planned by flipping through the cookbook and picking what
sounds interesting or fun. Again, this random approach may or may not result in healthy outcomes. Lastly, many meals are planned by going to the cupboard and seeing what is there. If the food on hand is fresh and nutritious, the outcome may by chance be positive. However, if only junk food is available, the meal will be composed of empty calories.

As in menu planning, curriculum can be derived from many sources, and the outcomes can vary enormously. Curriculum should be based on our sound theoretical principles of how children develop and learn, but it must also be derived from the needs and interests of individual children if it is to be fully effective. For example, if food is served that is very different from children's experiences at home, they may reject it and fail to obtain its nutritional benefits. The same result may occur when curriculum is not relevant to children's family backgrounds and cultures.

Overemphasis on preferences and interests, however, in the absence of clear goals and objectives, can lead to haphazard curriculum planning that may or may not achieve worthwhile outcomes. Too often, early childhood programs have been criticized as ineffective learning environments because they have emphasized children's play without articulating the goals for children, the value of play for learning, or the essential role of the teacher in planning the environment and facilitating learning through play. A fine balance must be achieved in planning curriculum for young children. On one hand, teachers may err by not doing enough planning to stimulate children's learning (the milking around model), but if their activity is dictated by the plans, teachers may fail to adapt to individual differences and interests (Jones, 1989).

Unfortunately, the cookbook approach is all too common in early childhood programs. In fact, activity books abound that frequently serve as the only curriculum guide. As in menu planning, the individual recipes may be appropriate and valuable, but without a framework and organization, they may fail to provide the opportunity for rich conceptual development that is likely with a more coherent, thoughtful approach. Lastly, “curriculum” may be implemented using the cupboard approach. This approach is totally dependent on the appropriateness of the available materials and activities. If they are basically age-appropriate, then the result is not harmful, but not optimal. If they are inappropriate and even trivial, as is much of available commercial curricula, then they are a waste of children's and teacher's time.

Curriculum should be planned based on the best knowledge of theory, research, and practice about how children develop and learn, with attention given to the individual needs and interests in a group in relation to program goals. A brief discussion of that knowledge base follows.

### Theoretical framework

“What does it mean to approach children developmentally? It means that we recognize the child’s changing capacities, and that we recognize that a child has the capacity for change.” (Garbarino, 1989, p. 30)

Decisions about appropriate curriculum and assessment inevitably derive from a particular perspective or theoretical framework. These guidelines are based on specific assumptions about how children learn and develop and also on relevant theories of curriculum that guide decisions about what is important to learn and when. The purpose of this section is to make explicit the theoretical framework or belief system that underlies the guidelines.

### How children learn: Theoretical perspectives on development and learning

All educators have a belief system, whether explicit or implicit, about how children learn and what they should be learning that guides and influences their practice. Theories are useful because they help teachers understand why they do what they do and explain why something happens. There are many theories of learning and development that explain various phenomena. Many early childhood professionals have found some theories, such as those developed by Piaget (1952), Vygotsky (1978), and Erikson (1963) more comprehensive and explanatory, and therefore more useful, than others. It is these theories that inform this document.

Learning is such a complex human activity that no one theory entirely explains it. To some extent, the complexity of learning results in part from the fact that there are different kinds of knowledge which have been variously described by different theorists. One framework for categorizing knowledge is provided by Piaget (1952). He differentiates physical, logical-mathematical, and social-conventional knowledge as determined by the source of the knowledge. The source of physical knowledge is external, observable reality, such as when a ball rolls down an incline; the source of logical-mathematical knowledge is the relationships mentally constructed inside the individual, as in classifying or sequencing, where the system originates in the classifier's head, not in the objects themselves; finally, the source of social-conventional knowledge is the agreed-upon conventions of society, such as the days of the week, holidays, and names given to numerals and the alphabet. (Kamii, 1990).

Vygotsky (1978) also provides a useful framework for categorizing and, therefore, understanding the nature of knowledge. He distinguishes spontaneous concepts from school-learned concepts. Spontaneous concepts are those
that the child discovers through direct experience, such as adding ice cubes to water makes it colder; these are concepts that the child constructs mentally without need of instruction from adults. On the contrary, school-related or scientific concepts originate in the culture and represent the body of knowledge from past generations; for example, the Fahrenheit scale informs us that ice freezes at 32 degrees, while the Celsius scale names the freezing point at zero. It would be virtually impossible for each generation of learners to construct this type of knowledge from direct, personal experience; instead, its origin is in the social experience that occurs in school (Strauss, 1987).

Vygotsky's school-learned concepts are analogous to Piaget's social-conventional knowledge, just as Vygotsky's notion of spontaneous concepts parallels Piaget's view of construction of knowledge. These frameworks are useful in helping educators conceptualize the nature of learning, but it is important to emphasize that in real life, these types of learning are interconnected. For instance, in becoming literate, children do not construct their own language system; even their most inventive writing reflects principles of the language of their culture. What they personally construct is their understanding of the relationships that constitute the reading or writing process. A major contributor to early school failure is submersion of non-English-speaking children into classrooms where the children's own culture and language background are neither incorporated nor valued.

The theories of Piaget and Vygotsky do not explain everything educators need to know about learning, but they are very useful in helping to overcome the artificial dichotomies that too often arise within the field of early childhood education. The curriculum debate over content versus process, described earlier, is really symptomatic of the fact that early childhood educators tend to emphasize spontaneous, constructed knowledge, while traditional public education tends to consider only school-learned, social-conventional knowledge as legitimate learning. The content emphasis identifies a variety of content and tends to assume the process of teacher-directed instruction; the process emphasis identifies a variety of processes including child-initiated learning and mostly assumes the content. Each of these positions can inform the other so that, ideally, curriculum incorporates both rich, meaningful content and interactive child-centered learning processes.

The nature of learning should inform the practice of teaching. Again, the artificial dichotomy between spontaneous, constructed learning and school-related learning is reflected in arguments over child-initiated versus teacher-directed instruction. The fact is that children construct important learning, particularly physical and logical-mathematical knowledge, through child-initiated, spontaneous activity. But they also learn a great deal from adults. For example, language learning begins in the parent-child relationship; and language is the essential prerequisite for communication (Smith-Burke, 1985). Rather than dichotomizing aspects of learning and/or teaching, the teaching-learning process is better characterized as an interactive process. Following is a summary of the basic assumptions about learning and teaching as an interactive process that inform this document.

- Children learn best when their physical needs are met and they feel psychologically safe and secure.

Appropriate curriculum does not violate, but rather respects, children's biological needs. For example, in appropriate programs children are not required to sit and attend to paperwork or listen to adult lectures for extended periods of time because such activity is at odds with children's biological needs. Likewise, the curriculum provides for active physical play and periods of more restful, quiet activity because this pattern is compatible with children's physical needs.

In addition to meeting children's physical needs, adults ensure an environment in which children feel safe, secure, and accepted. The social and economic conditions in which many American children live today intensify the need for programs to support children's social and emotional development.

