



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

Adopted 2009

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

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The purpose of this position statement is to promote excellence in early childhood education by providing a framework for best practice. Grounded both in the research on child development and learning and in the knowledge base regarding educational effectiveness, the framework outlines practice that promotes young children's optimal learning and development. Since its first adoption in 1986, this framework has been known as *developmentally appropriate practice*.<sup>1</sup>

The profession's responsibility to promote quality in the care and education of young children compels us to revisit regularly the validity and currency of our core knowledge and positions, such as this one on issues of practice. Does the position need modification in light of a changed context? Is there new knowledge to inform the statement? Are there aspects of the existing statement that have given rise to misunderstandings and misconceptions that need correcting?

Over the several years spent in developing this revision, NAEYC invited the comment of early childhood educators with experience and expertise from infancy to the primary grades, including

a late 2006 convening of respected leaders in the field. The result of this broad gathering of views is this updated position statement, which addresses the current context and the relevant knowledge base for developmentally appropriate practice and seeks to convey the nature of such practice clearly and usefully.

This statement is intended to complement NAEYC's other position statements on practice, which include *Early Learning Standards* and *Early Childhood Curriculum, Assessment, and Program Evaluation*, as well as the *Code of Ethical Conduct* and *NAEYC Early Childhood Program Standards and Accreditation Criteria*.<sup>2</sup>

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**Note:** Throughout this statement, the terms *teacher*, *practitioner*, and *educator* are variously used to refer to those working in the early childhood field. The word *teacher* is always intended to refer to any adult responsible for the direct care and education of a group of children in any early childhood setting. Included are not only classroom teachers but also infant/toddler caregivers, family child care providers, and specialists in other disciplines who fulfill the role of teacher. In more instances, the term *practitioners* is intended to also include a program's administrators. *Educators* is intended to also include college and university faculty and other teacher trainers.

## Critical issues in the current context

Since the 1996 version of this position statement, the landscape of early childhood education in the United States has changed significantly and a number of issues have grown in importance. Shortage of good care for children in the highly vulnerable infant and toddler years has become critical.<sup>3</sup> Issues of home language and culture, second language learning, and school culture have increased with the steady growth in the number of immigrant families and children in our population.<sup>4</sup> In addition, far more children with special needs (including those with disabilities, those at risk for disabilities, and those with challenging behaviors) participate in typical early childhood settings today than in the past.<sup>5</sup> As for teachers, the nation continues to struggle to develop and maintain a qualified teaching force.<sup>6</sup> This difficulty is especially acute in the underfunded early childhood arena, especially the child care sector, which is losing well prepared teaching staff and administrators at an alarming rate.<sup>7</sup>

Looking forward, demographic trends predict a modest growth in the number of young children in the population, significant increases in the demand for early care and education, dramatic increases in children's cultural and linguistic diversity, and unless conditions change, a greater share of children living in poverty. Among these, the biggest single child-specific demographic change in the United States over the next 20 years is predicted to be an increase in children whose home language is not English.<sup>8</sup>

Also significant is that policy makers and the public are far more aware of the importance of the early childhood years in shaping children's futures. Based on this widespread recognition and the context of early childhood education today, it was decided this statement would highlight three challenges: reducing learning gaps and increasing the achievement of all children; creating improved, better connected education for preschool and elementary children; and recognizing teacher knowledge and decision making as vital to educational effectiveness.

### Reducing learning gaps and increasing the achievement of all children

All families, educators, and the larger society hope that children will achieve in school and go on to lead satisfying and productive lives. But

that optimistic future is not equally likely for all of the nation's schoolchildren. Most disturbing, low-income and African American and Hispanic students lag significantly behind their peers on standardized comparisons of academic achievement throughout the school years, and they experience more difficulties while in the school setting.<sup>9</sup>

Behind these disparities in school-related performance lie dramatic differences in children's early experiences and access to good programs and schools. Often there is also a mismatch between the "school" culture and children's cultural backgrounds.<sup>10</sup> A prime difference in children's early experience is in their exposure to language, which is fundamental in literacy development and indeed in all areas of thinking and learning. On average, children growing up in low-income families have dramatically less rich experience with language in their homes than do middle-class children.<sup>11</sup> They hear far fewer words and are engaged in fewer extended conversations. By 36 months of age, substantial socioeconomic disparities already exist in vocabulary knowledge,<sup>12</sup> to name one area.

Children from families living in poverty or in households in which parent education is low typically enter school with lower levels of foundational skills, such as those in language, reading, and mathematics.<sup>13</sup> On starting kindergarten, children in the lowest socioeconomic group have average cognitive scores that are 60 percent below those of the most affluent group. Explained largely by socioeconomic differences among ethnic groups, average math achievement is 21 percent lower for African American children than for white children and 19 percent lower for Hispanic children than for non-Hispanic white children.<sup>14</sup> Moreover, due to deep-seated equity issues present in communities and schools, such early achievement gaps tend to *increase* rather than diminish over time.<sup>15</sup>

Concerns over the persistence of achievement gaps between subgroups are part of a larger concern about lagging student achievement in the United States and its impact on American economic competitiveness in an increasingly global economy. In comparisons with students of other industrialized countries, for example, America's students have not consistently fared well on tests of educational achievement.<sup>16</sup>

It is these worries that drive the powerful “standards/accountability” movement. Among the movement’s most far-reaching actions has been the 2001 passing of No Child Left Behind (NCLB), which made it national policy to hold schools accountable for eliminating the persistent gaps in achievement between different groups of children. With the aim of ensuring educational equity, the law requires the reporting of scores disaggregated by student group; that is, reported separately for the economically disadvantaged, major racial and ethnic minorities, special education recipients, and English language learners.<sup>17</sup> By requiring the reporting of achievement by student group and requiring all groups to make achievement gains annually, NCLB seeks to make schools accountable for teaching *all* their students effectively.

Whether NCLB and similar “accountability” mandates can deliver that result is hotly debated, and many critics argue that the mandates have unintended negative consequences for children, teachers, and schools, including narrowing the curriculum and testing too much and in the wrong ways. Yet the majority of Americans support the movement’s stated goals,<sup>18</sup> among them that *all* children should be achieving at high levels.<sup>19</sup> This public support—for the goals, if not the methods—can be viewed as a demand that educators do something to improve student achievement and close the gaps that all agree are damaging many children’s future prospects and wasting their potential.

Learning standards and accountability policies have impinged directly on public education from grade K and up, and they are of growing relevance to preschool education, as well. As of 2007, more than three-quarters of the states had some sort of early learning standards—that is, standards for the years before kindergarten—and the remaining states had begun developing them.<sup>20</sup> Head Start has put in place a “child outcomes framework,” which identifies learning expectations in eight domains.<sup>21</sup> National reports and public policy statements have supported the creation of standards-based curriculum as part of a broader effort to build children’s school readiness by improving teaching and learning in the early years.<sup>22</sup> For its part, NAEYC has position statements defining the features of high-quality early learning standards, curriculum, and assessment.<sup>23</sup>

So we must close existing learning gaps and enable all children to succeed at higher levels—but *how*? While this question is not a new one, in the current context it is the focus of increased attention. As later outlined in “Applying New Knowledge to Critical Issues,” accumulating evidence and innovations in practice now provide guidance as to the knowledge and abilities that teachers must work especially hard to foster in young children, as well as information on how teachers can do so.

### Creating improved, better connected education for preschool and elementary children

For many years, preschool education and elementary education—each with its own funding sources, infrastructure, values, and traditions—have remained largely separate. In fact, the education establishment typically has not thought of preschool as a full-fledged part of American public education. Among the chief reasons for this view is that preschool is neither universally funded by the public nor mandatory.<sup>24</sup> Moreover, preschool programs exist within a patchwork quilt of sponsorship and delivery systems and widely varying teacher credentials. Many programs came into being primarily to offer child care for parents who worked. In recent years, however, preschool’s educational purpose and potential have been increasingly recognized, and this recognition contributes to the blurring of the preschool-elementary boundary. The two spheres now have substantial reasons to strive for greater continuity and collaboration.

One impetus is that mandated accountability requirements, particularly third grade testing, exert pressures on schools and teachers at K–2,<sup>25</sup> who in turn look to teachers of younger children to help prepare students to demonstrate the required proficiencies later. A related factor is the growth of state-funded prekindergarten, located in schools or other community settings, which collectively serves more than a million 3- and 4-year-olds. Millions more children are in Head Start programs and child care programs that meet state prekindergarten requirements and receive state preK dollars. Head Start, serving more than 900,000 children nationwide, is now required to coordinate with the public schools at the state level.<sup>26</sup> Title I dollars support preschool education and services for some 300,000 children. Nationally, about 35

percent of all 4-year-olds are in publicly supported prekindergarten programs.<sup>27</sup>

For its part, the world of early care and education stands to gain in some respects from a closer relationship with the K–12 system. Given the shortage of affordable, high-quality programs for children under 5 and the low compensation for those staff, advocates see potential benefits to having more 4-year-olds, and perhaps even 3-year-olds, receive services in publicly funded schooling. Proponents also hope that a closer relationship between early-years education and the elementary grades would lead to enhanced alignment and each sphere's learning from the other,<sup>28</sup> thus resulting in greater continuity and coherence across the preK–3 span.

At the same time, however, preschool educators have some fears about the prospect of the K–12 system absorbing or radically reshaping education for 3-, 4-, and 5-year-olds, especially at a time when pressures in public schooling are intense and often run counter to the needs of young children. Many early childhood educators are already quite concerned about the current climate of increased high-stakes testing adversely affecting children in grades K–3, and they fear extension of these effects to even younger children. Even learning standards, though generally supported in principle in the early childhood world,<sup>29</sup> are sometimes questioned in practice because they can have negative effects.

Early learning standards are still relatively new, having been mandated by Good Start, Grow Smart in 2002 for the domains of language, literacy, and mathematics. While some states have taken a fairly comprehensive approach across the domains of learning and development, others focus heavily on the mandated areas, particularly literacy. When state standards are not comprehensive, the curriculum driven by those standards is less likely to be so, and any alignment will likely address only those few curriculum areas identified in the standards.

Such narrowing of curriculum scope is one shortcoming that can characterize a set of standards; there can be other deficiencies, too. To be most beneficial for children, standards need to be not only comprehensive but also address what is important for children to know and be able to do; be aligned across developmental stages and age/grade levels; and be consistent with how children develop and learn. Unfortunately, many state stan-

dards focus on superficial learning objectives, at times underestimating young children's competence and at other times requiring understandings and tasks that young children cannot really grasp until they are older.<sup>30</sup> There is also growing concern that most assessments of children's knowledge are exclusively in English, thereby missing important knowledge a child may have but cannot express in English.<sup>31</sup>

Alignment is desirable, indeed critical, for standards to be effective. Yet effective alignment consists of more than simplifying for a younger age group the standards appropriate for older children. Rather than relying on such downward mapping, developers of early learning standards should base them on what we know from research and practice about children from a variety of backgrounds at a given stage/age and about the processes, sequences, variations, and long-term consequences of early learning and development.<sup>32</sup>

As for state-to-state alignment, the current situation is chaotic. Although discussion about establishing some kind of national standards framework is gaining momentum, there is no common set of standards at present. Consequently, publishers competing in the marketplace try to develop curriculum and textbooks that address the standards of all the states. Then teachers feel compelled to cover this large array of topics, teaching each only briefly and often superficially. When such curriculum and materials are in use, children move through the grades encountering a given topic in grade after grade—but only shallowly each time—rather than getting depth and focus on a smaller number of key learning goals and being able to master these before moving on.<sup>33</sup>

Standards overload is overwhelming to teachers and children alike and can lead to potentially problematic teaching practices. At the preschool and K–3 levels particularly, practices of concern include excessive lecturing to the whole group, fragmented teaching of discrete objectives, and insistence that teachers follow rigid, tightly paced schedules. There is also concern that schools are curtailing valuable experiences such as problem solving, rich play, collaboration with peers, opportunities for emotional and social development, outdoor/physical activity, and the arts. In the high-pressure classroom, children are less likely to develop a love of learning and a sense of their own competence and ability to make choices, and

they miss much of the joy and expansive learning of childhood.<sup>34</sup>

Educators across the whole preschool-primary spectrum have perspectives and strengths to bring to a closer collaboration and ongoing dialogue. The point of bringing the two worlds together is *not* for children to learn primary grade skills at an earlier age; it is for their teachers to take the first steps together to ensure that young children develop and learn, to be able to acquire such skills and understandings as they progress in school.

The growing knowledge base can shed light on what an exchanging of best practices might look like,<sup>35</sup> as noted later in “Applying New Knowledge to Critical Issues.” Through increased communication and collaboration, both worlds can learn much that can contribute to improving the educational experiences of *all* young children and to making those experiences more coherent.

### Recognizing teacher knowledge and decision making as vital to educational effectiveness

The standards/accountability movement has led to states and other stakeholders spelling out what children should know and be able to do at various grade levels. Swift improvement in student achievement across all student subgroups has been demanded. Under that mandate, many policy makers and administrators understandably gravitate toward tools and strategies intended to expedite the education enterprise, including “teacher proofing” curriculum, lessons, and schedules. As a result, in some states and districts, teachers in publicly funded early childhood settings report that they are allowed far less scope in classroom decision making than they were in the past,<sup>36</sup> in some cases getting little to no say in the selection of curriculum and assessments or even in their use of classroom time.

How much directing and scaffolding of teachers’ work is helpful, and how much teacher autonomy is necessary to provide the best teaching and learning for children? The answer undoubtedly varies with differences among administrators and teachers themselves and the contexts in which they work.

A great many school administrators (elementary principals, superintendents, district staff) lack

a background in early childhood education, and their limited knowledge of young children’s development and learning means they are not always aware of what is and is not good practice with children at that age. Teachers who have studied how young children learn and develop and effective ways of teaching them are more likely to have this specialized knowledge. Moreover, it is the teacher who is in the classroom every day with children. So it is the teacher (not administrators or curriculum specialists) who is in the best position to know the particular children in that classroom—their interests and experiences, what they excel in and what they struggle with, what they are eager and ready to learn. Without this particular knowledge, determining what is best for those children’s learning, as a group and individually, is impossible.