Children need to know that school is a safe place, where adults will protect and support them, and where they can be happy, comfortable, and relaxed. If children experience stress-related symptoms such as stomachaches, headaches, or sleeping disruptions, or simply do not want to go to school, then the school may not be meeting their need for psychological safety. Additionally, the degree to which children perceive continuity between their school and home experiences, a connectedness between the culture of the school and the culture of their family, influences the degree to which children feel psychologically safe in out-of-home environments. When parents are meaningfully involved in the program, the program is more likely to provide an effective learning environment for all children.

- Children construct knowledge.

A child's mind is not a miniature model of an adult's, nor is it an empty vessel that gradually fills with information. From infancy, children are mentally and physically active, struggling to make sense of the world. Children are continually acting on and organizing experiences mentally, whether they are social experiences with adults and other children or
physical experiences with objects. In short, children construct their own knowledge through repeated experiences involving interaction with people and materials (Piaget, 1952). Knowledge is constructed as a result of dynamic interactions between the individual and the physical and social environments.

The child's active experimentation is analogous to spontaneous research; in a sense, the child discovers knowledge. Central to experimentation is making “constructive errors” that are necessary to mental development. We know that children construct knowledge because they possess so many ideas that adults do not teach them (DeVries and Kohlberg, 1990). These “errors” or “incorrect” ideas, from the adult's viewpoint, reflect children's developing attempts to understand relationships and form concepts based on their own experiences. When a 3-year-old inquires about a neighbor woman's husband, “What's your daddy's name?,” she demonstrates her construction of knowledge. No one has told her that the man is the woman's father. From her limited experience, she defines men we live with as daddies. For all children ideas, objects, relationships, and experiences become meaningful because of the interpretation the child gives them.

Studies of children's emerging literacy clearly demonstrate that children actively construct their understanding of written language (Ferreiro & Teberosky, 1982; Teale & Sulzby, 1986). When a 4-year-old makes four scribbles on the page and rereads, “This is my house”; when a 5-year-old writes VESA B and reads, “This is a birthday”; or when a 6-year-old puts a dash between each word she writes in her journal, these children display evidence of their internal construction of writing. They are not reproducing writing behaviors they have seen because adults do not write this way; these “errors” reflect their active construction of the writing process.

Children need to form their own hypotheses and keep trying them out through mental actions and physical manipulations—observing what happens, comparing their findings, asking questions, and discovering answers. When objects and events resist the working model that the child has mentally constructed, the child is forced to adjust the model or alter the mental structures to account for the new information. Throughout childhood, these mental structures are continually being reshaped, expanded, and reorganized by new experiences. In the example on the previous page, the 3-year-old girl gradually comes to understand that there are many categories of males in families, including fathers, brothers, husbands, uncles, and grandfathers, as she hears about and experiences different family structures. Similarly, our budding writers will change their writing strategies over time as their literacy learning develops. Children's understanding of concepts is facilitated by providing repeated experiences and real problems to solve so they can see contradictions between their thinking and the reality of the world.

- Children learn through social interaction with adults and other children.

The healthy development of young children begins in a relationship with another human being, the parent-child relationship being the primary example of social interaction through which very young children develop and learn. It is well recognized that disruptions in early attachment relationships often lead to general social and emotional difficulties (Garbarino, 1989). However, the importance of social relationships to cognitive development should not be underestimated. For example, language development is fundamental to learning, and language development requires social interaction.

According to Vygotsky (1981), the development of higher order mental functions such as conceptualization begins in social interaction and then is internalized psychologically. Most adults can think of situations where they did not really understand something until after they had discussed it with several people. At other times, we find that we really do not own a concept until we have articulated it to someone else. This kind of learning through social interaction is important throughout life but essential for children who need to test the mental hypotheses they construct against the thinking of other people.

The vital role of teachers and other adults is to support children's development, both in terms of their actual development and their potential. Vygotsky (1978) uses the term zone of proximal development to describe the level of development where the child can function with the assistance of adults or more capable peers, the level beyond where the child is able to function independently. 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. The support of adults and more competent peers provides the necessary assistance or “scaffold” that enable the child to move to the next level of independent functioning. The teacher's role is one of supporting, guiding, and facilitating development and learning, as opposed to the traditional view of teaching as transmission of knowledge.

Social interaction is necessary for intellectual development, but it is also necessary for children to develop social competence and self-esteem. Social interaction calls for reciprocity, mutual respect, and cooperation; that is, the adjustment of individual differences in beliefs, ideas, perspec-
Children’s learning reflects a recurring cycle that begins in awareness and moves to exploration, to inquiry, and finally, to utilization.

Any new learning by children (or adults) follows a relatively predictable pattern or cycle. To learn anything new, we must first become aware of the phenomenon. Awareness is generated from experience. Children can only become interested in objects, events, or people if they are aware that they exist and have had some experience with them. The next step in the cycle of learning is exploration. If children are really to know about and understand something, they must explore it. Exploration is the process of figuring out the components of what is being learned, by whatever means possible, usually employing the various senses (seeing, hearing, touching, smelling, and tasting). Children must have direct, hands-on experience with the content in order to make it personally meaningful. This meaning will be governed by their own rules and views of the world but is an important step toward true understanding. Awareness and exploration are essential to the learning process, but more is needed for complete understanding. Children’s own rule systems must eventually be adapted to conform to the conventional rule systems of society. Inquiry is the process whereby children analyze and compare their own behavior or concepts to what is observed in society and make closer approximations to the conventional patterns of the culture. The final aspect of the cycle of learning is utilization, where children are able to use what they have learned for multiple purposes and apply their learning to new situations. When children have opportunities to become aware and develop interest, explore and inquire, the learning becomes functional for them. In short, they own it.

The cycle of learning from awareness, to exploration, to inquiry, to utilization is not linear; for example, children may be exploring and inquiring simultaneously. Furthermore, this cycle of learning recurs as children’s (and adults’) learnings become more elaborated and refined. Children learn by doing, by touching, experimenting, choosing, talking, negotiating (Dewey, 1914; Jones, 1989). Active manipulation of the environment is essential for children to construct knowledge. Children’s actions related to objects, events, and people, and their thinking about the consequences of their actions, inevitably change their knowledge, reasoning, and understanding about their experiences. As Elkind (1976) states, “Not only are the child’s thought and action changed by experience, but experience itself is changed as a direct result of the child’s maturing mental operations. In short, there is inevitably an interaction, and what a child learns is always a product of experience that is itself conditioned by his or her level of cognitive development” (p. 112).

Children learn through play.

The various kinds of play by young children are effective vehicles for promoting learning. Children’s spontaneous play provides opportunities for exploration, experimentation, and manipulation that are essential for constructing knowledge. Play contributes to the development of representational thought. A child expresses and represents his or her ideas, thoughts, and feelings when engaged in symbolic play. During play a child learns to deal with feelings, to interact with others, to resolve conflicts, and to gain a sense of competence. Perhaps most important, it is through play that children develop their imaginations and creativity.

Children’s play also provides opportunities for children to practice spontaneously in a variety of situations the newly acquired skill or knowledge. This self-initiated practice is part of the process of inquiry; during play, children examine and refine their learning in light of the feedback they receive from the environment and other people. Children are naturally interested in participating in activities that strengthen their skills and deepen their understanding of concepts.

During the primary grades, children’s play becomes more rule-oriented. As their learning moves toward utilization, they naturally desire that it conform to more conventional rule systems. Playing board and card games and group games with rules promotes the development of autonomy and cooperation which contributes to social, emotional, and intellectual development (DeVries & Kohlberg, 1990; Kamii & DeVries, 1980; Kamii, 1982). Throughout primary grades children need to continue to explore, experiment, imagine, and create, and play naturally promotes these processes.

Children’s interests and “need to know” motivate learning.

Children have an inherent need or “inner push” to exercise their emerging mental abilities and to make sense of their experiences. Teachers need to “identify content that intrigues children and arouses in them a need and desire to figure something out” (DeVries, 1987, p. 25). In short, teachers create awareness and foster interest in children by planning the environment and introducing new and stimulating objects, people, and experiences. Activities that are based on children’s interests provide intrinsic motivation for learning. Children then demonstrate initiative, “the quality of undertaking, planning, and attacking a task” (Erikson, 1963,
p. 255). Curriculum that is based on children’s interests and internal motivation to understand fosters desirable dispositions and feelings, such as initiative, curiosity, attention, self-direction, industry, competence, and love of learning.

- Human development and learning are characterized by individual variation.

Each of the foregoing assumptions about learning begins with the word “children,” as though generalizations about children apply equally to all. No discussion, however brief, of human development and learning is complete without attention to the principle of human variation. The fact is that every generalization about development and learning carries a caveat: A wide range of individual variation is normal and to be expected. Each human being has an individual pattern and timing of growth and development as well as individual styles of learning. Personal family experiences and cultural backgrounds also vary. Recognition that individual variation is not only normal but also valuable requires that decisions about curriculum and assessment be as individualized as possible.

What should children learn: Curriculum theory

Curriculum has many sources in addition to child development knowledge; these include the knowledge base of various disciplines and the values of the culture and community. Just as curriculum decisions draw on these many sources, principles or guidelines about curriculum content must take into consideration these diverse theoretical foundations. Spodek (1988; in press; Spodek & Saracho, 1990) cautions that we cannot justify the content of what we teach solely on how children learn because the “how” is more concerned with method; decisions about what to teach, the content of the curriculum, are heavily influenced by curriculum theory. Curriculum theories address questions about which knowledge is most important or worthy of inclusion.

A complete discussion of conflicting conceptions of curriculum and their historical influence is beyond the scope of this document and has been well articulated elsewhere (Eisner & Valance, 1974; Kleibard, 1986). Eisner and Valance (1974) identify five disparate conceptions of curriculum—the development of cognitive processes, self-actualization, social reconstruction-relevance, academic rationalism, and technology—that have had varying degrees of influence on American schools. The influence of curriculum theorists cannot be understated. Examination of curriculum debates over the last century (Kessler, 1991) reveals that it was the theory of curriculum as technology, most often associated with the “Tyler Rationale,” that limited curriculum goals to observable, measurable behavioral objectives as much, or more than behaviorist learning theory.

The foundation for “developmentally appropriate practice” advocated here and elsewhere relates to at least two of Eisner’s conceptions of curriculum; it promotes the development of cognitive processes and it also emphasizes the role of personal relevance in curriculum decisions. However, the dominant rationale for the kind of child-centered, experiential learning we advocate is its consistency with democratic values. NAEYC clearly acknowledges that the principles of practice it espouses have their roots in John Dewey’s vision of school and society (Bredekamp, 1987, p. 66). Similarly, these guidelines for curriculum and assessment reflect the theoretical perspective that the proper role of the schools is to prepare citizens for democracy and that such a goal dictates that schools emulate democratic communities.

An important American value is personal autonomy, possessing the inner resources to function as a contributing member of a free society. The long-term goal of American education is not only to help children develop personal integrity and fulfillment but also to enable them to think, reason, and make decisions necessary to participate fully as citizens of a democracy (Dewey, 1916). If producing such citizens is the long-term goal of education, then early childhood education programs need to establish goals that are congruent and that contribute to achieving this objective for all children. A sample statement of goals for programs serving children from 3 through 8 years of age is presented on the next page. A program designed to meet these goals would not only be developmentally appropriate for children now but would also develop the kind of citizens that our country will need in the 21st century: individuals who are able to think critically, work cooperatively, and solve problems creatively. (It is derived from many sources, primarily, the Missouri Department of Elementary Education’s Project Construct Curriculum and Assessment Specification (1989), the Connecticut Department of Education’s Guide to Program Development for Kindergarten (1988), and the Report of NAEYC’s Commission on Appropriate Education for 4- and 5-Year-Olds (Spodek, 1985).)

This introduction briefly described the practical and theoretical perspectives about curriculum and learning that inform this document. In short, early childhood educators view learning as a developmental, interactive process; learning occurs in children’s minds as a result of an interaction—an interaction between thought and experience, an interaction with a physical object, or an interaction between a child and an adult, or between children and their peers. The guidelines that follow were derived from this theoretical
Guidelines for curriculum content and assessment for 3- through 8-year-olds

The National Association for the Education of Young Children (NAEYC) and the National Association of Early Childhood Specialists in State Departments of Education (NAECS/SDE) jointly developed the following guidelines to inform decisions about what constitutes appropriate curriculum content and assessment procedures in programs serving children ages 3 through 8. Decisions about curriculum and assessment are among the most important decisions that educators make. Curriculum and assessment decisions usually reflect a compromise of sorts among the many parties who have an interest in what is taught and learned in schools: parents, community leaders, subject-matter experts, as well as professional educators. NAEYC and NAECS/SDE believe that early childhood educators bear a responsibility to ensure that such decisions are based on current knowledge about child development and learning as well as knowledge of individual children.

The purpose of these guidelines is to ensure that the knowledge base of early childhood education is applied when decisions are made about curriculum and assessment for young children, 3 through 8 years of age. Curriculum and assessment decisions must be based on knowledge of what is age-appropriate as well as what is individually appropriate if we truly want all children to learn and succeed in school and in life. Similarly, curriculum content and assessment procedures in a free society such as ours should reflect the ideals of a participatory democracy, such as personal autonomy, decision making, equality, and social justice. Schools not only must teach about democratic values but should provide opportunities for children “to live democratically in the microcosm of the classroom” (Kessler, 1991).

Curriculum content (what children are to learn), learning processes (how children learn), instructional strategies (how to teach), environment (the learning context), and assessment strategies (how to know that learning has occurred and what curriculum adjustments are needed) are all interrelated and constitute the educational program. A complete discussion of these topics is beyond the scope of this document. For more information on NAEYC’s positions on appropriate instructional strategies and learning processes, see Developmentally Appropriate Practice in Early Childhood Programs Serving Children From Birth Through Age 8 (1987), edited by S. Bredekamp.