But it must be said that many teachers themselves lack the current knowledge and skills needed to provide high-quality care and education to young children, at least in some components of the curriculum. Many factors contribute, including the lack of a standard entry-level credential, wide variation in program settings and auspices, low compensation, and high turnover.<sup>37</sup> With workforce parameters such as these, is it reasonable to expect that every teacher in a classroom today is capable of fully meeting the challenges of providing high-quality early care and education?

Expert decision making lies at the heart of effective teaching. The acts of teaching and learning are too complex and individual to prescribe a teacher’s every move in advance. Children benefit most from teachers who have the skills, knowledge, and judgment to make good decisions and are given the opportunity to use them.

Recognizing that effective teachers are good decision makers, however, does not mean that they should be expected to make all decisions in isolation. Teachers are not well served when they are stranded without the resources, tools, and supports necessary to make sound instructional decisions, and of course children’s learning suffers as well.

Ideally, well conceived standards or learning goals (as described previously) are in place to guide local schools and programs in choosing or developing comprehensive, appropriate curriculum. The curriculum framework is a starting place, then teachers can use their expertise to make adaptations as needed to optimize the fit with the

children. Further, such curricular guidance gives teachers some direction in providing the materials, learning experiences, and teaching strategies that promote learning goals most effectively, allowing them to focus on instructional decision making without having to generate the entire curriculum themselves.

Even well qualified teachers find it challenging to create from scratch a comprehensive curriculum that addresses all the required standards and important learning goals, as well as designing the assessment methods and learning experiences. This daunting task is even less realistic for those teachers with minimal preparation. Hence, there is value in providing teachers a validated curriculum

framework and related professional development, as long as teachers have the opportunity to make individual adaptations for the diversity of children they teach.<sup>38</sup>

That good teaching requires expert decision making means that teachers need solid professional preparation, as well as ongoing professional development and regular opportunities to work collaboratively.<sup>39</sup> Since this level of preparation and training does not yet exist for many in the early childhood workforce, the question of how best to equip and support inadequately prepared teachers needs serious investigation. Research on critical factors in good teaching, as described in the next section of this statement, has powerful lessons to offer.

## Applying new knowledge to critical issues

Fortunately, a continually expanding early childhood knowledge base enables the field to refine, redirect, or confirm understandings of best practice. The whole of the present position statement reflects fresh evidence of recent years and the perspectives and priorities emerging from these findings. This section looks within that mass of new knowledge to a few lines of research specifically helpful in addressing the three critical issues for the field identified in this position statement.

First, new findings hold promise for reducing learning gaps and barriers and increasing the achievement of all children. More is now known about which early social and emotional, cognitive, physical, and academic competencies enable young children to develop and learn to their full potential. Such findings are useful in determining curriculum content and sequences for all children. But they are especially important in helping those children most likely to begin school with lower levels of the foundational skills needed to succeed and most likely to fall farther behind with time—among whom children of color, children growing up in poverty, and English language learners are overrepresented. Another key aspect is ensuring that children who have learning difficulties or disabilities receive the early intervention services they need to learn and function well in the classroom.

Research continues to confirm the greater efficacy of early action—and in some cases, intensive

intervention—as compared with remediation and other “too little” or “too late” approaches. Changing young children’s experiences can substantially affect their development and learning, especially when intervention starts early in life and is not an isolated action but a broad-gauged set of strategies.<sup>40</sup> For example, Early Head Start, a comprehensive two-generational program for children under age 3 and their families, has been shown to promote cognitive, language, and social and emotional development.<sup>41</sup> The success of Early Head Start illustrates that high-quality services for infants and toddlers—far too rare in the United States today—have a long-lasting and positive impact on children’s development, learning abilities, and capacity to regulate their emotions.<sup>42</sup>

Although high-quality preschool programs benefit children (particularly low-income children) more than mediocre or poor programs do,<sup>43</sup> fewer children living in poverty get to attend high-quality preschool programs than do children from higher-income households.<sup>44</sup> Findings on the impact of teaching quality in the early grades show a similar pattern.<sup>45</sup> In addition to this relationship of overall program and school quality to later school success, research has identified a number of specific predictors of later achievement. Some of these predictors lie in language/literacy and mathematics; others are dimensions of social and emotional competence and cognitive functioning related to how children fare in school.

In the language and literacy domain, vocabulary knowledge and other aspects of oral language are particularly important predictors of children's reading comprehension.<sup>46</sup> Even when children with limited vocabulary manage to acquire basic decoding skills, they still often encounter difficulty around grade 3 or 4 when they begin needing to read more advanced text in various subjects.<sup>47</sup> Their vocabulary deficit impedes comprehension and thus their acquisition of knowledge necessary to succeed across the curriculum.<sup>48</sup> Clearly, children who hear little or no English in the home would have even more initial difficulty with comprehension in English.

To shrink the achievement gap, then, early childhood programs need to start early with proactive vocabulary development to bring young children whose vocabulary and oral language development is lagging—whatever the causes—closer to the developmental trajectory typical of children from educated, affluent families.<sup>49</sup> For these children to gain the vocabulary and the advanced linguistic structures they will need for elementary grade reading, their teachers need to engage them in language interactions throughout the day, including reading to them in small groups and talking with them about the stories. Especially rich in linguistic payoff is extended discourse; that is, conversation between child and adult on a given topic sustained over many exchanges.<sup>50</sup>

Compelling evidence has shown that young children's alphabet knowledge and phonological awareness are significant predictors of their later proficiency in reading and writing.<sup>51</sup> A decade ago, many preschool teachers did not perceive it as their role—or even see it as appropriate—to launch young children on early steps toward literacy, including familiarizing them with the world of print and the sounds of language. The early childhood profession now recognizes that gaining literacy foundations is an important facet of children's experience before kindergarten,<sup>52</sup> although the early literacy component still needs substantial improvement in many classrooms.

Like the teaching of early literacy, mathematics education in the early childhood years is key to increasing all children's school readiness and to closing the achievement gap.<sup>53</sup> Within the mathematics arena, preschoolers' knowledge of numbers and their sequence, for example, strongly predicts not only math learning but also literacy

skills.<sup>54</sup> Yet mathematics typically gets very little attention before kindergarten.<sup>55</sup> One reason is that early childhood teachers themselves often lack the skills and confidence to substantially and effectively increase their attention to mathematics in the curriculum.<sup>56</sup>

Mathematics and literacy concepts and skills—and, indeed, robust content *across* the curriculum—can be taught to young children in ways that are engaging and developmentally appropriate.<sup>57</sup> It can be, but too often isn't; to achieve such improvements will require considerable strengthening of early-years curriculum and teaching. Failing to meet this challenge to improve all children's readiness and achievement will perpetuate the inequities of achievement gaps and the low performance of the U.S. student population as a whole.

Besides specific predictors in areas such as mathematics and literacy, another major thread in recent research is that children's social and emotional competencies, as well as some capabilities that cut across social and emotional and cognitive functioning, predict their classroom functioning. Of course, children's social, emotional, and behavioral adjustment is important in its own right, both in and out of the classroom. But it now appears that some variables in these domains also relate to and predict school success. For example, studies have linked emotional competence to both enhanced cognitive performance and academic achievement.<sup>58</sup> A number of factors in the emotional and social domain, such as independence, responsibility, self-regulation, and cooperation, predict how well children make the transition to school and how they fare in the early grades.<sup>59</sup>

A particularly powerful variable is self-regulation, which the early childhood field has long emphasized as a prime developmental goal for the early years.<sup>60</sup> Mounting research evidence confirms this importance, indicating that self-regulation in young children predicts their later functioning in areas such as problem solving, planning, focused attention, and metacognition, and thus contributes to their success as learners.<sup>61</sup> Moreover, helping children from difficult life circumstances to develop strong self-regulation has proven to be both feasible and influential in preparing them to succeed in school.<sup>62</sup>

The gains children make as a result of high-quality programs for children under 6 have been

found to diminish in a few years if children do not continue to experience high-quality education in grades K–3.<sup>63</sup> This consistent finding makes clear the importance of improving quality and continuity all along the birth–8 continuum. As previously described, critical to developing a better connected, more coherent preschool-elementary framework is aligning standards, curriculum, and assessment practices within that continuum.<sup>64</sup> (Ideally, such a framework would extend to infant and toddler care as well.)

Further, educators and researchers are beginning to consider how to unite the most important and effective elements of preschool education with those of K–3.<sup>65</sup> In this search for the “best of both worlds,” policy makers and educators can look to the expanding body of knowledge on the aspects of early learning and development that enable children to do well in school and the practices that should be more prevalent across the entire preK–3 span.<sup>66</sup>

First, research evidence on the predictors of successful outcomes for children (highlighted earlier) suggests a number of learning goals and experiences that in some form ought to be incorporated across preK–3. These include, for example, robust curriculum content; careful attention to known learning sequences (in literacy, mathematics, science, physical education, and other domains); and emphasis on developing children’s self-regulation, engagement, and focused attention. Also proven to yield positive results for children are practices familiar to early childhood educators, such as relationship-based teaching and learning; partnering with families; adapting teaching for children from different backgrounds and for individual children; active, meaningful, and connected learning;<sup>67</sup> and smaller class sizes.<sup>68</sup> Evidence of the benefits of these practices suggests that they should be extended more widely into the elementary grades.

A second source of knowledge about effectively connecting education across the preschool-grade 3 span comes from educational innovations now being piloted. Schools that encompass these grades and thoughtfully consider how to increase continuity, alignment, and coherence are emerging around the country, and some are being studied by researchers.<sup>69</sup>

Expansion of P–16 or P–20 commissions around the country, although not yet giving much attention to prekindergarten,<sup>70</sup> provides one vehicle for the conversations about continuity that

need to take place. While there are entrenched practices and structures separating preschool and K–3 education, the current forces noted here provide considerable impetus and opportunity to achieve stronger, more coordinated preK–3 education.

The importance of teachers to high-quality early education, indeed to all of education, cannot be overemphasized. Although wise administrative and curricular decisions made upstream from the individual teacher significantly affect what goes on in the classroom, they are far from ensuring children’s learning. Research indicates that the most powerful influences on whether and what children learn occur in the teacher’s interactions with them, in the real-time decisions the teacher makes throughout the day.<sup>71</sup> Thus, no educational strategy that fails to recognize the centrality of the teacher’s decisions and actions can be successful.

It is the teacher’s classroom plans and organization, sensitivity and responsiveness to all the children, and moment-to-moment interactions with them that have the greatest impact on children’s development and learning.<sup>72</sup> The way teachers design learning experiences, how they engage children and respond to them, how they adapt their teaching and interactions to children’s background, the feedback they give—these matter greatly in children’s learning. And none can be fully determined in advance and laid out in a curriculum product or set of lesson plans that every teacher is to follow without deviation. Teachers will always have moment-to-moment decisions to make.

To make these decisions with well-grounded intentionality, teachers need to have knowledge about child development and learning in general, about the individual children in their classrooms, and about the sequences in which a domain’s specific concepts and skills are learned. Teachers also need to have at the ready a well developed repertoire of teaching strategies to employ for different purposes.<sup>73</sup>

Directly following from this first lesson is a second: the imperative to make developing teacher quality and effectiveness a top priority. This investment must include excellent preservice preparation, ongoing professional development, and on-the-ground support and mentoring. For example, good curriculum resources are helpful when they specify the key skills and concepts for children and provide a degree of teaching guidance, but

without overscripting. New or inadequately trained teachers and those encountering a new curriculum or set of standards may be particularly in need of such scaffolding.<sup>74</sup>

Another valuable form of scaffolding for teachers is interaction with mentors and peers. Meeting the needs of diverse learners and helping all children to develop and learn require significant time for teachers to collaborate with colleagues, discuss and observe best practices, and participate in meaningful professional development. Most teachers, including novice teachers, get too little

time for such activities. While providing time and opportunity for teachers to do these things can be very challenging for administrators, it is critical.<sup>75</sup>

To act on this second “lesson”—the imperative to make teaching quality and effectiveness a top priority—means changing what happens in the classroom. But it also means establishing policies and committing public funds at the federal, state, and local levels, as described in “Policy Considerations,” the concluding section of this position statement.

## Core considerations in developmentally appropriate practice

Every day, early childhood practitioners make a great many decisions, both long-term and short-term. As they do so, they need to keep in mind the identified goals for children’s learning and development and be intentional in helping children achieve these goals. The core of developmentally appropriate practice lies in this intentionality, in the knowledge that practitioners consider when they are making decisions, and in their always aiming for goals that are both challenging and achievable for children.

### Knowledge to consider in making decisions

In all aspects of their work with children, early childhood practitioners must consider these three areas of knowledge:

**1. What is known about child development and learning—referring to knowledge of age-related characteristics that permits general predictions about what experiences are likely to best promote children’s learning and development.**

Teachers who are knowledgeable about child development and learning are able to make broad predictions about what children of a particular age group typically will be like, what they typically will and will not be capable of, and what strategies and approaches will most likely promote their optimal learning and development. With this knowledge, teachers can make preliminary decisions with some confidence about environment, materials, interactions, and activities. At the same time, their knowledge also tells them that specific groups of children

and the individual children in any group always will be the same in some ways but different in others.

**2. What is known about each child as an individual—referring to what practitioners learn about each child that has implications for how best to adapt and be responsive to that individual variation.**

To be effective, teachers must get to know each child in the group well. They do this using a variety of methods—such as observation, clinical interview (an extended dialogue in which the adult seeks to discern the child’s concepts or strategies), examination of children’s work, individual child assessments, and talking with families. From the information and insights gathered, teachers make plans and adjustments to promote each child’s individual development and learning as fully as possible. Developmental variation among children is the norm, and any one child’s progress also will vary across domains and disciplines, contexts, and time. Children differ in many other respects, too—including in their strengths, interests, and preferences; personalities and approaches to learning; and knowledge, skills, and abilities based on prior experiences. Children may also have special learning needs; sometimes these have been diagnosed and sometimes they have not. Among the factors that teachers need to consider as they seek to optimize a child’s school adjustment and learning are circumstances such as living in poverty or homelessness, having to move frequently, and other challenging situations. Responding to each child as an individual is fundamental to developmentally appropriate practice.

**3. What is known about the social and cultural contexts in which children live—referring to the values, expectations, and behavioral and linguistic conventions that shape children’s lives at home and in their communities that practitioners must strive to understand in order to ensure that learning experiences in the program or school are meaningful, relevant, and respectful for each child and family.**

As we grow up in a family and in a broader social and cultural community, we all come to certain understandings about what our group considers appropriate, values, expects, admires. We learn this through direct teaching from our parents and other important people in our lives and through observing those around us. Among these understandings, we absorb “rules” about behaviors—such as how to show respect, how to interact with people we know well and those we have just met, how to regard time and personal space, how to dress, and countless other attitudes and actions. We typically absorb these rules very early and very deeply, so we live by them with little conscious thought. When young children are in a group setting outside the home, what makes sense to them, how they use language to interact, and how they experience this new world depend on the social and cultural contexts to which they are accustomed. A skilled teacher takes such contextual factors into account, along with the children’s ages and their individual differences, in shaping all aspects of the learning environment.

To recap this decision-making process: An effective teacher begins by thinking about what children of the age and developmental status represented in the group are typically like. This knowledge provides a general idea of the activities, routines,

interactions, and curriculum that will be effective with that group. The teacher also must consider each child, including looking at the child as an individual and within the context of family, community, culture, linguistic norms, social group, past experience (including learning and behavior), and current circumstances. Only then can the teacher see children *as they are* to make decisions that are developmentally appropriate for each of them.

### Challenging and achievable goals

Meeting children where they are is essential, but no good teacher simply leaves them there. Keeping in mind desired goals and what is known about the children as a group and individually, the teacher plans experiences to promote children’s learning and development.

Learning and development are most likely to occur when new experiences build on what a child already knows and is able to do and when those learning experiences also entail the child stretching a reasonable amount in acquiring new skills, abilities, or knowledge. After the child reaches that new level of mastery in skill or understanding, the teacher reflects on what goals should come next; and the cycle continues, advancing children’s learning in a developmentally appropriate way.

Clearly, such effective teaching does not happen by chance. A hallmark of developmentally appropriate teaching is intentionality. Good teachers are intentional in everything they do—setting up the classroom, planning curriculum, making use of various teaching strategies, assessing children, interacting with them, and working with their families. Intentional teachers are purposeful and thoughtful about the actions they take, and they direct their teaching toward the goals the program is trying to help children reach.

## Principles of child development and learning that inform practice

Developmentally appropriate practice as defined in this position statement is not based on what we think might be true or what we want to believe about young children. Developmentally appropriate practice is informed by what we know from theory and literature about how children develop and learn. In particular, a review of that literature yields a number of well supported generalizations, or principles.

No linear listing of principles—including the one below—can do justice to the complexity of the phenomenon that is child development and learning. While the list is comprehensive, it certainly is not all-inclusive. Each principle describes an individually contributing factor; but just as all domains of development and learning are interrelated, so too do the principles interconnect. For example, the influence of cultural differences and individual

differences, each highlighted in a separate principle below, cuts across all the other principles. That is, the implication of any principle often differs as a function of cultural or individual givens.

A complete discussion of the knowledge base that informs developmentally appropriate practice is clearly beyond the scope of this document. Each of the principles rests on a very extensive research base that is only partially referenced here.<sup>76</sup>

All the limitations of such a list notwithstanding, collectively the principles that follow form a solid basis for decision making—for decisions at all levels about how best to meet the needs of young children in general, and for decisions by teachers, programs, and families about the strengths and needs of individual children, with all their variations in prior experiences, abilities and talents, home language and English proficiency, personalities and temperaments, and community and cultural backgrounds.

### **1 All the domains of development and learning—physical, social and emotional, and cognitive—are important, and they are closely interrelated. Children’s development and learning in one domain influence and are influenced by what takes place in other domains.**

Children are thinking, moving, feeling, and interacting human beings. To teach them well involves considering and fostering their development and learning in all domains.<sup>77</sup> Because this full spectrum of development and learning is fundamental to children’s lives and to their future participation as members of society, early care and education must address all the domains.

Further, changes in one domain often facilitate or limit development in other areas.<sup>78</sup> For example, when children begin to crawl or walk, they gain new possibilities for exploring the world, and their mobility affects both their cognitive development and sense of autonomy. Likewise, children’s language development influences their ability to participate in social interaction with adults and other children; such interactions, in turn, support their further language development.<sup>79</sup> A growing body of work demonstrates the relationship between emotional and social factors and children’s academic competence<sup>80</sup> and thus the importance of all these areas in educating young children. In brief, the knowledge base documents the importance of a comprehensive curriculum and the interrelated-

ness of the developmental domains in children’s well-being and success.

### **2 Many aspects of children’s learning and development follow well documented sequences, with later abilities, skills, and knowledge building on those already acquired.**

Human development research suggests that relatively stable, predictable sequences of growth and change occur in children during the first nine years of life.<sup>81</sup> Predictable changes occur in all domains of development, although the ways that these changes are manifested and the meaning attached to them may vary widely in different cultural and linguistic contexts.<sup>82</sup> Knowledge of how children within a given age span typically develop and learn provides a general framework to guide teachers in preparing the learning environment, considering curriculum, designing learning experiences, and teaching and interacting with children.

Also important for educators to know are the sequences in which children gain specific concepts, skills, and abilities, building on prior development and learning. In mathematics, for example, children’s learning to count serves as an important foundation for their acquiring an understanding of numerals.<sup>83</sup> Familiarity with known learning sequences should inform curriculum development and teaching practice.

### **3 Development and learning proceed at varying rates from child to child, as well as at uneven rates across different areas of a child’s individual functioning.**

Individual variation has at least two dimensions: the inevitable variability around the typical or normative course of development and the uniqueness of each child as an individual. Children’s development follows individual patterns and timing; children also vary in temperament, personality, and aptitudes, as well as in what they learn in their family and within the social and cultural context or contexts that shape their experience.

All children have their own strengths, needs, and interests. Given the enormous variation among children of the same chronological age, a child’s age is only a crude index of developmental abilities and interests. For children who have special learning needs or abilities, additional efforts and resources may be necessary to optimize their

development and learning. The same is true when children's prior experiences do not give them the knowledge and skills they need to thrive in a specific learning environment.

Given this normal range of variation, decisions about curriculum, teaching, and interactions with children should be as individualized as possible. Rigid expectations of group norms do not reflect what is known about real differences in development and learning. At the same time, having high expectations for all children is essential, as is using the strategies and providing the resources necessary to help them meet these expectations.

#### **4 Development and learning result from a dynamic and continuous interaction of biological maturation and experience.**

Development is the result of the interplay between the growing, changing child and the child's experiences in the social and physical worlds.<sup>84</sup> For example, a child's genetic makeup may predict healthy growth, but inadequate nutrition in the early years of life will keep this potential from being fulfilled. Conversely, the impact of an organic condition on a young child's learning and development can be minimized through systematic, individualized intervention. Likewise, a child's innate temperament—such as a predisposition to be either wary or outgoing—shapes and is shaped by how other children and adults interact with that child. In light of the power of biology and the effects of children's prior experiences, it is important for early childhood educators to maintain high expectations and employ all their knowledge, ingenuity, and persistence to find ways to help every child succeed.

#### **5 Early experiences have profound effects, both cumulative and delayed, on a child's development and learning; and optimal periods exist for certain types of development and learning to occur.**

Children's early experiences, whether positive or negative, are cumulative. For example, a child's social experiences with other children in the preschool years may help him develop social skills and confidence that enable him or her to make friends in subsequent years, and these experiences further enhance the child's social competence and academic achievement. Conversely, children who fail to develop minimal social skills and thus suffer neglect or rejection from peers are at risk

for later outcomes such as school dropout, delinquency, and mental health problems.<sup>85</sup> Similarly, early stimulation promotes brain development and the forming of neural connections, which in turn enable further development and learning. But if the very young child does not get this stimulation, he is less able to benefit from subsequent learning opportunities, and a cumulative disadvantage is set in motion.

Intervention and support are more successful the earlier a problem is addressed. Prevention of reading difficulties, for example, is far less difficult and expensive than remediation.<sup>86</sup> In addition, the literature shows that some aspects of development occur most efficiently at certain points in the life span. The first three years of life, for example, appear to be an optimal period for oral language development.<sup>87</sup> Ensuring that children get the needed environmental inputs and supports for a particular kind of learning and development at its "prime time" is always the most reliable route to desired results.

#### **6 Development proceeds toward greater complexity, self-regulation, and symbolic or representational capacities.**

A pervasive characteristic of development is that children's functioning becomes increasingly complex—in language, social interaction, physical movement, problem solving, and virtually every other domain. Increased organization and memory capacity of the developing brain make it possible with age for children to combine simple routines into more complex strategies.<sup>88</sup> The younger the child, the more she or he tends to think concretely and in the here and now. Yet in some ways, young children's thinking can be quite abstract. For example, preschoolers know that adding always makes *more* and subtracting makes *less*, and they are able to grasp abstract ideas about counting objects such as the one-to-one principle.<sup>89</sup>

All young humans must negotiate the transition from total dependence on others at birth to competence and internal control, including learning to regulate their emotions, behaviors, and attention. For young infants, there are tasks such as learning to soothe themselves from arousal to a settled state. A few years later, self-regulation means developing the capacity to manage strong emotions and keep one's attention focused. Throughout the early years, adults play significant roles in helping children learn to self-regulate.

Caregivers are important in helping very young children to modulate their emotional arousal; for example, soothing babies and then helping them learn to soothe themselves.<sup>90</sup> In the preschool years, teachers can help children develop self-regulation by scaffolding high-level dramatic play,<sup>91</sup> helping children learn to express their emotions, and engaging children in planning and decision making.<sup>92</sup>

During the early years of life, children move from sensory or behavioral responses to symbolic or representational knowledge.<sup>93</sup> For example, young children are able to navigate their homes and other familiar settings by recall and sensory cues, but later they come to understand and can use abstractions such as *left* and *right* or read a map of the house. It is around age 2 that children begin to represent and reconstruct their experiences and knowledge.<sup>94</sup> For example, children may use one object to stand for another in play, such as a block for a phone or a spatula for a guitar.<sup>95</sup> Their ability to use various modes and media to convey their meaning increases in range and scope. By the preschool years, these modes may include oral language, gestures and body movement, visual arts (drawing, painting, sculpting), construction, dramatic play, and writing. Their efforts to represent their ideas and concepts in any of these modes enhance the knowledge itself.<sup>96</sup>

## 7 Children develop best when they have secure, consistent relationships with responsive adults and opportunities for positive relationships with peers.

From the earliest years of life, warm, nurturing relationships with responsive adults are necessary for many key areas of children's development, including empathy and cooperation, self-regulation and cultural socialization, language and communication, peer relationships, and identity formation.<sup>97</sup>

When children and caring adults have the opportunity to get to know each other well, they learn to predict each other's signals and behavior and establish attunement and trust.<sup>98</sup> The first and most important relationships are those a child forms with parents or other primary caregivers. Forming one or more such attachments sets the stage for other relationships, as children move into the wider world beyond their immediate family.<sup>99</sup> Young children benefit from opportunities to develop ongoing, trusting relationships with adults outside the family and with other

children. Notably, positive teacher-child relationships promote children's learning and achievement, as well as social competence and emotional development.<sup>100</sup>

Nurturing relationships are vital in fostering high self-esteem and a strong sense of self-efficacy, capacity in resolving interpersonal conflicts cooperatively, and the sociability to connect with others and form friendships. Further, by providing positive models and the security and confidence to try new experiences and attempt new skills, such relationships support children's learning and the acquisition of numerous capabilities.<sup>101</sup>

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

Understanding children's development requires viewing each child within the sociocultural context of that child's family, educational setting, and community, as well as within the broader society.<sup>102</sup> These various contexts are interrelated, and all powerfully influence the developing child. For example, even a child in a loving, supportive family within a strong, healthy community is affected by the biases of the larger society, such as racism or sexism, and may show some effects of its negative stereotyping and discrimination.

Here *culture* is intended to refer to the customary beliefs and patterns of behavior, both explicit and implicit, that are inculcated by the society—or by a social, religious, or ethnic group within the society—in its members. Even though culture is discussed often in the context of diversity and immigrant or minority groups, all of us are members of cultures and are powerfully influenced by them. Every culture structures and interprets children's behavior and development in its own way.<sup>103</sup> Early childhood teachers need to understand the influence of sociocultural contexts and family circumstances on learning, recognize children's developing competencies, and be familiar with the variety of ways that children may demonstrate their developmental achievements.<sup>104</sup> Most importantly, educators need to be sensitive to how their own cultural experience shapes their perspective and to realize that multiple perspectives, not just their own, must be considered in decisions about children's development and learning.