Guidelines for curriculum content

The guidelines in this document apply to educational programs for all children ages 3 through 8. Recently, many specialized programs, such as those for children identified as at-risk, gifted, developmentally delayed, learning disabled, or physically or emotionally disabled, have been developed primarily because traditional curriculum and classroom practice have not been responsive to a wide range of individual differences. Developmentally appropriate curriculum and practices, such as those described in this document, are more likely to accommodate a broader range of individual differences. When a child requires specialized services that go beyond what can be provided within regular classroom experiences, then those services should be provided in programs that also meet these guidelines.

Guidelines are standards or principles by which to make a judgment or determine a course of action. The following statements are guidelines to use in making decisions about developing and/or selecting curriculum content for young children (what children are expected to know and be able to do). Guidelines are followed by elaborating paragraphs. To judge curriculum appropriate and acceptable, positive evidence should exist that all guidelines are met.

Curriculum should be evaluated at the level of implementation, as well as at previous points in time when curriculum decisions are made. For instance, a curriculum decision made at a district or agency level may appear to conform to the guidelines, but when implemented at the classroom level, it may not. Likewise, if curriculum appears to be weak in meeting one or more guidelines, it may be possible to compensate for the weakness during implementation by teachers in classrooms.

1. The curriculum has an articulated description of its theoretical base that is consistent with prevailing professional opinion and research on how children learn.

   Curriculum should be grounded in the most current knowledge of child development and learning. The prevailing world view reflects a developmental, interactive, constructivist approach to learning that is not limited to the almost exclusively behaviorist approach that permeated curriculum and assessment in this country for the past several decades.

2. Curriculum content is designed to achieve long-range goals for children in all domains—social, emotional, cognitive, and physical—and to prepare children to function as fully contributing members of a democratic society.
SAMPLE*
Early Childhood Program Goals

Each individual early childhood program should establish its own goals for children as the result of a consensual process. Those goals should address all domains—emotional, social, cognitive, and physical—and should attend to the development of desirable attitudes and dispositions, skills and processes, knowledge and understanding. Following is a sample goal statement for a program serving children 3 through 8 years of age.

Responsible adults want children to:

- Develop a positive self-concept and attitude toward learning, self-control, and a sense of belonging
- Develop curiosity about the world, confidence as a learner, creativity and imagination, and personal initiative
- Develop relationships of mutual trust and respect with adults and peers, understand perspectives of other people, and negotiate and apply rules of group living
- Understand and respect social and cultural diversity
- Use language to communicate effectively and to facilitate thinking and learning
- Become literate individuals who gain satisfaction as well as information from reading and writing
- Represent ideas and feelings through pretend play, drama, dance and movement, music, art and construction
- Think critically, reason, and solve problems
- Construct understanding of relationships among objects, people, and events, such as classifying, ordering, number, space, and time
- Construct knowledge of the physical world, manipulate objects for desired effects, and understand cause-and-effect relationships
- Acquire knowledge of and appreciation for the fine arts, humanities, and sciences
- Become competent in management of their bodies and acquire basic physical skills, both gross motor and fine motor
- Gain knowledge about the care of their bodies and maintain a desirable level of health and fitness

*For illustrative purposes only—not an official position

Curriculum should address the development and learning of the whole child. This means that curriculum in primary grade schools must attend to social, emotional, and physical goals as well as cognitive goals. Likewise, programs for 3- and 4-year-olds need to address cognition as well as social, emotional, and physical development. In addition, curriculum content and processes should reflect democratic ideals of community involvement, liberty, freedom of choice, equality, fairness, and justice.

3. Curriculum addresses the development of knowledge and understanding, processes and skills, dispositions and attitudes.

The acquisition of knowledge and the mastery of skills is accomplished so as to ensure that children will be disposed to apply the knowledge or skill and so that children associate positive feelings with the learning (Katz, 1989). For example, if reading instruction is limited to drill and practice on phonics and word attack skills, children may choose to not read because they find no pleasure or satisfaction in reading or do not understand what they decode. On the other hand, if children are motivated to get meaning from reading, they are more likely to respond to instruction in use of phonetic cues.

4. Curriculum addresses a broad range of content that is relevant, engaging, and meaningful to children.

The human mind is a pattern detector; the child naturally attempts to make meaning out of every experience. As a result, what is meaningful is always more easily learned,
Curriculum planning should anticipate the interests that are typical of children of different ages and also emerge from the interests that children demonstrate. Interest can also be generated by exposing children to events, materials, and people that children would not experience otherwise. Educators must choose which of children’s interests to support and which to ignore. In addition, educators have a responsibility to nurture certain interests, particularly those that are tied to cultural values, such as the value of children’s autonomy and creative experience.

7. Curriculum respects and supports individual, cultural, and linguistic diversity. Curriculum supports and encourages positive relationships with children’s families.

The curriculum embraces the reality of multiculturalism in American society by providing a balance between learning the common core of dominant cultural knowledge (for example, the English language, democratic values) and knowledge of minority cultures. Curriculum accommodates children who have limited English proficiency. All the cultures and primary languages of the children are respectfully reflected in the curriculum.

8. 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.

For example, there is no body of knowledge possessed by all children of the same age, just as there is no universal sequence of learning. Because children bring meaning to learning experiences based on their past experiences and individual development, different children acquire different learnings from the same experience. As a result, curriculum for young children should not be based on a rigid scope and sequence but should help children connect new learning to what they already know and are able to do.

9. The curriculum provides conceptual frameworks for children so that their mental constructions based on prior knowledge and experience become more complex over time.

Conceptual organizers such as themes, units, or projects, give children something meaningful and substantive to engage their minds. It is difficult for children to make sense of abstract concepts such as colors, mathematical symbols, or letter sounds when they are presented at random or devoid of any meaningful context.
10. Curriculum allows for focus on a particular topic or content, while allowing for integration across traditional subject-matter divisions by planning around themes and/or learning experiences that provide opportunities for rich conceptual development.

Children's learning is not compartmentalized or divided into artificial subject-matter distinctions. The purpose of integrating curriculum is to reflect the natural way children learn and also to help children make connections between what they learn at home and in the program, between what they learn in school and the real world, and between different disciplines or subject matter areas (British Columbia Ministry of Education, 1990). The curriculum provides for long blocks of time to bring naturally related subjects together and does not require minimal time allotments for instruction in discrete subject-matter. For example, children read and write about a science experiment they have done or measure and estimate the number of blocks they will need to build a store.

11. The curriculum content has intellectual integrity; content meets the recognized standards of the relevant subject-matter disciplines.

Regardless of the age of the child, educators have a responsibility to respect the knowledge base of the appropriate disciplines when formulating curriculum. In an attempt to simplify content, curriculum developers sometimes present inaccurate, misleading, or potentially confusing information. If the specific content is related to a particular discipline, then it should be as accurate as possible (although children's constructions of knowledge will not mirror adult conceptions). For example, science curriculum should be factual and not promote magical thinking in children; likewise, children should be exposed to literature, poetry, and works of art and music of recognized quality.

12. The content of the curriculum is worth knowing; curriculum respects children's intelligence and does not waste their time.

Content should be included in curriculum for specific age groups because it is important for children to learn to function capably in their world. Content goals should include what children can learn efficiently and effectively at this time. Children and teachers should not have to waste time trying to address content that is meaningless or could be learned more easily when the child is older.