As children grow up, they need to learn to function well in the society and in the increasingly global economy and to move comfortably among

groups of people from backgrounds both similar and dissimilar to their own. Fortunately, children are capable of learning to function in more than one social or cultural context and to make behavioral or linguistic shifts as they move from one context to another, although this complex ability does not occur overnight and requires adult support. Acquiring a new language or the ability to operate in a new culture can and should be an additive process, rather than causing the displacement of the child's first language and culture.<sup>105</sup> For example, immigrant children are able to develop English proficiency without having to give up their home language, and it is important that they retain their fluency in the language of their family and community. Likewise, children who speak only English benefit from learning another language and can do so without sacrificing their English proficiency.<sup>106</sup>

**9 Always mentally active in seeking to understand the world around them, children learn in a variety of ways; a wide range of teaching strategies and interactions are effective in supporting all these kinds of learning.**

Several prominent theories and bodies of research view cognitive development from the constructivist, interactive perspective.<sup>107</sup> That is, young children construct their knowledge and understanding of the world in the course of their own experiences, as well as from teachers, family members, peers and older children, and from books and other media. They learn from the concrete (e.g., manipulatives); they also apparently are capable of and interested in abstract ideas, to a far greater degree than was previously believed.<sup>108</sup> Children take all this input and work out their own understandings and hypotheses about the world. They try these out through interactions with adults and other children, physical manipulation, play, and their own thought processes—observing what happens, reflecting on their findings, imagining possibilities, asking questions, and formulating answers. When children make knowledge their own in these ways, their understanding is deeper and they can better transfer and apply their learning in new contexts.<sup>109</sup>

Using multiple teaching strategies is important in meeting children's different learning needs. The *Eager to Learn: Educating Our Preschoolers* report concluded:

Good teachers acknowledge and encourage children's efforts, model and demonstrate, create challenges and support children in extending their capabilities, and provide specific directions or instruction. All of these teaching strategies can be used in the context of play and structured activities. Effective teachers also organize the classroom environment and plan ways to pursue educational goals for each child as opportunities arise in child-initiated activities and in activities planned and initiated by the teacher.<sup>110</sup>

Thus, children benefit when teachers have at their disposal a wide range of teaching strategies and from these teachers select the best strategy to use in a situation, depending on the learning goal, specific context, and needs of individual children at that moment, including children who may need much more support than others even in exploration and play.<sup>111</sup>

**10 Play is an important vehicle for developing self-regulation as well as for promoting language, cognition, and social competence.**

Children of all ages love to play, and it gives them opportunities to develop physical competence and enjoyment of the outdoors, understand and make sense of their world, interact with others, express and control emotions, develop their symbolic and problem-solving abilities, and practice emerging skills. Research shows the links between play and foundational capacities such as memory, self-regulation, oral language abilities, social skills, and success in school.<sup>112</sup>

Children engage in various kinds of play, such as physical play, object play, pretend or dramatic play, constructive play, and games with rules. Observed in all young animals, play apparently serves important physical, mental, emotional, and social functions for humans and other species, and each kind of play has its own benefits and characteristics. From infancy, children act on the world around them for the pleasure of seeing what happens; for example, repeatedly dropping a spoon on the floor or pulling the cat's tail. At around age 2, children begin to demonstrate symbolic use of objects—for instance, picking up a shell and pretending to drink as from a cup—at least when they have had opportunities to observe others engaging in such make-believe behavior.<sup>113</sup>

From such beginnings, children begin to engage in more mature forms of dramatic play, in which by the age of 3–5 they may act out specific

roles, interact with one another in their roles, and plan how the play will go. Such play is influential in developing self-regulation, as children are highly motivated to stick to the roles and rules of the play, and thus grow in the ability to inhibit their impulses, act in coordination with others, and make plans.<sup>114</sup> High-level dramatic play produces documented cognitive, social, and emotional benefits.<sup>115</sup> However, with children spending more time in adult-directed activities and media use, forms of child play characterized by imagination and rich social interactions seem to be declining.<sup>116</sup> Active scaffolding of imaginative play is needed in early childhood settings if children are to develop the sustained, mature dramatic play that contributes significantly to their self-regulation and other cognitive, linguistic, social, and emotional benefits. Adults can use proven methods to promote children's extended engagement in make-believe play as well as in games with rules and other kinds of high-level play.<sup>117</sup> Rather than detracting from academic learning, play appears to support the abilities that underlie such learning and thus to promote school success.<sup>118</sup>

## 11 **Development and learning advance when children are challenged to achieve at a level just beyond their current mastery, and also when they have many opportunities to practice newly acquired skills.**

Human beings, especially children, are motivated to understand or do what is just beyond their current understanding or mastery.<sup>119</sup> Effective teachers create a rich learning environment to activate that motivation, and they make use of strategies to promote children's undertaking and mastering of new and progressively more advanced challenges.<sup>120</sup>

In a task just beyond a child's independent reach, adults and more-competent peers contribute significantly to the child's development by providing the support or assistance that allows the child to succeed at that task. Once children make this stretch to a new level in a supportive context, they can go on to use the skill independently and in a variety of contexts, laying the foundation for the next challenge. Provision of such support, often called *scaffolding*,<sup>121</sup> is a key feature of effective teaching.<sup>122</sup>

At the same time, children need to be successful in new tasks a significant proportion of the time in order for their motivation and persistence to be

maintained.<sup>123</sup> Confronted by repeated failure, most children will simply stop trying. Repeated opportunity to practice and consolidate new skills and concepts is also essential in order for children to reach the threshold of mastery at which they can go on to use this knowledge or skill and apply it in new situations. Young children engage in a great deal of practice during play and in other child-guided contexts.<sup>124</sup>

To set challenging, achievable goals for children and to provide the right amount and type of scaffolding require knowledge of child development and learning, including familiarity with the paths and sequences that children are known to follow in acquiring specific skills, concepts, and abilities. This general knowledge, along with what the teacher learns from close observation and probing of the individual child's thinking, is critical to matching curriculum and teaching experiences to that child's emerging competencies so as to be challenging but not frustrating.

## 12 **Children's experiences shape their motivation and approaches to learning, such as persistence, initiative, and flexibility; in turn, these dispositions and behaviors affect their learning and development.**

The National Education Goals Panel and its Goal One Technical Planning Group identified "approaches to learning" as one of five aspects of school readiness.<sup>125</sup> Focused on the *how* rather than the *what* of learning, approaches to learning involve both children's feelings about learning (including their interest, pleasure, and motivation to learn) and children's behavior when learning (including attention, persistence, flexibility, and self-regulation).<sup>126</sup>

Even in the early years, children differ in their approaches to learning. These differences may influence children's school readiness and school success. For example, children who start school more eager to learn tend to do better in reading and mathematics than do less motivated children.<sup>127</sup> Children with more positive learning behaviors, such as initiative, attention, and persistence, later develop stronger language skills.<sup>128</sup> Moreover, children with greater self-regulation and other "learning-related skills" in kindergarten are more skilled in reading and mathematics in later grades.<sup>129</sup>

Although temperament and other inherent differences may affect children's approaches to learn-

ing, their experiences in families and early education programs have a major influence. Programs can implement evidence-based strategies that will promote positive approaches to learning. These

strategies include strengthening relationships with children; working with families; and selecting effective curriculum, assessments, and teaching methods.<sup>130</sup>

## Guidelines for developmentally appropriate practice

Practice that promotes young children’s optimal learning and development—what this statement terms *developmentally appropriate practice*—is grounded both in the research on child development and learning and in the knowledge base regarding educational effectiveness in early care and education.

But whether or not what actually happens in the classroom is, in practice, developmentally appropriate is the result of myriad decisions at all levels—by policy makers, administrators, teachers, and families about the care and education of young children. Effective early childhood professionals draw on all the principles of child development and learning outlined, as well as the knowledge base on effective practices, and they apply the information in their practice.

The following guidelines address decisions that early childhood professionals make in the five key (and interrelated) areas of practice: (1) creating a caring community of learners, (2) teaching to enhance development and learning, (3) planning curriculum to achieve important goals, (4) assessing children’s development and learning, and (5) establishing reciprocal relationships with families.

### 1 Creating a caring community of learners

Because early childhood settings tend to be children’s first communities outside the home, the character of these communities is very influential in development. How children expect to be treated and how they treat others is significantly shaped in the early childhood setting. In developmentally appropriate practice, practitioners create and foster a “community of learners” that supports *all* children to develop and learn. The role of the community is to provide a physical, emotional, and cognitive environment conducive to that development and learning. The foundation for the community is consistent, positive, caring relationships between the adults and children, among children,

among teachers, and between teachers and families. It is the responsibility of all members of the learning community to consider and contribute to one another’s well-being and learning.

To create a caring community of learners, practitioners ensure that the following occur for children from birth through the primary grades.

- A.** Each member of the community is valued by the others. By observing and participating in the community, children learn about themselves and their world and also how to develop positive, constructive relationships with other people. Each child has unique strengths, interests, and perspectives to contribute. Children learn to respect and acknowledge differences of all kinds and to value each person.
- B.** Relationships are an important context through which children develop and learn. Children construct their understandings about the world around them through interactions with other members of the community (both adults and peers). Opportunities to play together, collaborate on investigations and projects, and talk with peers and adults enhance children’s development and learning. Interacting in small groups provides a context for children to extend their thinking, build on one another’s ideas, and cooperate to solve problems. (Also see guideline 5, “Establishing Reciprocal Relationships with Families.”)
- C.** Each member of the community respects and is accountable to the others to behave in a way that is conducive to the learning and well-being of all.
  - 1.** Teachers help children develop responsibility and self-regulation. Recognizing that such abilities and behaviors develop with experience and time, teachers consider how to foster such development in their interactions

with each child and in their curriculum planning.

**2.** Teachers are responsible at all times for all children under their supervision, monitoring, anticipating, preventing, and redirecting behaviors not conducive to learning or disrespectful of the community, as well as teaching prosocial behaviors.

**3.** Teachers set clear and reasonable limits on children's behavior and apply those limits consistently. Teachers help children be accountable to themselves and to others for their behavior. In the case of preschool and older children, teachers engage children in developing their own community rules for behavior.

**4.** Teachers listen to and acknowledge children's feelings and frustrations, respond with respect in ways that children can understand, guide children to resolve conflicts, and model skills that help children to solve their own problems.

**5.** Teachers themselves demonstrate high levels of responsibility and self-regulation in their interactions with other adults (colleagues, family members) and with children.

**D.** Practitioners design and maintain the physical environment to protect the health and safety of the learning community members, specifically in support of young children's physiological needs for activity, sensory stimulation, fresh air, rest, and nourishment. The daily schedule provides a balance of rest and active movement. Outdoor experiences, including opportunities to interact with the natural world, are provided for children of all ages.

**E.** Practitioners ensure members of the community feel psychologically safe. The overall social and emotional climate is positive.

**1.** Interactions among community members (administrators, teachers, families, children), as well as the experiences provided by teachers, leave participants feeling secure, relaxed, and comfortable rather than disengaged, frightened, worried, or unduly stressed.

**2.** Teachers foster in children an enjoyment of and engagement in learning.

**3.** Teachers ensure that the environment is organized and the schedule follows an orderly routine that provides a stable structure within which development and learning can take place. While the environment's elements are dynamic and changing, overall it still is predictable and comprehensible from a child's point of view.

**4.** Children hear and see their home language and culture reflected in the daily interactions and activities of the classroom.

## 2 Teaching to enhance development and learning

From birth, a child's relationships and interactions with adults are critical determinants of development and learning. At the same time, children are active constructors of their own understanding of the world around them; as such, they benefit from initiating and regulating their own learning activities and from interacting with peers. Developmentally appropriate teaching practices provide an optimal balance of adult-guided and child-guided experiences. "*Adult-guided* experience proceeds primarily along the lines of the teacher's goals, but is also shaped by the children's active engagement; *child-guided* experience proceeds primarily along the lines of children's interests and actions, with strategic teacher support."<sup>131</sup> But whether a learning experience is adult- or child-guided, in developmentally appropriate practice it is the teacher who takes responsibility for stimulating, directing, and supporting children's development and learning by providing the experiences that each child needs.

The following describe teaching practices that are developmentally appropriate for young children from birth through the primary grades.

**A.** Teachers are responsible for fostering the caring learning community through their teaching.

**B.** Teachers make it a priority to know each child well, and also the people most significant in the child's life.

**1.** Teachers establish positive, personal

relationships with each child and with each child's family to better understand that child's individual needs, interests, and abilities and that family's goals, values, expectations, and childrearing practices. (Also see guideline 5, "Establishing Reciprocal Relationships with Families.") Teachers talk with each child and family (with a community translator, if necessary, for mutual understanding) and use what they learn to adapt their actions and planning.

**2.** Teachers continually gather information about children in a variety of ways and monitor each child's learning and development to make plans to help children progress. (Also see guideline 4, "Assessing Children's Development and Learning.")

**3.** Teachers are alert to signs of undue stress and traumatic events in each child's life and employ strategies to reduce stress and support the development of resilience.

- C.** Teachers take responsibility for knowing what the desired goals for the program are and how the program's curriculum is intended to achieve those goals. They carry out that curriculum through their teaching in ways that are geared to young children in general and these children in particular. Doing this includes following the predictable sequences in which children acquire specific concepts, skills, and abilities and by building on prior experiences and understandings. (Also see guideline 3, "Planning Curriculum to Achieve Important Goals.")
- D.** Teachers plan for learning experiences that effectively implement a comprehensive curriculum so that children attain key goals across the domains (physical, social, emotional, cognitive) and across the disciplines (language literacy, including English acquisition, mathematics, social studies, science, art, music, physical education, and health).
- E.** Teachers plan the environment, schedule, and daily activities to promote each child's learning and development.
- 1.** Teachers arrange firsthand, meaningful experiences that are intellectually and

creatively stimulating, invite exploration and investigation, and engage children's active, sustained involvement. They do this by providing a rich variety of materials, challenges, and ideas that are worthy of children's attention.

**2.** Teachers present children with opportunities to make meaningful choices, especially in child-choice activity periods. They assist and guide children who are not yet able to enjoy and make good use of such periods.

**3.** Teachers organize the daily and weekly schedule to provide children with extended blocks of time in which to engage in sustained play, investigation, exploration, and interaction (with adults and peers).

**4.** Teachers provide experiences, materials, and interactions to enable children to engage in play that allows them to stretch their boundaries to the fullest in their imagination, language, interaction, and self-regulation as well as to practice their newly acquired skills.

- F.** Teachers possess an extensive repertoire of skills and strategies they are able to draw on, and they know how and when to choose among them, to effectively promote each child's learning and development at that moment. Those skills include the ability to adapt curriculum, activities, and materials to ensure full participation of *all* children. Those strategies include, but are not limited to, acknowledging, encouraging, giving specific feedback, modeling, demonstrating, adding challenge, giving cues or other assistance, providing information, and giving directions.

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

**2.** To stimulate children's thinking and extend their learning, teachers pose problems, ask questions, and make comments and suggestions.

**3.** To extend the range of children's interests and the scope of their thought, teachers present novel experiences and

introduce stimulating ideas, problems, experiences, or hypotheses.

4. To adjust the complexity and challenge of activities to suit children's level of skill and knowledge, teachers increase the challenge as children gain competence and understanding.

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

6. To enhance children's conceptual understanding, teachers use various strategies, including intensive interview and conversation, that encourage children to reflect on and "revisit" their experiences.

7. To encourage and foster children's learning and development, teachers avoid generic praise ("Good job!") and instead give specific feedback ("You got the same number when you counted the beans again!").

**G.** Teachers know how and when to *scaffold* children's learning—that is, providing just enough assistance to enable each child to perform at a skill level just beyond what the child can do on his or her own, then gradually reducing the support as the child begins to master the skill, and setting the stage for the next challenge.

1. Teachers recognize and respond to the reality that in any group, children's skills will vary and they will need different levels of support. Teachers also know that any one child's level of skill and need for support will vary over time.

2. Scaffolding can take a variety of forms; for example, giving the child a hint, adding a cue, modeling the skill, or adapting the materials and activities. It can be provided in a variety of contexts, not only in planned learning experiences but also in play, daily routines, and outdoor activities.

3. Teachers can provide the scaffolding (e.g., the teacher models the skill)

or peers can (e.g., the child's learning buddy models); in either case, it is the teacher who recognizes and plans for each child's need for support and assistance.

**H.** Teachers know how and when to use the various learning formats/contextes most strategically.

1. Teachers understand that each major learning format or context (e.g., large group, small group, learning center, routine) has its own characteristics, functions, and value.

2. Teachers think carefully about which learning format is best for helping children achieve a desired goal, given the children's ages, development, abilities, temperaments, etc.

**I.** When children have missed some of the learning opportunities necessary for school success (most often children from low-income households), programs and teachers provide them with even more extended, enriched, and intensive learning experiences than are provided to their peers.

1. Teachers take care not to place these children under added pressure. Such pressure on children already starting out at a disadvantage can make school a frustrating and discouraging experience, rather than an opportunity to enjoy and succeed at learning.

2. To enable these children to make optimal progress, teachers are highly intentional in use of time, and they focus on key skills and abilities through highly engaging experiences.

3. Recognizing the self-regulatory, linguistic, cognitive, and social benefits that high-quality play affords, teachers do not reduce play opportunities that these children critically need. Instead, teachers scaffold and model aspects of rich, mature play.

**J.** Teachers make experiences in their classrooms accessible and responsive to *all* children and their needs—including children who are English language learners, have special needs or disabilities, live in poverty

or other challenging circumstances, or are from different cultures.

1. Teachers incorporate a wide variety of experiences, materials and equipment, and teaching strategies to accommodate the range of children's individual differences in development, skills and abilities, prior experiences, needs, and interests.
2. Teachers bring each child's home culture and language into the shared culture of the learning community so that the unique contributions of that home culture and language can be recognized and valued by the other community members, and the child's connection with family and home is supported.
3. Teachers include all children in all of the classroom activities and encourage children to be inclusive in their behaviors and interactions with peers.
4. Teachers are prepared to meet special needs of individual children, including children with disabilities and those who exhibit unusual interests and skills. Teachers use all the strategies identified here, consult with appropriate specialists and the child's family, and see that the child gets the adaptations and specialized services he or she needs to succeed in the early childhood setting.

### 3 Planning curriculum to achieve important goals

The curriculum consists of the knowledge, skills, abilities, and understandings children are to acquire and the plans for the learning experiences through which those gains will occur. Implementing a curriculum always yields outcomes of some kind—but *which* outcomes those are and *how* a program achieves them are critical. In developmentally appropriate practice, the curriculum helps young children achieve goals that are developmentally and educationally significant. The curriculum does this through learning experiences (including play, small group, large group, interest centers, and routines) that reflect what is known about young children in general and about these children in particular, as well as about the sequences in which children acquire specific

concepts, skills, and abilities, building on prior experiences.

Because children learn more in programs where there is a well planned and implemented curriculum, it is important for every school and early childhood program to have its curriculum in written form. Teachers use the curriculum and their knowledge of children's interests in planning relevant, engaging learning experiences; and they keep the curriculum in mind in their interactions with children throughout the day. In this way they ensure that children's learning experiences—in both adult-guided and child-guided contexts—are consistent with the program's goals for children and connected within an organized framework. At the same time, developmentally appropriate practice means teachers have flexibility—and the expertise to exercise that flexibility effectively—in how they design and carry out curricular experiences in their classrooms.<sup>132</sup>

The following describe curriculum planning that is developmentally appropriate for children from birth through the primary grades.

- A. Desired goals that are important in young children's learning and development have been identified and clearly articulated.
  1. Teachers consider what children should know, understand, and be able to do across the domains of physical, social, emotional, and cognitive development and across the disciplines, including language, literacy, mathematics, social studies, science, art, music, physical education, and health.
  2. If state standards or other mandates are in place, teachers become thoroughly familiar with these; teachers add to these any goals to which the standards have given inadequate weight.
  3. Whatever the source of the goals, teachers and administrators ensure that goals are clearly defined for, communicated to, and understood by all stakeholders, including families.
- B. The program has a comprehensive, effective curriculum that targets the identified goals, including all those foundational for later learning and school success.
  1. Whether or not teachers were participants in the decision about the curricu-

lum, they familiarize themselves with it and consider its comprehensiveness in addressing all important goals.

**2.** If the program is using published curriculum products, teachers make adaptations to meet the learning needs of the children they teach.

**3.** If practitioners develop the curriculum themselves, they make certain it targets the identified goals and they use strong, up-to-date resources from experts to ensure that curriculum content is robust and comprehensive.

**C.** Teachers use the curriculum framework in their planning to ensure there is ample attention to important learning goals and to enhance the coherence of the classroom experience for children.

**1.** Teachers are familiar with the understandings and skills key for that age group in each domain (physical, social, emotional, cognitive), including how learning and development in one domain impact the other domains.

**2.** In their planning and follow-through, teachers use the curriculum framework along with what they know (from their observation and other assessment) about the children's interests, progress, language proficiency, and learning needs. They carefully shape and adapt the experiences they provide children to enable each child to reach the goals outlined in the curriculum.

**3.** In determining the sequence and pace of learning experiences, teachers consider the developmental paths that children typically follow and the typical sequences in which skills and concepts develop. Teachers use these with an eye to moving all children forward in all areas, adapting when necessary for individual children. When children have missed some of the learning opportunities that promote school success, teachers must adapt the curriculum to help children advance more quickly.

**D.** Teachers make meaningful connections a priority in the learning experiences they

provide children, to reflect that all learners, and certainly young children, learn best when the concepts, language, and skills they encounter are related to something they know and care about, and when the new learnings are themselves interconnected in meaningful, coherent ways.

**1.** Teachers plan curriculum experiences that integrate children's learning *within* and *across* the domains (physical, social, emotional, cognitive) and the disciplines (including language, literacy, mathematics, social studies, science, art, music, physical education, and health).

**2.** Teachers plan curriculum experiences to draw on children's own interests and introduce children to things likely to interest them, in recognition that developing and extending children's interests is particularly important during the pre-school years, when children's ability to focus their attention is in its early stages.

**3.** Teachers plan curriculum experiences that follow logical sequences and that allow for depth and focus. That is, the experiences do not skim lightly over a great many content areas, but instead allow children to spend sustained time with a more select set.

**E.** Teachers collaborate with those teaching in the preceding and subsequent grade levels, sharing information about children and working to increase the continuity and coherence across ages/grades, while protecting the integrity and appropriateness of practices at each level.

**F.** In the care of infants and toddlers, practitioners plan curriculum (although they may not always call it that). They develop plans for the important routines and experiences that will promote children's learning and development and enable them to attain desired goals.

## 4 Assessing children's development and learning

Assessment of children's development and learning is essential for teachers and programs in order to plan, implement, and evaluate the effective-

ness of the classroom experiences they provide. Assessment also is a tool for monitoring children's progress toward a program's desired goals. In developmentally appropriate practice, the experiences and the assessments are linked (the experiences are developing what is being assessed, and vice versa); both are aligned with the program's desired outcomes or goals for children. Teachers cannot be intentional about helping children to progress unless they know where each child is with respect to learning goals.

Sound assessment of young children is challenging because they develop and learn in ways that are characteristically uneven and embedded within the specific cultural and linguistic contexts in which they live. For example, sound assessment takes into consideration such factors as a child's facility in English and stage of linguistic development in the home language. Assessment that is not reliable or valid, or that is used to label, track, or otherwise harm young children, is not developmentally appropriate practice.

The following describe sound assessment that is developmentally appropriate for children from birth through the primary grades.

- A.** Assessment of young children's progress and achievements is ongoing, strategic, and purposeful. The results of assessment are used to inform the planning and implementing of experiences, to communicate with the child's family, and to evaluate and improve teachers' and the program's effectiveness.
- B.** Assessment focuses on children's progress toward goals that are developmentally and educationally significant.
- C.** There is a system in place to collect, make sense of, and use the assessment information to guide what goes on in the classroom (formative assessment). Teachers use this information in planning curriculum and learning experiences and in moment-to-moment interactions with children—that is, teachers continually engage in assessment for the purpose of improving teaching and learning.
- D.** The methods of assessment are appropriate to the developmental status and experiences of young children, and they recognize individual variation in learners and allow children to demonstrate their competence in different ways. Methods appropriate to the classroom assessment of young children, therefore, include results of teachers' observations of children, clinical interviews, collections of children's work samples, and their performance on authentic activities.
- E.** Assessment looks not only at what children can do independently but also at what they can do with assistance from other children or adults. Therefore, teachers assess children as they participate in groups and other situations that are providing scaffolding.
- F.** In addition to this assessment by teachers, input from families as well as children's own evaluations of their work are part of the program's overall assessment strategy.
- G.** Assessments are tailored to a specific purpose and used only for the purpose for which they have been demonstrated to produce reliable, valid information.
- H.** Decisions that have a major impact on children, such as enrollment or placement, are never made on the basis of results from a single developmental assessment or screening instrument/device but are based on multiple sources of relevant information, including that obtained from observations of and interactions with children by teachers and parents (and specialists, as needed).
- I.** When a screening or other assessment identifies children who may have special learning or developmental needs, there is appropriate follow-up, evaluation, and, if indicated, referral. Diagnosis or labeling is never the result of a brief screening or one-time assessment. Families should be involved as important sources of information.

## 5 Establishing reciprocal relationships with families

Developmentally appropriate practices derive from deep knowledge of child development principles and of the program's children in particular, as well as the context within which each of them is living. The younger the child, the more necessary it is for practitioners to acquire this particular knowledge through relationships with children's families.

Practice is not developmentally appropriate if the program limits “parent involvement” to scheduled events (valuable though these may be), or if the program/family relationship has a strong “parent education” orientation. Parents do not feel like partners in the relationship when staff members see themselves as having all the knowledge and insight about children and view parents as lacking such knowledge.

Such approaches do not adequately convey the complexity of the partnership between teachers and families that is a fundamental element of good practice. The following describe the kind of relationships that are developmentally appropriate for children (from birth through the primary grades), in which family members and practitioners work together as members of the learning community.

- A.** In reciprocal relationships between practitioners and families, there is mutual respect, cooperation, shared responsibility, and negotiation of conflicts toward achievement of shared goals. (Also see guideline 1, “Creating a Caring Community of Learners.”)
- B.** Practitioners work in collaborative partnerships with families, establishing and maintaining regular, frequent two-way communication with them (with families who do not speak English, teachers should use the

language of the home if they are able or try to enlist the help of bilingual volunteers).

- C.** Family members are welcome in the setting, and there are multiple opportunities for family participation. Families participate in program decisions about their children’s care and education.
- D.** Teachers acknowledge a family’s choices and goals for the child and respond with sensitivity and respect to those preferences and concerns, but without abdicating the responsibility that early childhood practitioners have to support children’s learning and development through developmentally appropriate practices.
- E.** Teachers and the family share with each other their knowledge of the particular child and understanding of child development and learning as part of day-to-day communication and in planned conferences. Teachers support families in ways that maximally promote family decision-making capabilities and competence.
- F.** Practitioners involve families as a source of information about the child (before program entry and on an ongoing basis) and engage them in the planning for their child.
- G.** The program links families with a range of services, based on identified resources, priorities, and concerns.

## Policy considerations

Teachers and administrators in early childhood education play a critical role in shaping the future of our citizenry and our democracy. Minute to minute, day to day, month to month, they provide the consistent, compassionate, respectful relationships that our children need to establish strong foundations of early learning. By attending to the multiple domains of development and the individual needs of those in their care, early childhood professionals who employ developmentally appropriate practices engage young children in rich out-of-home early learning experiences that prepare them for future learning and success in life.

Regardless of the resources available, early childhood professionals have an ethical respon-

sibility to practice according to the standards of their profession. It is unrealistic, however, to expect that they can fully implement those standards and practices without public policies and funding that support a system of early childhood education that is grounded in providing high-quality developmentally appropriate experiences for all children.

The goal must be advancement in both realms: more early childhood professionals engaging in developmentally appropriate practices, and more policy makers establishing policies and committing public funds to support such practices.

Many elements of developmentally appropriate practice should be reflected in our federal, state, and local policies. Policy areas that are

particularly critical for developing a high-quality, well financed system of early childhood education, which includes the implementation of developmentally appropriate practice, must include at a minimum: early learning standards for children and related/aligned curricula and assessment; a comprehensive professional development and compensation system; a program quality rating and improvement system to improve program quality as well as to inform the families, the public, and policy makers about quality; comprehensive

and coordinated services for children; attention to program evaluation; and commitment of additional public funds to support program affordability and quality in every setting.

NAEYC regularly provides information to inform advocates and policy makers in their efforts to establish sound policies in these areas.

In order for such information and recommendations to be up to date, NAEYC's policy-relevant summaries and information appear not in this position statement but in their own location on the Association's website at [www.naeyc.org](http://www.naeyc.org).