13. Curriculum engages children actively, not passively, in the learning process. Children have opportunities to make meaningful choices.

The curriculum provides for children's direct experience before moving to more abstract levels of understanding. The curriculum or learning experience builds on children's prior learning and previous knowledge, thus sensory experience is not prerequisite in every situation but vital when introducing new concepts or information. Encouraging and permitting children to make real choices fosters interest and engagement. For instance, children should have opportunities to express their own ideas in writing and to read books of their choosing as well as those that the entire group will address.

14. Curriculum values children's constructive errors and does not prematurely limit exploration and experimentation for the sake of ensuring "right" answers.

Overemphasis on standardized test scores and the acquisition of basic skills has made teachers and parents uncomfortable with the natural process of the child's construction of knowledge. The fact is that teachers can learn a great deal about children's thinking and reasoning and level of cognitive development by attending to their "wrong" answers.


Curriculum emphasizes both content and process, what children need to know and be able to do. Curriculum content gives meaning to process, rather than focusing on isolated facts. Skills are taught in the context of activities that are meaningful to the child, rather than being taught in isolation (Lloyd-Jones & Lunsford, 1989).

16. Curriculum emphasizes the value of social interaction to learning in all domains and provides opportunities to learn from peers.

Social interaction with peers and adults is essential for children to develop real understanding. Social interaction also provides opportunities for children to learn cooperation and other kinds of positive social behavior. Multi-age grouping is one strategy to promote social interaction among individual children and their more capable peers, an effective way of enhancing language competence and generally assisting children's progress to the next level of development and understanding.

17. Curriculum is supportive of children's physiological needs for activity, sensory stimulation, fresh air, rest, hygiene, and nourishment/elimination.

Curriculum should respect and meet children's physical needs for activity, sensory stimulation, fresh air, rest, hygiene, and nourishment/elimination.
needs while also promoting children’s independent functioning and ability to meet their own needs. Children should not be required to sit still for long periods without a break. Under no circumstances should children who need regular opportunities to move their bodies be kept indoors to complete tasks or deprived of food as punishment.

18. Curriculum protects children’s psychological safety, that is, children feel happy, relaxed, and comfortable rather than disengaged, frightened, worried, or stressed.

Decisions about curriculum should respect children’s psychological safety. For instance, the content itself should not generate fear or confusion, nor should the premature expectation of mastery of skills generate stress.

19. The curriculum strengthens children’s sense of competence and enjoyment of learning by providing experiences for children to succeed from their point of view.

Sometimes teachers seem to use as their primary criterion for selecting curriculum, “But the children just love it!” Enjoying the curriculum is an important but insufficient criterion for curriculum selection. Worthwhile curriculum does not have to entertain children. Instead, children’s enjoyment can derive from positive feelings about self and meaningful learning, as they realize their own progress and growing competence.

20. The curriculum is flexible so teachers can adapt to individual children or groups.

The curriculum suggests alternatives as well as assumes that teachers will use their own professional judgment.

Suggestions for using the curriculum guidelines

Developing curriculum or deciding whether a particular curriculum is appropriate for a specific group of children is a complex task that requires consideration of many variables. To facilitate the task of using the Curriculum Guidelines, we have phrased each of the guidelines as a question. We suggest that a curriculum committee, composed of six to eight teachers, review a proposed curriculum by subjecting it to these questions. An approved curriculum would be one for which a group of early childhood professionals could consensually agree in the affirmative to each of the following questions:

1. Does it promote interactive learning and encourage the child’s construction of knowledge?
2. Does it help achieve social, emotional, physical, and cognitive goals?
3. Does it encourage development of positive feelings and dispositions toward learning while leading to acquisition of knowledge and skills?
4. Is it meaningful for these children? Is it relevant to the children’s lives? Can it be made more relevant by relating it to a personal experience children have had or can they easily gain direct experience with it?
5. Are the expectations realistic and attainable at this time or could the children more easily and efficiently acquire the knowledge or skills later on?
6. Is it of interest to children and to the teacher?
7. Is it sensitive to and respectful of cultural and linguistic diversity? Does it expect, allow, and appreciate individual differences? Does it promote positive relationships with families?
8. Does it build on and elaborate children’s current knowledge and abilities?
9. Does it lead to conceptual understanding by helping children construct their own understanding in meaningful contexts?
10. Does it facilitate integration of content across traditional subject matter areas?
11. Is the information presented accurate and credible according to the recognized standards of the relevant discipline?
12. Is this content worth knowing? Can it be learned by these children efficiently and effectively now?
13. Does it encourage active learning and allow children to make meaningful choices?
14. Does it foster children’s exploration and inquiry, rather than focusing on “right” answers or “right” ways to complete a task?
15. Does it promote the development of higher order abilities such as thinking, reasoning, problem solving, and decision making?
16. Does it promote and encourage social interaction among children and adults?
17. Does it respect children’s physiological needs for activity, sensory stimulation, fresh air, rest, and nourishment/elimination?
18. Does it promote feelings of psychological safety, security, and belonging?
19. Does it provide experiences that promote feelings of success, competence, and enjoyment of learning?
20. Does it permit flexibility for children and teachers?
Guidelines for appropriate assessment

Assessment is the process of observing, recording and otherwise documenting the work children do and how they do it, as a basis for a variety of educational decisions that affect the child. Assessment is integral to curriculum and instruction. In early childhood programs, assessment serves several different purposes: (1) to plan instruction for individuals and groups and for communicating with parents, (2) to identify children who may be in need of specialized services or intervention, and (3) to evaluate how well the program is meeting its goals.

The following guidelines first address the primary use of assessment: for planning instruction and communicating with parents. Guidelines for screening and program evaluation follow. (For additional information on the topic of assessment, see also NAEC’s Position Statement on Standardized Testing of Young Children (NAEYC, 1988) and Unacceptable Trends in Kindergarten Entry and Placement (NAECS/SDE, 1987), and Kamil (1990).)

Guidelines for planning instruction and communicating with parents. Assessment of children’s development and learning is absolutely necessary if teachers are to provide curriculum and instruction that is both age-appropriate and individually appropriate. An initial assessment is necessary for teachers to get to know children and to adjust the planned curriculum. The appropriate use of initial assessment is to find out what children already know and are able to do and to use this information to adjust the curriculum to the individual children. Too often, initial assessment takes the form of “readiness testing” with young children or “achievement testing” with older children, the results of which are used to exclude children from the program, track them by ability, or otherwise label them. How the initial assessment is conducted will determine the accuracy and usefulness of the findings. To provide an accurate picture of children’s capabilities, teachers must observe children over time; information obtained on one brief encounter may be incomplete or distorted. Likewise, initial assessment information must be used to adjust curriculum and instruction. If assessment data are ignored and no adjustments are made, then the data should not be collected. Moreover, assessment data should be used to bring about benefits for children such as more individualized instruction; it should not be used to recommend that children stay out of a program, be retained in grade, or be assigned to a segregated group based on ability or developmental maturity.