## Notes

- <sup>1</sup>NAEYC. 1986. Position statement on developmentally appropriate practice in programs for 4- and 5-year-olds. *Young Children* 41 (6): 20–29; Bredekamp, S., ed. 1987. *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. Expanded edition. Washington, DC: NAEYC; NAEYC. 1996. Developmentally appropriate practice in early childhood programs serving children from birth through age 8. A position statement of the National Association for the Education of Young Children. In *Developmentally appropriate practice in early childhood programs*, Rev. ed., eds. S. Bredekamp & C. Copple, 3–30. Washington, DC: Author.
- <sup>2</sup>NAEYC & NAECs/SDE (National Association of Early Childhood Specialists in State Departments of Education). 2002. *Early learning standards: Creating the conditions for success*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap); NAEYC & NAECs/SDE (National Association of Early Childhood Specialists in State Departments of Education). 2003. *Early childhood curriculum, assessment, and program evaluation: Building an effective, accountable system in programs for children birth through age 8*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap); NAEYC. 2005. *Code of ethical conduct and statement of commitment*. Position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap); NAEYC. 2005. *NAEYC early childhood program standards and accreditation criteria*. 11 vols. Washington, DC: Author.
- Critical issues in the current context**
- <sup>3</sup>Children's Defense Fund. 2005. *The state of America's children, 2005*. Washington, DC: Author.
- <sup>4</sup>Cochran, M. 2007. *Finding our way: The future of American early care and education*. Washington, DC: Zero to Three.
- <sup>5</sup>Sandall, S., M.L. Hemmeter, B.J. Smith, & M.E. McLean, eds. 2005. *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education*. Longmont, CO: Sopris West, and Missoula, MT: Division for Early Childhood, Council for Exceptional Children; Hemmeter, M.L., L. Fox, & S. Doubet. 2006. Together we can: A program-wide approach to addressing challenging behavior. In *Social emotional development*, eds. E. Horn & H. Jones, Young Exceptional Children Monograph Series, vol. 8. Missoula, MT: Division for Early Childhood.
- <sup>6</sup>Gitomer, D.H. 2007. *Teacher quality in a changing policy landscape: Improvements in the teacher pool*. Princeton, NJ: Educational Testing Service. Online: [www.ets.org/Media/Education\\_Topics/pdf/TQ\\_full\\_report.pdf](http://www.ets.org/Media/Education_Topics/pdf/TQ_full_report.pdf).
- <sup>7</sup>Whitebook, M., C. Howes, & D. Phillips. 1990. *The national child care staffing study: Who cares? Child care teachers and the quality of care in America*. Final report. Oakland, CA: Child Care Employee Project.
- <sup>8</sup>Cochran, M. 2007. *Finding our way: The future of American early care and education*. Washington, DC: Zero to Three.
- <sup>9</sup>Klein, L.G., & J. Knitzer. 2006. Effective preschool curricula and teaching strategies. *Pathways to Early School Success*, Issue Brief No. 2. New York: Columbia University, National Center for Children in Poverty; Brooks-Gunn, J., C.E. Rouse, & S. McLanahan. 2007. Racial and ethnic gaps in school readiness. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 283–306. Baltimore: Paul H. Brookes.
- <sup>10</sup>Heath, S.B. 1983. *Ways with words: Language, life, and work in communities and classrooms*. New York: Cambridge University Press; Vogt, L., C. Jordan, & R. Tharp. 1993. Explaining school failure, producing school success. In *Minority education: Anthropological perspectives*, eds. E. Jacob & C. Jordan, 53–65. Norwood, NJ: Ablex.
- <sup>11</sup>Hart, B., & T.R. Risley. 1995. *Meaningful differences in the everyday experience of young American children*. Baltimore: Paul H. Brookes; Hart, B., & T.R. Risley. 1999. *The social world of children learning to talk*. Baltimore: Paul H. Brookes.
- <sup>12</sup>Farkas, G., & K. Beron. 2004. The detailed age trajectory of oral vocabulary knowledge: Differences by class and race. *Social Science Research* 33: 464–97.
- <sup>13</sup>Barbarin, O., D. Bryant, T. McCandies, M. Burchinal, D. Early, R. Clifford, & R. Pianta. 2006. Children enrolled in public pre-K: The relation of family life, neighborhood quality, and socioeconomic resources to early competence. *American Journal of Orthopsychiatry* 76: 265–76; Zill, N., & J. West. 2001. *Entering kindergarten: Findings from the condition of education, 2000*. Washington, DC: U.S. Department of Education, National Center for Education Statistics.

- <sup>14</sup>Lee, V.E., & D.T. Burkam. 2002. *Inequality at the starting gate: Social background differences in achievement as children begin school*. New York: Economic Policy Institute.
- <sup>15</sup>Aber, L., K. Burnley, D.K. Cohen, D.L. Featherman, D. Phillips, S. Raudenbush, & B. Rowan. 2006. *Beyond school reform: Improving the educational outcomes of low-income children*. Report to the Spencer Foundation. Ann Arbor, MI: University of Michigan, Center for Advancing Research and Solutions for Society; Klein, L.G., & J. Knitzer. 2006. Effective preschool curricula and teaching strategies. *Pathways to Early School Success*, Issue Brief No. 2. New York: Columbia University, National Center for Children in Poverty.
- <sup>16</sup>See, e.g., Mullis, I.V.S., M.O. Martin, & P. Foy. 2009, in press. *TIMSS 2007 international report and technical report*. Chestnut Hill, MA: Lynch School of Education, Boston College, TIMSS & PIRLS International Study Center; NCES (National Center for Education Statistics). 2006. *Comparing mathematics content in the National Assessment of Educational Progress (NEAP), Trends in International Mathematics and Science Study (TIMSS), and Program for International Student Assessment (PISA) 2003 assessments: Technical report*. Washington, DC: U.S. Department of Education, National Center for Education Statistics, Institute of Education Sciences. Online: [purl.access.gpo.gov/GPO/LPS70522](http://purl.access.gpo.gov/GPO/LPS70522).
- <sup>17</sup>U.S. Dept. of Education, Office of Elementary and Secondary Education. 2007. Title I—Improving the academic achievement of the disadvantaged; Individuals with Disabilities Education Act (IDEA): Final rule. *Federal Register* 72 (67): 17747–81. Online: [www.ed.gov/legislation/FedRegister/finrule/2007-2/040907a.html](http://www.ed.gov/legislation/FedRegister/finrule/2007-2/040907a.html).
- <sup>18</sup>Johnson, J., A.M. Arumi, & A. Ott. 2006. *Reality Check 2006—Education insights: A Public Agenda initiative to build momentum for improving American schools*. New York: Public Agenda.
- <sup>19</sup>The goals of NCLB—Goal 1: To strengthen the school’s core academic program so that by 2013-2014 all students (in aggregate and for each subgroup) will demonstrate academic skills at the “proficient” level or above on the State’s assessments and be engaged in high quality teaching and learning. Goal 2: To increase the number of students making successful transitions between schools and school levels. Goal 3: To increase the level of parental involvement in support of the learning process via communication between school and home. Goal 4: To align staff capacities, school processes, and professional development activities to implement effective methods and instructional practices that are supported by scientifically-based research. Goal 5: To recruit, staff, and retain highly qualified staff that will implement effective methods and instructional practices.
- <sup>20</sup>NIEER (National Institute for Early Education Research). 2007. *The state of preschool 2007: State preschool yearbook*. New Brunswick, NJ: Rutgers University, Graduate School of Education. Online: [nieer.org/yearbook/pdf/yearbook.pdf](http://nieer.org/yearbook/pdf/yearbook.pdf).
- <sup>21</sup>U.S. Dept. of Health and Human Services, Administration on Children, Youth, and Families, & Head Start Bureau. 2003. *The Head Start path to positive child outcomes*. Washington, DC: Authors. Online: [www.headstartinfo.org/pdf/hsoutcomespath28ppREV.pdf](http://www.headstartinfo.org/pdf/hsoutcomespath28ppREV.pdf).
- <sup>22</sup>Bowman, B.T., S. Donovan, & M.S. Burns. 2000. *Eager to learn: Educating our preschoolers*. Washington, DC: National Academies Press; Shonkoff, J.P., & D.A. Phillips, eds. 2000. *From neurons to neighborhoods: The science of early child development*. A report of the National Research Council. Washington, DC: National Academies Press.
- <sup>23</sup>NAEYC & NAECS/SDE (National Association of Early Childhood Specialists in State Departments of Education). 2002. *Early learning standards: Creating the conditions for success*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap); NAEYC & NAECS/SDE (National Association of Early Childhood Specialists in State Departments of Education). 2003. *Early childhood curriculum, assessment, and program evaluation: Building an effective, accountable system in programs for children birth through age 8*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap).
- <sup>24</sup>Takanishi, R., & K. Kauerz. 2008. PK inclusion: Getting serious about a P–16 education system. *Phi Delta Kappan* 89 (7): 480–87.
- <sup>25</sup>Pedulla, J.J. 2003. State-mandated testing: What do teachers think? *Educational Leadership* 61 (3): 42–46; Goldstein, L.S. 2007. Embracing multiplicity: Learning from two practitioners’ pedagogical responses to the changing demands of kindergarten teaching in the United States. *Journal of Research in Childhood Education* 21 (4): 378–99; Goldstein, L.S. 2007b. Examining the unforgiving complexity of kindergarten teaching. *Early Childhood Research Quarterly* 22: 39–54.
- <sup>26</sup>U.S. House of Representatives and Senate. 2007. *Bill H.R. 1429*. “The Improving Head Start for School Readiness Act.” (P.L. 110–34). Online: [www.washingtonwatch.com/bills/show/110\\_PL\\_110-134.html](http://www.washingtonwatch.com/bills/show/110_PL_110-134.html).
- <sup>27</sup>Takanishi, R., & K. Kauerz. 2008. PK inclusion: Getting serious about a P–16 education system. *Phi Delta Kappan* 89 (7): 480–87.
- <sup>28</sup>Graves, B. 2006. PK–3: What is it and how do we know it works? *Foundation for Child Development Policy Brief, Advancing PK–3 4*; Ritchie, S., K. Maxwell, & R.M. Clifford. 2007. FirstSchool: A new vision for education. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 85–96. Baltimore: Paul H. Brookes; Takanishi, R., & K. Kauerz. 2008. PK inclusion: Getting serious about a P–16 education system. *Phi Delta Kappan* 89 (7): 480–87.
- <sup>29</sup>NAEYC & NAECS/SDE (National Association of Early Childhood Specialists in State Departments of Education). 2003. *Early childhood curriculum, assessment, and program evaluation: Building an effective, accountable system in programs for children birth through age 8*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap).
- <sup>30</sup>Neuman, S.B., K. Roskos, C. Vukelich, & D. Clements. 2003. *The state of state prekindergarten standards in 2003*. Report for the Center for the Improvement of Early Reading Achievement (CIERA). Ann Arbor, MI: University of Michigan.
- <sup>31</sup>NAEYC. 2005. *Screening and assessment of young English-language learners*. Supplement to the NAEYC and NAECS/SDE Joint Position Statement on Early Childhood Curriculum, Assessment, and Program Evaluation. Washington, DC: Author. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap).

- <sup>32</sup>NAEYC & NAECES/SDE (National Association of Early Childhood Specialists in State Departments of Education). 2002. *Early learning standards: Creating the conditions for success*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap).
- <sup>33</sup>NCTM (National Council of Teachers of Mathematics). 2006. *Curriculum focal points for prekindergarten through grade 8 mathematics: A quest for coherence*. Reston, VA: Author.
- <sup>34</sup>Wien, C.A. 2004. *Negotiating standards in the primary classroom: The teacher's dilemma*. New York: Teachers College Press.
- <sup>35</sup>See, e.g., Kagan, S.L., & K. Kauerz. 2007. Reaching for the whole: Integration and alignment in early education policy. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 11–30. Baltimore: Paul H. Brookes; Ritchie, S., K. Maxwell, & R.M. Clifford. 2007. FirstSchool: A new vision for education. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 85–96. Baltimore: Paul H. Brookes.
- <sup>36</sup>Goldstein, L.S. 2007a. Embracing multiplicity: Learning from two practitioners' pedagogical responses to the changing demands of kindergarten teaching in the United States. *Journal of Research in Childhood Education* 21 (4): 378–99; Goldstein, L.S. 2007b. Examining the unforgiving complexity of kindergarten teaching. *Early Childhood Research Quarterly* 22: 39–54.
- <sup>37</sup>Barnett, W.S. 2004. Better teachers, better preschools: Student achievement linked to teacher qualifications. *Preschool Policy Matters* 2: 2–7. Online: [nieer.org/docs/?DocID=62](http://nieer.org/docs/?DocID=62).
- <sup>38</sup>NAEYC & NAECES/SDE (National Association of Early Childhood Specialists in State Departments of Education). 2003. *Early childhood curriculum, assessment, and program evaluation: Building an effective, accountable system in programs for children birth through age 8*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap).
- <sup>39</sup>Darling-Hammond, L., & J. Bransford. 2005. *Preparing teachers for a changing world: What teachers should learn and be able to do*. San Francisco: Jossey-Bass.
- Applying new knowledge to critical issues**
- <sup>40</sup>Klein, L.G., & J. Knitzer. 2006. Effective preschool curricula and teaching strategies. *Pathways to Early School Success*, Issue Brief No. 2. New York: Columbia University, National Center for Children in Poverty.
- <sup>41</sup>U.S. Dept. of Health and Human Services, Administration on Children, Youth, and Families, & Head Start Bureau. 2003. *The Head Start path to positive child outcomes*. Washington, DC: Authors. Online: [www.headstartinfo.org/pdf/hsoutcomespath28ppREV.pdf](http://www.headstartinfo.org/pdf/hsoutcomespath28ppREV.pdf).
- <sup>42</sup>NICHD (National Institute of Child Health and Human Development). 2003. The NICHD study of early child care: Contexts of development and developmental outcomes over the first seven years of life. In *Early child development in the 21st century*, eds. J. Brooks-Gunn, A.S. Fuligni, & L.J. Berlin, 181–201. New York: Teachers College Press.
- <sup>43</sup>NICHD (National Institute of Child Health and Human Development). 2001. *Quality of child care and child care outcomes*. Paper presented at the biennial meeting of the Society for Research in Child Development. April 19–22, Minneapolis, MN; Klein, L.G., & J. Knitzer. 2006. Effective preschool curricula and teaching strategies. *Pathways to Early School Success*, Issue Brief No. 2. New York: Columbia University, National Center for Children in Poverty; Schweinhart, L.J., J. Montie, & Z. Xiang, W.S. Barnett, C.R. Belfield, & M. Mores. 2005. *Lifetime effects: The High/Scope Perry preschool study through age 40*. Monographs of the High/Scope Educational Research Foundation, vol. 14. Ypsilanti, MI: High/Scope Press.
- <sup>44</sup>Loeb, S., B. Fuller, S.L. Kagan, & B. Carrol. 2004. Child care in poor communities: Early learning effects of type, quality, and stability. *Child Development* 75 (1): 47–65.
- <sup>45</sup>Hamre, B.K., & R.C. Pianta. 2001. Early teacher-child relationships and the trajectory of children's school outcomes through eighth grade. *Child Development* 72 (2): 625–38; Hamre, B.K., & R.C. Pianta. 2005. Can instructional and emotional support in the first grade classroom make a difference for children at risk of school failure? *Child Development* 76 (5): 949–67.
- <sup>46</sup>Dickinson, D.K., & P.O. Tabors. 2001. *Beginning literacy with language: Young children learning at home and school*. Baltimore: Paul H. Brookes; NELP (National Early Literacy Panel). In press. *Developing early literacy: Report of the National Early Literacy Panel: A scientific synthesis of early literacy development and implications for intervention*. Washington, DC: National Institute for Literacy.
- <sup>47</sup>Snow, C.E. 2007. *Is literacy enough? Pathways to academic success for adolescents*. Baltimore: Paul H. Brookes.
- <sup>48</sup>Snow, C.E. 2005. From literacy to learning. *Harvard Education Letter* (July/August). Online: [www.edletter.org/current/snow.shtml](http://www.edletter.org/current/snow.shtml); Snow, C.E. 2007. *Is literacy enough? Pathways to academic success for adolescents*. Baltimore: Paul H. Brookes.
- <sup>49</sup>Snow, C.E. 2005. From literacy to learning. *Harvard Education Letter* (July/August). Online: [www.edletter.org/current/snow.shtml](http://www.edletter.org/current/snow.shtml).
- <sup>50</sup>Dickinson, D.K., & P.O. Tabors. 2001. *Beginning literacy with language: Young children learning at home and school*. Baltimore: Paul H. Brookes.
- <sup>51</sup>National Early Literacy Panel. In press. *Developing early literacy: Report of the National Early Literacy Panel: A scientific synthesis of early literacy development and implications for intervention*. Washington, DC: National Institute for Literacy.
- <sup>52</sup>See, e.g., IRA (International Reading Association) & NAEYC. 1998. *Learning to read and write: Developmentally appropriate practices for young children*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap); NAEYC & NAECES/SDE (National Association of Early Childhood Specialists in State Departments of Education). 2002. *Early learning standards: Creating the conditions for success*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap); Snow, C.E., M.S. Burns, & P. Griffin. 1998. *Preventing reading difficulties in young children*. Washington, DC: National Academies Press.
- <sup>53</sup>NAEYC & NCTM (National Council of Teachers of Mathematics). 2004. *Early childhood mathematics: Promoting good beginnings*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap); Ginsburg, H.P., J.S. Lee, & J.S. Boyd. 2008. Mathematics education for young children: What it is and how to promote it. *Social Policy Report* 22 (1): 3–11, 14–22.

- <sup>54</sup>Duncan, G.J., C.J. Dowsett, A. Claessens, K. Magnuson, A.C. Huston, P. Klebanov, L.S. Pagani, L. Feinstein, M. Engel, & J. Brooks-Gunn. 2007. School readiness and later achievement. *Developmental Psychology* 43 (6): 1428–46.
- <sup>55</sup>Early, D.M., O. Barbarin, D. Bryant, M. Burchinal, F. Chang, R. Clifford, G. Crawford, et al. 2005. Pre-kindergarten in eleven states: NCEdL's multi-state study of pre-kindergarten and study of statewide early education programs (SWEEP): Preliminary descriptive report. New York: The Foundation for Child Development. Online: [www.fcd-us.org/usr\\_doc/Prekindergartenin11States.pdf](http://www.fcd-us.org/usr_doc/Prekindergartenin11States.pdf); Ginsburg, H.P., J.S. Lee, & J.S. Boyd. 2008. Mathematics education for young children: What it is and how to promote it. *Social Policy Report* 22 (1): 3–11, 14–22.
- <sup>56</sup>Clements, D.H. 2004. Major themes and recommendations. In *Engaging young children in mathematics: Standards for early childhood mathematics education*, eds. D.H. Clements, J. Sarama, & A.M. DiBiase, 7–72. Mahwah, NJ: Lawrence Erlbaum; Ginsburg, H.P., J.S. Lee, & J.S. Boyd. 2008. Mathematics education for young children: What it is and how to promote it. *Social Policy Report* 22 (1): 3–11, 14–22.
- <sup>57</sup>Roskos, K.A., J.F. Christie, & D.J. Richgels. 2003. The essentials of early literacy instruction. *Young Children* 58 (2): 52–60; Worth, K., & S. Grollman. 2003. *Worms, shadows and whirlpools: Science in the early childhood classroom*. Portsmouth, NH: Heinemann; Bennett-Armistead, V.S., N.K. Duke, & A.M. Moses. 2005. *Literacy and the youngest learner: Best practices for educators of children from birth to 5*. New York: Scholastic; Ginsburg, H.P., J.S. Lee, & J.S. Boyd. 2008. Mathematics education for young children: What it is and how to promote it. *Social Policy Report* 22 (1): 3–11, 14–22.
- <sup>58</sup>See, e.g., Linares, L.O., N. Rosbruch, M.B. Stern, M.E. Edwards, G. Walker, H.B. Abikoff, & J.M.J. Alvir. 2005. Developing cognitive-social-emotional competencies to enhance academic learning. *Psychology in the Schools* 42 (4): 405–17; Raver, C.C., P.W. Garner, & R. Smith-Donald. 2007. The roles of emotion regulation and emotion knowledge for children's academic readiness: Are the links causal? In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 121–48. Baltimore: Paul H. Brookes.
- <sup>59</sup>McClelland, M.M., A.C. Acock, & F.J. Morrison. 2006. The impact of kindergarten learning-related skills on academic trajectories at the end of elementary school. *Early Childhood Research Quarterly* 21 (4): 471–90; McClelland, M., C. Cameron, C.M. Connor, C.L. Farris, A.M. Jewkes, & F.J. Morrison. 2007. Links between behavioral regulation and preschoolers' literacy, vocabulary, and math skills. *Developmental Psychology* 43 (4): 947–59; Snow, K.L. 2007. Integrative views of the domains of child function: Unifying school readiness. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 197–214. Baltimore: Paul H. Brookes.
- <sup>60</sup>See, e.g., Montessori, M. 1949. *The absorbent mind*. Madras: Theosophical Publishing House; Hymes, J.L. 1955/1995. *A child development point of view: A teacher's guide to action*. Rev. ed. West Greenwich, RI: Consortium Publishing; Bredekamp, S., ed. 1987. *Developmentally appropriate practice in early childhood programs serving children from birth through age 8*. Expanded edition. Washington, DC: NAEYC.
- <sup>61</sup>DeLoache, J.S., & A.L. Brown. 1987. Differences in the memory-based searching of delayed and normally developing young children. *Intelligence* 11 (4): 277–89; Flavell, J.H. 1987. *Development of knowledge about the appearance-reality distinction*. Monographs of the Society for Research in Child Development, vol. 51, no. 1. Chicago: University of Chicago Press; Zimmerman, B.J., S. Bonner, & R. Kovach. 1996. *Developing self-regulated learners: Beyond achievement to self-efficacy*. Washington, DC: American Psychological Association; Ladd G.W., S.H. Birch, & E.S. Buhs. 1999. Children's social and scholastic lives in kindergarten: Related spheres of influence? *Child Development* 70 (6): 1373–400; McClelland, M.M., A.C. Acock, & F.J. Morrison. 2006. The impact of kindergarten learning-related skills on academic trajectories at the end of elementary school. *Early Childhood Research Quarterly* 21 (4): 471–90; Blair, C., H. Knipe, E. Cummings, D.P. Baker, D. Gamson, P. Eslinger, & S.L. Thorne. 2007. A developmental neuroscience approach to the study of school readiness. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 149–74. Baltimore: Paul H. Brookes.
- <sup>62</sup>Bodrova, E., & D.J. Leong. 2001. *The Tools of the Mind Project: A case study of implementing the Vygotskian approach in American early childhood and primary classrooms*. Geneva, Switzerland: International Bureau of Education, UNESCO; Bodrova, E., & D.J. Leong. 2003. Chopsticks and counting chips. *Young Children* 58 (3): 10–17; Diamond, A., W.S. Barnett, J. Thomas, & S. Munro. 2007. Preschool program improves cognitive control. *Science* 318 (5855): 1387–88.
- <sup>63</sup>Rathbun, A., J. West, & E.G. Hausken. 2004. *From kindergarten through third grade: Children's beginning school experiences*. Washington, DC: National Center for Education Statistics.
- <sup>64</sup>Bogard, K., & R. Takanishi. 2005. PK–3: An aligned and coordinated approach to education for children 3 to 8 years old. *Social Policy Report* 19 (3).
- <sup>65</sup>See, e.g., Graves, B. 2006. PK–3: What is it and how do we know it works? *Foundation for Child Development Policy Brief, Advancing PK–3* 4; Sadowski, M. 2006. Core knowledge for PK–3 teaching: Ten components of effective instruction. *Foundation for Child Development Policy Brief, Advancing PK–3* 5; Ritchie, S., K. Maxwell, & R.M. Clifford. 2007. FirstSchool: A new vision for education. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 85–96. Baltimore: Paul H. Brookes.
- <sup>66</sup>Takanishi, R., & K.L. Bogard. 2007. Effective educational programs for young children: What we need to know. *Child Development Perspectives* 1: 40–45; Kauerz, K. Forthcoming. *P–3: What does it look like from a state policy perspective?* Denver, CO: Education Commission of the States.
- <sup>67</sup>Katz, L.G., & S.C. Chard. 2000. *Engaging children's minds: The project approach*. 2d ed. Norwood, NJ: Ablex.
- <sup>68</sup>AERA (American Education Research Association). 2003. Class size: Counting students can count. *Research Points: Essential Information for Education Policy* 1 (2). Online: [www.aera.net/uploadedFiles/Journals\\_and\\_Publications/Research\\_Points/RP\\_Fall03.pdf](http://www.aera.net/uploadedFiles/Journals_and_Publications/Research_Points/RP_Fall03.pdf).

- <sup>69</sup>See, e.g., Maeroff, G.I. 2006. *Building blocks: Making children successful in the early years of school*. New York: Palgrave Macmillan; Ritchie, S., K. Maxwell, & R.M. Clifford. 2007. FirstSchool: A new vision for education. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 85–96. Baltimore: Paul H. Brookes.
- <sup>70</sup>Takanishi, R., & K. Kauerz. 2008. PK inclusion: Getting serious about a P–16 education system. *Phi Delta Kappan* 89 (7): 480–87.
- <sup>71</sup>Bowman, B.T., S. Donovan, & M.S. Burns. 2000. *Eager to learn: Educating our preschoolers*. Washington, DC: National Academies Press; Hamre, B.K., & R.C. Pianta. 2007. Learning opportunities in preschool and early elementary classrooms. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 49–83. Baltimore: Paul H. Brookes; Pianta, R.C. 2008. Neither art nor accident: A conversation with Robert Pianta. *Harvard Education Letter* (January/February). Online: [www.edletter.org/insights/pianta.shtml](http://www.edletter.org/insights/pianta.shtml).
- <sup>72</sup>Hamre, B.K., & R.C. Pianta. 2007. Learning opportunities in preschool and early elementary classrooms. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 49–83. Baltimore: Paul H. Brookes.
- <sup>73</sup>Horowitz, F.D., L. Darling-Hammond, J. Bransford, et al. 2005. Educating teachers for developmentally appropriate practice. In *Preparing teachers for a changing world: What teachers should learn and be able to do*, eds. L. Darling-Hammond & J. Bransford, 88–125. San Francisco: Jossey-Bass.
- <sup>74</sup>Layzer, J.I., C.J. Layzer, B.D. Goodson, & C. Price. 2007. *Evaluation of child care subsidy strategies: Findings from Project Upgrade in Miami-Dade County*. Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research and Evaluation.
- <sup>75</sup>Reeves, C., S. Emerick, & E. Hirsch. 2006. *Creating non-instructional time for elementary school teachers: Strategies from schools in North Carolina*. Hillsborough, NC: Center for Teaching Quality.
- Principles of child development and learning that inform practice**
- <sup>76</sup>For fuller reviews, see, e.g., Snow, C.E., M.S. Burns, & P. Griffin. 1998. *Preventing reading difficulties in young children*. Washington, DC: National Academies Press; Bowman, B.T., S. Donovan, & M.S. Burns. 2000. *Eager to learn: Educating our preschoolers*. Washington, DC: National Academies Press; Bransford, J., A.L. Brown, & R.R. Cocking. 1999. *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academies Press; Shonkoff, J.P., & D.A. Phillips, eds. 2000. *From neurons to neighborhoods: The science of early child development*. A report of the National Research Council. Washington, DC: National Academies Press; Kilpatrick, J., J. Swafford, & B. Findell, eds. 2001. *Adding it up: Helping children learn mathematics*. Washington, DC: National Academies Press; Renninger, K.A., & I.E. Sigel, eds. 2006. *Handbook of child psychology, Vol. 4: Child psychology in practice*. 6th ed. New York: John Wiley & Sons.
- <sup>77</sup>Bransford, J., A.L. Brown, & R.R. Cocking. 1999. *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academies Press; Shonkoff, J.P., & D.A. Phillips, eds. 2000. *From neurons to neighborhoods: The science of early child development*. A report of the National Research Council. Washington, DC: National Academy Press; ASCD (Association for Supervision and Curriculum Development). 2006. *The whole child in a fractured world*. Prepared by H. Hodgkinson. Alexandria, VA: Author. Online: [www.ascd.org/ascd/pdf/fracturedworld.pdf](http://www.ascd.org/ascd/pdf/fracturedworld.pdf).
- <sup>78</sup>Shonkoff, J.P., & D.A. Phillips, eds. 2000. *From neurons to neighborhoods: The science of early child development*. A report of the National Research Council. Washington, DC: National Academies Press.
- <sup>79</sup>Pellegrini, A.D., L. Galda, M. Bartini, & D. Charak. 1998. Oral language and literacy learning in context: The role of social relationships. *Merrill-Palmer Quarterly* 44 (1): 38–54; Dickinson, D.K., & P.O. Tabors. 2001. *Beginning literacy with language: Young children learning at home and school*. Baltimore: Paul H. Brookes.
- <sup>80</sup>La Paro, K.M., & R.C. Pianta. 2000. Predicting children's competence in the early school years: A meta-analytic review. *Review of Educational Research* 70 (4): 443–84; Howes, C., & K. Sanders. 2006. Child care for young children. In *Handbook of research on the education of young children*, 2d ed., eds. B. Spodek & O.N. Saracho, 375–92. Mahwah, NJ: Lawrence Erlbaum; Raver, C.C., P.W. Garner, & R. Smith-Donald. 2007. The roles of emotion regulation and emotion knowledge for children's academic readiness: Are the links causal? In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 121–48. Baltimore: Paul H. Brookes; Snow, K.L. 2007. Integrative views of the domains of child function: Unifying school readiness. In *School readiness and the transition to kindergarten in the era of accountability*, eds. R.C. Pianta, M.J. Cox, & K.L. Snow, 197–214. Baltimore: Paul H. Brookes; Pianta, R.C., K.M. La Paro, & B.K. Hamre. 2008. *Classroom assessment scoring system (CLASS)*. Baltimore: Paul H. Brookes.
- <sup>81</sup>See, e.g., Erikson, E. 1963. *Childhood and society*. New York: Norton; Sameroff, A.J., & M.M. Haith. 1996. *The five to seven year shift: The age of reason and responsibility*. Chicago: University of Chicago Press; Bransford, J., A.L. Brown, & R.R. Cocking. 1999. *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academies Press; Shonkoff, J.P., & D.A. Phillips, eds. 2000. *From neurons to neighborhoods: The science of early child development*. A report of the National Research Council. Washington, DC: National Academies Press.
- <sup>82</sup>Lynch, E., & M. Hanson. 2004. *Developing cross-cultural competence: A guide for working with children and their families*. 3d ed. Baltimore: Paul H. Brookes.
- <sup>83</sup>Wang, M.C., L.B. Resnick, & R.F. Boozer. 1970. *The sequence of development of some early mathematics behaviors*. Pittsburgh, PA: University of Pittsburgh, Learning Research and Development Center; Clements, D.H., J. Sarama, & A.M. DiBiase. 2004. *Engaging young children in mathematics: Standards for early childhood mathematics education*. Mahwah, NJ: Lawrence Erlbaum.
- <sup>84</sup>Scarr, S., & K. McCartney. 1983. How people make their own environments: A theory of genotype—environment effects. *Child Development* 54 (2): 425–35; Plomin, R. 1994.