The following principles should guide assessment procedures for children ages 3 through 8:

1. Curriculum and assessment are integrated throughout the program; assessment is congruent with and relevant to the goals, objectives, and content of the program.
2. Assessment results in benefits to the child, such as needed adjustments in the curriculum or more individualized instruction and improvements in the program.
3. Children’s development and learning in all the domains—physical, social, emotional, and cognitive—and their dispositions and feelings are informally and routinely assessed by teachers’ observing children’s activities and interactions, listening to them as they talk, and using children’s constructive errors to understand their learning.
4. Assessment provides teachers with useful information to successfully fulfill their responsibilities: to support children’s learning and development, to plan for individuals and groups, and to communicate with parents.
5. Assessment involves regular and periodic observation of the child in a wide variety of circumstances that are representative of the child’s behavior in the program over time.
6. Assessment relies primarily on procedures that reflect the ongoing life of the classroom and typical activities of the children. Assessment avoids approaches that place children in artificial situations, impede the usual learning and developmental experiences in the classroom, or divert children from their natural learning processes.
7. Assessment relies on demonstrated performance during real, not contrived, activities, for example, real reading and writing activities rather than only skills testing (Engel, 1990; Teale, 1988).
8. Assessment utilizes an array of tools and a variety of processes including, but not limited to, collections of representative work by children (artwork, stories they write, tape recordings of their reading), records of systematic observations by teachers, records of conversations and interviews with children, teachers’ summaries of children’s progress as individuals and as groups (Chittenden & Courtney, 1989; Goodman, Goodman, & Hood, 1989).
9. Assessment recognizes individual diversity of learners and allows for differences in styles and rates of learning. Assessment takes into consideration children’s ability in English, their stage of language acquisition, and whether they have been given the time and opportunity to develop proficiency in their native language as well as in English.
10. Assessment supports children’s development and learning; it does not threaten children’s psychological safety or feelings of self-esteem.
11. Assessment supports parents’ relationships with their children and does not undermine parents’ confidence in their
Children’s or their own ability, nor does it devalue the language and culture of the family.

12. Assessment demonstrates children’s overall strengths and progress, what children can do, not just their wrong answers or what they cannot do or do not know.

13. Assessment is an essential component of the teacher’s role. Because teachers can make maximal use of assessment results, the teacher is the primary assessor.

14. Assessment is a collaborative process involving children and teachers, teachers and parents, school and community. Information from parents about each child’s experiences at home is used in planning instruction and evaluating children’s learning. Information obtained from assessment is shared with parents in language they can understand.

15. Assessment encourages children to participate in self-evaluation.

16. Assessment addresses what children can do independently and what they can demonstrate with assistance, because the latter shows the direction of their growth.

17. Information about each child’s growth, development, and learning is systematically collected and recorded at regular intervals. Information such as samples of children’s work, descriptions of their performance, and anecdotal records is used for planning instruction and communicating with parents.

18. A regular process exists for periodic information sharing between teachers and parents about children’s growth and development and performance. The method of reporting to parents does not rely on letter or numerical grades but rather provides more meaningful, descriptive information in narrative form.

Guidelines for identifying children with special needs. Another major purpose of assessing children is to identify children with special needs in order to ensure that they receive appropriate services and/or intervention. The identification process involves at least two steps: screening and diagnosis. Screening is a brief assessment procedure designed to identify children who may have a learning problem or handicapping condition that requires more intensive diagnosis based on many sources of information, including that obtained from parents and expert diagnosticians (Meisels, 1985). Formal screening is warranted when parents, teachers, or other professionals suspect that a child may have such a problem. Screening should never be used to identify second-language learners as “handicapped,” solely on the basis of their limited abilities in English. The word screening is sometimes used erroneously to refer to the administration of formal or informal readiness tests by which teachers get to know children so they can begin the process of tailoring the curriculum that they planned for all the children to the individual children in their group. This process is more accurately described as assessment for planning instruction; therefore, the guidelines above apply to these situations.

Components of the screening process (ILASCD, 1989) typically include a range of activities that allow the screener to observe and record children’s physical health, fine/gross motor skills, social interactions, emotional expressions, communication competence, concept development, and adaptive skills. A parent interview obtains the following information, at a minimum: medical history, general health, family health concerns, serious or chronic illness, family composition, parent perception of child’s social-emotional and cognitive development.

The following principles (ILASCD, 1989; Maryland Department of Education, 1989) should guide assessment procedures used to identify children’s special needs:

1. Results of screening tests are not used to make decisions about entrance to school or as the single criterion for placement in a special program but rather are used as part of a thorough process of diagnosis designed to ensure that children receive the individual services they need.

2. Any standardized screening or diagnostic test that is administered to a child is valid and reliable in terms of the background characteristics of the child being tested and the test’s intended purposes. This is determined by a careful review of the reliability and validity information that is provided in the technical manual that accompanies the test and of independent reviews of tests, such as those available in Buros’ Mental Measurement Yearbook.

3. When a child is formally tested, the procedures conform with all regulations contained in P.L. 94-142. Parents are informed in advance, and information about the test and test results are shared with the child’s parents. Any interpretation of test scores describes, in non-technical language, what the test covered, what the scores do and do not mean (common misinterpretation of the test scores), and how the results will be used. Allowances are made for parents to remain with the child during screening, if desired.

4. The screener approaches all interactions with children in a positive manner. The screener has knowledge of and prior experience with young children in order to score the measure accurately and support the validity of the results.

5. The younger the child, the more critical it is that the screening activities involve the manipulation of toys and materials rather than pictures and paper/pencil tasks.
6. If the results of the screening indicate that a child has not performed within an average developmental range, the child is seen individually by an experienced diagnostian who is also an expert in child development.

7. If a comprehensive diagnostic process is recommended after screening, key conditions warranting the implementation of this process should be delineated and documented for the parents in writing in non-technical language they can understand. Throughout the assessment process, parents must be informed in writing about diagnostic resources, parent rights and reasons for referral, as well as rights of refusal.

Guidelines for program evaluation and accountability. Whenever children are served in a program, it is essential that the program be evaluated regularly to ensure that it is meeting its goals and that children and families are benefitting from participation. In recent years, standardized test scores have become the primary vehicle for demonstrating that schools and teachers are accountable. Too often, this practice has led to blaming children who are ill-served by the program or punishing districts that do not measure up to expectations without examining all components of the program. Overreliance on standardized achievement test scores as the only indicator of program effectiveness has had a detrimental effect on curriculum. Therefore, any effort to reform curriculum must be matched by testing reform. Data obtained through program evaluation should be used to identify areas in need of staff development or other support.

The following guidelines are designed to guide program evaluation efforts:

1. In constructing assessment procedures related to evaluating programs or determining program accountability, no other stated principles of curriculum or assessment are violated.

2. Performance data of children collected by teachers to plan instruction are summarized and quantified by teachers and administrators to use in evaluating how well the program is meeting its goals for children and families.

3. The program uses multiple indicators of progress in all developmental domains to evaluate the effect of the program on children’s development and learning. Group-administered, standardized, multiple-choice achievement tests are prohibited before third grade, preferably fourth. (see Kamii, 1990.)

4. All components of the program are evaluated to judge program effectiveness within the overall context of opportunities provided for children and families, including staff development and evaluation, parent satisfaction and feelings about how well the program serves their children and their opportunities for involvement, administration, physical environment, and health and safety. Results of outside, independent evaluation, such as that obtained from program accreditation, is useful in program evaluation.

5. Programs that are mandated to use a standardized test of children’s progress for program evaluation or accountability purposes employ a sampling method whenever feasible. This approach eliminates the need to subject all children to a testing procedure that can consume large blocks of time, cause undue stress, and produce results that are used for unwarranted decisions about individual children.

Applying the assessment guidelines

As with curriculum decisions, assessment decisions should reflect the consensual opinion of early childhood professionals as well as assessment experts. To facilitate this process, we have phrased the foregoing guidelines as questions. Evaluation of current or proposed assessment procedures and/or instruments should result in affirmative responses to all of these questions.

Questions to ask in evaluating a program’s assessment procedures.

1. Is the assessment procedure based on the goals and objectives of the specific curriculum used in the program?

2. Are the results of assessment used to benefit children, i.e., to plan for individual children, improve instruction, identify children’s interests and needs, and individualize instruction, rather than label, track, or fail children?

3. Does the assessment procedure address all domains of learning and development—social, emotional, physical, and cognitive—as well as children’s feelings and dispositions toward learning?

4. Does assessment provide useful information to teachers to help them do a better job?

5. Does the assessment procedure rely on teachers’ regular and periodic observations and record-keeping of children’s everyday activities and performance so that results reflect children’s behavior over time?

6. Does the assessment procedure occur as part of the ongoing life of the classroom rather than in an artificial, contrived context?

7. Is the assessment procedure performance-based, rather than only testing skills in isolation?
8. Does the assessment rely on multiple sources of information about children, such as collections of their work, results of teacher interviews and dialogues, as well as observations?

9. Does the assessment procedure reflect individual, cultural, and linguistic diversity? Is it free of cultural, language, and gender biases?

10. Do children appear comfortable and relaxed during assessment rather than tense or anxious?

11. Does the assessment procedure support parents' confidence in their children and their ability as parents rather than threaten or undermine parents' confidence?

12. Does the assessment examine children's strengths and capabilities rather than just their weaknesses or what they do not know?

13. Is the teacher the primary assessor, and are teachers adequately trained for this role?

14. Does the assessment procedure involve collaboration among teachers, children, administrators, and parents? Is information from parents used in planning instruction and evaluating children's learning? Are parents informed about assessment information?

15. Do children have an opportunity to reflect on and evaluate their own learning?

16. Are children assessed in supportive contexts to determine what they are capable of doing with assistance as well as what they can do independently?

17. Is there a systematic procedure for collecting assessment data that facilitates its use in planning instruction and communicating with parents?

18. Is there a regular procedure for communicating the results of assessment to parents in meaningful language, rather than letter or number grades, that reports children's individual progress?

Questions to ask in evaluating screening/ diagnostic procedures

1. Are screening test results used only as a first step in a systematic diagnostic procedure for identifying children with special needs? Are screening test results never used to deny children entrance to a program or as the sole criterion for assignment to a special program?

2. Are the screening tests used reliable and valid for the purpose for which they are used? Are the technical adequacies of standardized measures carefully evaluated by knowledgeable professionals?

3. Are parents informed in advance when children are screened? Is the purpose and procedure carefully explained to parents, and are parents permitted to stay with their child, if desired?

4. Is the screener knowledgeable about young children and able to relate to them in a positive manner?

5. Does the screening procedure involve concrete hands-on activities rather than paper-and-pencil tasks?

6. Does the screening procedure lead to systematic diagnosis of potential handicapping conditions or health problems for the children for which this is warranted?

7. Are parents informed of the procedures and their rights throughout the screening/diagnosis procedure?

Questions to ask in evaluating program evaluation procedures

1. Is the program evaluation procedure congruent with all other stated principles of curriculum and assessment?

2. Does the program evaluation summarize and quantify the results of performance-based assessments of children's progress conducted by classroom teachers?

3. Does the program evaluation incorporate many indicators of children's progress rather than standardized, group-administered achievement test scores?

4. Does the program evaluation address all components of the delivery of the program instead of being limited to measuring outcomes for children?

5. Is sampling used in situations where the administration of a standardized achievement test is mandated?

Next steps: Resources and strategies for implementation

The guidelines presented here are the result of two years of work and the thoughtful input of hundreds of early childhood professionals and were adopted by the Boards of NAEYC and NAECS/SDE in November 1990. These guidelines are principles to guide decisions, both theoretical and practical, about what should be included in curriculum and how learning should be assessed. The development of these guidelines has been a challenging task. We feel that we were able to address most of the concerns of reviewers, but one major issue remains unresolved. A few of our critics justifiably pointed out that the guidelines are not specific enough to achieve our goal of helping curriculum developers determine what content is appropriate and when. We struggled with this challenge, hesitating to be more specific because we do not want to be prescriptive and also because age-appropriateness is only one dimension of determining an
## Model of Learning and Teaching

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<th>What Children Do</th>
<th>What Teachers Do</th>
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<td>Create the environment</td>
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<td>Experience</td>
<td>Provide opportunities by introducing new objects, events, people</td>
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<td>Acquire an interest</td>
<td>Invite interest by posing problem or question</td>
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<td>Recognize broad parameters</td>
<td>Respond to child’s interest or shared experience</td>
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<td>Attend</td>
<td>Show interest, enthusiasm</td>
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<td>Perceive</td>
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<td>Explore materials</td>
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<td>Describe child’s activity</td>
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<td>Create</td>
<td>Ask open-ended questions: “What else could you do?”</td>
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<td>Figure out components</td>
<td>Respect child’s thinking and rule systems</td>
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<td>Construct own understanding</td>
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<th><strong>Inquiry</strong></th>
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<td>Examine</td>
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<td>Investigate</td>
<td>Ask more focused questions: “What else works like this? What happens if...?”</td>
</tr>
<tr>
<td>Propose explanations</td>
<td>Provide information when asked, “How that do you spell?”</td>
</tr>
<tr>
<td>Focus</td>
<td>Help children make connections</td>
</tr>
<tr>
<td>Compare own thinking with that of others</td>
<td></td>
</tr>
<tr>
<td>Generalize</td>
<td></td>
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<tr>
<td>Relate to prior learning</td>
<td></td>
</tr>
<tr>
<td>Adjust to conventional rule systems</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Utilization</strong></th>
<th>Create vehicles for application in real world</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use the learning in many ways; learning becomes functional</td>
<td>Help children apply to new situations</td>
</tr>
<tr>
<td>Represent learning in various ways</td>
<td>Provide meaningful situations to use learning</td>
</tr>
<tr>
<td>Apply to new situations</td>
<td></td>
</tr>
<tr>
<td>Formulate new hypotheses and repeat cycle</td>
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appropriate curriculum. The need to adjust for individual differences is equally important as are other factors. To address the need for greater specificity, we developed a framework for determining age-appropriate and individually appropriate content that is briefly described below. In fall 1991, NAEYC will publish a book that will include the official position, and will include specific chapters illustrating the application of the framework to curriculum goals. A number of national organizations and experts in the subject-matter disciplines have recently developed excellent resources for improving curriculum that are congruent with the guidelines presented in this document. Reaching Potentials: Appropriate Curriculum and Assessment for Young Children, to be published by NAEYC in 1991, will expand on the existing curriculum recommendations by placing the recommendations within a model of child development and learning. The framework and some examples of its utility are briefly described below.

A framework for determining age- and individually appropriate content

It is possible to identify goals for the full age-range served in an early childhood program, (see sample Early Childhood Program Goals). However, specific content and learning objectives appropriate for each age group will vary. For example, curriculum to promote literacy development will look quite different for 3-year-olds than for 8-year-olds. Similarly, expectations of what children are capable of understanding and doing will vary according to the age and experience of the children.

Determining age-appropriate and individually appropriate expectations is the key to making good curriculum decisions. Such decisions are best made at the classroom level, where teachers know the individual children and community. However, many important curriculum decisions are made at a level far removed from the individual child, such as when the school district adopts a textbook series for each grade level or when the curriculum specialist for a child care system adopts a commercially available curriculum or develops one for all centers.

As indicated earlier, curriculum has many sources, among which are child development knowledge, knowledge of individuals, community expectations, and the content of the disciplines. In developing and/ or selecting appropriate curriculum content, all of these sources are activated; but for the curriculum to be developmentally appropriate, knowledge of child development must be of primary consideration. If the curriculum expectations are not realistic and attainable for the age group in general, then it is less likely that the curriculum can be made individually appropriate.

Because learning and development are so individualized, it is not possible nor desirable to establish uniform age-appropriate expectations. However, it is possible to identify parameters to guide decisions about the appropriateness of curriculum expectations. Following is a framework for determining age-appropriate curriculum content.

This framework reflects the cycle of human learning—movement from awareness, to exploration, to inquiry, to utilization (Rosegrant, 1989; see "Theoretical Framework" earlier in this document). Awareness is broad recognition of the parameters of the learning—events, objects, people, or concepts; awareness comes from experience. Exploration is the process of figuring out the components or attributes of events, objects, people, or concepts by whatever means available. Exploration is the process whereby children bring their own personal meaning to their experiences. Inquiry is the process of developing understanding of commonalities across events, objects, people, or concepts. At this point, children begin to generalize their personal concepts and adapt them to more adult ways of thinking and behaving.

Utilization is the functional level of learning, at which children can apply or make use of their understanding of events, objects, people, or concepts. To learn something new, children must become aware, explore, inquire, use and apply. This process occurs over time and reflects movement from learning that is informal and incidental, spontaneous, concrete-referenced, and governed by the child’s own rules to learning that is more formal, refined, extended, enriched, and removed in time and space from concrete references and more reflective of conventional rule systems.

To illustrate this cycle, think of the process of learning to write. Three- and 4-year-olds usually demonstrate an awareness of print from their experiences of being read to or observing that signs convey messages. Some fours and most 5-year-olds begin to explore print by scribbling, drawing, using their own inventive spelling to write words, and re-reading what they have written. Six-year-olds begin to more carefully examine print, looking for patterns, detecting similarities and differences in letters and words. Most 7- and 8-year-old children are beginning to utilize the conventional rule systems that govern written language to function as effective readers and writers.

The cycle of learning repeats itself as children’s concepts and skills become more elaborated. This cycle—awareness to utilization—describes what children are doing at any given time. What teachers do looks different depending on where individual children are in this cycle of learning, as illustrated in the chart on the previous page. Not only must the teacher
adjust her or his behavior depending on where the group of children are in this learning cycle, but the teacher must also identify where each child is on this continuum, plan, and interact accordingly. For instance, if a 6-year-old comes to school not having had opportunities to become aware of and explore print, the school needs to provide these experiences. This child cannot be expected to successfully begin with the conventions of print, as most of the other 6-year-olds will do. Instead, time needs to be provided to create awareness and foster exploration, albeit not as much time as was given to this process more naturally. Similarly, another 6-year-old in the group may have had numerous prior opportunities to become aware of, explore, and examine print, and this child may proceed to utilize the knowledge of print in writing.

Application of the framework can also be illustrated in the process of learning to read. The ability to recognize letters is one important predictor of successful reading, but adults often erroneously assume that direct instruction in letter recognition will achieve this end. Like the development of other knowledge, the ability to recognize letters begins in awareness and exploration. Three- and 4-year-olds should have many opportunities to become aware of letters in meaningful contexts by being read to and seeing environmental print. Some 4-year-olds and most fives will explore letters in many contexts and learn to recognize those that are most meaningful first. Some 5- and most 6-year-olds examine letters more closely, adjust their personal perceptions to the conventional uses of letters, and are able to utilize the ability to recognize letters in a variety of contexts. Again, the normative expectation that 6-year-olds are at an inquiry level in letter recognition ability is predicated on their having had opportunities to become aware of and explore letters in a variety of contexts. If they have not had those opportunities, then an expectation of understanding the conventional letter system at age six is unrealistic.

Normative expectations of children of different ages will vary greatly depending on the specific curriculum objective or content. For example, the ability to express thoughts and feelings verbally so as to be clearly understood by others should be well developed in most 4-year-olds. Awareness and exploration of verbal language naturally occurs in infancy and toddlerhood. This means that verbal language development would be a focused goal in preschool and kindergarten. Verbal language ability then becomes further refined and elaborated as it is utilized for many different purposes throughout the primary grades.

The utility of this framework can also be illustrated by applying it to a mathematics example. One of the K–4 curriculum standards of the National Council of Teachers of Mathematics (1989) is measurement. Of course, the expectation of children’s understanding of measurement should vary enormously depending on age and individual experience. An appropriate expectation of 3- and 4-year-olds is awareness and exploration of relative size differences. Fours, fives, and sixes should explore the concept of measurement using their own non-standard units of measure, such as how many blocks long the building is or how many of their own hands tall they are. Having grasped the concept of measuring by inventing their own units of measure, 7- and 8-year-olds can then begin to apply the standard units of measurement.

Utilizing this framework to conceptualize both age-appropriate and individually appropriate curriculum expectations has several advantages. It emphasizes the need for teachers at all levels to understand the entire continuum of learning. It helps to emphasize the importance and value of awareness and exploration in the learning process; but it also acknowledges that creating interest and allowing for exploration are only part of the continuum of learning. Depending on the specific curriculum goal and the individual children in the group, teachers assist the inquiry process whereby children’s learnings are extended, refined, and adjusted to the conventional adult constructs and thereby applicable in many contexts. Children in any group are at all stages along the continuum of learning relative to the curriculum content and depending on their individual experiences. Attention to the full learning continuum corrects the error of premature expectation of mastery just as it corrects the error of assuming that exploration is the end goal in every learning situation.

Early childhood educators and curriculum developers are encouraged to think about this framework in their daily work with children and to use it as a tool for analyzing and conceptualizing appropriate curriculum expectations for individuals and groups of children.

References
Guidelines for Appropriate Curriculum Content and Assessment in Programs Serving Children Ages 3 Through 8

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