- Genetics and experience: The interplay between nature and nurture.* Thousand Oaks, CA: Sage Publications; Plomin, R. 1994b. Nature, nurture, and social development. *Social Development* 3: 37–53; Shonkoff, J.P., & D.A. Phillips, eds. 2000. *From neurons to neighborhoods: The science of early child development.* A report of the National Research Council. Washington, DC: National Academies Press.
- <sup>85</sup>Asher, S., S. Hymel, & P. Renshaw. 1984. Loneliness in children. *Child Development* 55 (4): 1456–64; Parker, J.G., & S.R. Asher. 1987. Peer relations and later personal adjustment: Are low-accepted children at risk? *Psychology Bulletin* 102 (3): 357–89.
- <sup>86</sup>Snow, C.E., M.S. Burns, & P. Griffin. 1998. *Preventing reading difficulties in young children.* Washington, DC: National Academies Press.
- <sup>87</sup>Kuhl, P. 1994. Learning and representation in speech and language. *Current Opinion in Neurobiology* 4: 812–22.
- <sup>88</sup>Nelson, C.A., & M. Luciana, eds. 2001. *Handbook of developmental cognitive neuroscience.* Cambridge, MA: MIT Press; Ornstein, P.A., C.A. Haden, & A.M. Hedrick. 2004. Learning to remember: Social-communicative exchanges and the development of children's memory skills. *Developmental Review* 24: 374–95.
- <sup>89</sup>Seo, K.H., & H.P. Ginsburg. 2004. What is developmentally appropriate in early childhood mathematics education? Lessons from new research. In *Engaging young children in mathematics: Standards for early childhood mathematics education*, eds. D.H. Clements, J. Sarama, & A.M. DiBiase, 91–104. Hillsdale, NJ: Lawrence Erlbaum; Gelman, R., & C.R. Gallistel. 1986. *The child's understanding of number.* Cambridge, MA: Harvard University Press.
- <sup>90</sup>Thompson, R.A. 1994. *Emotion regulation: A theme in search of a definition.* Monographs of the Society for Research in Child Development, vol. 59, nos. 2–3. Chicago: University of Chicago Press.
- <sup>91</sup>Bodrova, E., & D.J. Leong. 2005. Self-regulation: A foundation for early learning. *Principal* 85 (1): 30–35; Diamond, A., W.S. Barnett, J. Thomas, & S. Munro. 2007. Preschool program improves cognitive control. *Science* 318 (5855): 1387–88.
- <sup>92</sup>Kendall, S. 1992. *The development of autonomy in children: An examination of the Montessori educational model.* Doctoral dissertation. Minneapolis, MN: Walden University; Palfrey, J., M.B. Bronson, M. Erickson-Warfield, P. Hauser-Cram, & S.R. Sirin. 2002. *BEEPers come of age: The Brookline Early Education Project follow-up study.* Final Report to the Robert Wood Johnson Foundation. Chestnut Hill, MA: Boston College.
- <sup>93</sup>Bruner, J.S. 1983. *Child's talk: Learning to use language.* New York: Norton.
- <sup>94</sup>Piaget, J. 1952. *The origins of intelligence in children.* New York: International Universities Press; Piaget, J. 1962. *Play, dreams and imitation in childhood.* New York: Norton; Uzgiris, I.C., & J.M. Hunt. 1975. *Assessment in infancy: Ordinal scales of psychological development.* Urbana, IL: University of Illinois Press.
- <sup>95</sup>Fein, G. 1981. Pretend play in childhood: An integrative review. *Child Development* 52 (4): 1095–118; Fenson, L., P.S. Dale, J.S. Reznick, E. Bates, D.J. Thal, & S.J. Pethick. 1994. *Variability in early communicative development.* Monographs of the Society for Research in Child Development, vol. 59, no. 5. Chicago: University of Chicago Press.
- <sup>96</sup>Copple, C., I.E. Sigel, & R. Saunders. 1984. *Educating the young thinker: Classroom strategies for cognitive growth.* Hillsdale, NJ: Lawrence Erlbaum; Edwards, C.P., L. Gandini, & G. Forman, eds. 1998. *The hundred languages of children: The Reggio Emilia approach—Advanced reflections.* 2d. ed. Greenwich, NJ: Ablex; Epstein, A.S. 2007. *The intentional teacher: Choosing the best strategies for young children's learning.* Washington, DC: NAEYC.
- <sup>97</sup>See, e.g., Dunn, J. 1993. *Young children's close relationships: Beyond attachment.* Newbury Park, CA: Sage Publications; Denham, S.A. 1998. *Emotional development in young children.* New York: Guilford; Shonkoff, J.P., & D.A. Phillips, eds. 2000. *From neurons to neighborhoods: The science of early child development.* A report of the National Research Council. Washington, DC: National Academies Press.
- <sup>98</sup>Fein, G., A. Gariboldi, & R. Boni. 1993. The adjustment of infants and toddlers to group care: The first 6 months. *Early Childhood Research Quarterly* 8: 1–14; Honig, A.S. 2002. *Secure relationships: Nurturing infant/toddler attachment in early care settings.* Washington, DC: NAEYC.
- <sup>99</sup>Bowlby, J. 1969. *Attachment and loss, Vol. 1: Attachment.* New York: Basic; Stern, D. 1985. *The psychological world of the human infant.* New York: Basic; Garbarino, J., N. Dubrow, K. Kostelny, & C. Pardo. 1992. *Children in danger: Coping with the consequences of community violence.* San Francisco: Jossey-Bass; Bretherton, I., & K.A. Munholland. 1999. Internal working models in attachment relationships: A construct revisited. In *Handbook of attachment theory, research, and clinical applications*, eds. J. Cassidy & P.R. Shaver, 89–114. New York: Guilford.
- <sup>100</sup>Pianta, R.C. 1999. *Enhancing relationships between children and teachers.* Washington, DC: American Psychological Association; Howes, C., & S. Ritchie. 2002. *A matter of trust: Connecting teachers and learners in the early childhood classroom.* New York: Teachers College Press.
- <sup>101</sup>Shonkoff, J.P., & D.A. Phillips, eds. 2000. *From neurons to neighborhoods: The science of early child development.* A report of the National Research Council. Washington, DC: National Academies Press.
- <sup>102</sup>Bronfenbrenner, U. 1979. *The ecology of human development: Experiments by nature and design.* Cambridge, MA: Harvard University Press; Bronfenbrenner, U. 1989. Ecological systems theory. In *Annals of child development, Vol. 6*, ed. R. Vasta, 187–251. Greenwich, CT: JAI Press; Bronfenbrenner, U. 1993. The ecology of cognitive development: Research models and fugitive findings. In *Development in context: Acting and thinking in specific environments*, eds. R.H. Wozniak & K.W. Fischer, 3–44. Hillsdale, NJ: Lawrence Erlbaum; Bronfenbrenner, U., & P.A. Morris. 2006. The bioecological model of human development. In *Handbook of child psychology, Vol. 1: Theoretical models of human development*, 6th ed., eds. R.M. Lerner & W. Damon, 793–828. Hoboken, NJ: John Wiley & Sons.
- <sup>103</sup>Tobin, J., D. Wu, & D. Davidson. 1989. *Preschool in three cultures: Japan, China, and United States.* New Haven, CT: Yale University Press; Rogoff, B. 2003. *The cultural nature of human development.* Oxford: Oxford University Press.
- <sup>104</sup>Bowman, B.T., & F. Stott. 1994. Understanding development in a cultural context: The challenge for teachers.

- In *Diversity and developmentally appropriate practices: Challenges for early childhood education*, eds. B. Mallary & R. New, 119–34. New York: Teachers College Press.
- <sup>105</sup>Gonzales-Mena, J. 2008. *Diversity in early care and education: Honoring differences*. 5th ed. Boston: McGraw-Hill; Tabors, P.O. 2008. *One child, two languages: A guide for early childhood educators of children learning English as a second language*. 2d ed. Baltimore: Paul H. Brookes.
- <sup>106</sup>Hakuta, K., & E.E. Garcia. 1989. Bilingualism and education. *American Psychologist* 44 (2): 374–79; Krashen, S.D. 1992. *Fundamentals of language education*. Torrance, CA: Laredo Publishing.
- <sup>107</sup>Dewey, J. 1916. *Democracy and education: An introduction to the philosophy of education*. New York: Macmillan; Piaget, J. 1952. *The origins of intelligence in children*. New York: International Universities Press; Vygotsky, L. 1978. *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press; Fosnot, C.T., ed. 1996. *Constructivism: Theory, perspectives, and practice*. New York: Teachers College Press; Malaguzzi, L. 1998. History, ideas, and basic philosophy. In *The hundred languages of children: The Reggio Emilia approach—Advanced reflections*, 2d ed., eds. C. Edwards, L. Gandini, & G. Forman, 49–97. Greenwich, NJ: Ablex.
- <sup>108</sup>Gelman, R., & C.R. Gallistel. 1986. *The child's understanding of number*. Cambridge, MA: Harvard University Press; Seo, K.H., & H.P. Ginsburg. 2004. What is developmentally appropriate in early childhood mathematics education? Lessons from new research. In *Engaging young children in mathematics: Standards for early childhood mathematics education*, eds. D.H. Clements, J. Sarama, & A.M. DiBiase, 91–104. Hillsdale, NJ: Lawrence Erlbaum.
- <sup>109</sup>Bransford, J., A.L. Brown, & R.R. Cocking. 1999. *How people learn: Brain, mind, experience, and school*. Washington, DC: National Academies Press.
- <sup>110</sup>Bowman, B.T., S. Donovan, & M.S. Burns. 2000. *Eager to learn: Educating our preschoolers*. Washington, DC: National Academies Press. 8.
- <sup>111</sup>Sandall, S., M.L. Hemmeter, B.J. Smith, & M.E. McLean, eds. 2005. *DEC recommended practices: A comprehensive guide for practical application in early intervention/early childhood special education*. Longmont, CO: Sopris West, and Missoula, MT: Division for Early Childhood, Council for Exceptional Children.
- <sup>112</sup>Davidson, J.I.F. 1998. Language and play: Natural partners. In *Play from birth to twelve and beyond: Contexts, perspectives, and meanings*, eds. D.P. Fromberg & D. Bergen, 175–83. New York: Garland; Bronson, M.B. 2000. *Self-regulation in early childhood: Nature and nurture*. New York: Guilford; Elias, C., & L.E. Berk. 2002. Self-regulation in young children: Is there a role for sociodramatic play? *Early Childhood Research Quarterly* 17 (1): 216–38; Clawson, M. 2002. Play of language: Minority children in an early childhood setting. In *Play and culture studies, Vol. 4: Conceptual, social-cognitive, and contextual issues in the fields of play*, ed. J.L. Roopnarine, 93–110. Westport, CT: Ablex; Fantuzzo, J., & C. McWayne. 2002. The relationship between peer-play interactions in the family context and dimensions of school readiness for low-income preschool children. *Journal of Educational Psychology* 94 (1): 79–87; Duncan, R.M., & D. Tarulli. 2003. Play as the leading activity of the preschool period: Insights from Vygotsky, Leont'ev, and Bakhtin. *Early Education and Development* 14: 271–92; Lindsey, E.W., & M.J. Colwell. 2003. Preschoolers' emotional competence: Links to pretend and physical play. *Child Study Journal* 33 (1): 39–52; Zigler, E.F., D.G. Singer, & S.J. Bishop-Josef, eds. 2004. *Children's play: The roots of reading*. Washington, DC: Zero to Three; Johnson, J.E., J.F. Christie, & F. Wardle. 2005. *Play, development, and early education*. Boston: Pearson; Diamond, A., W.S. Barnett, J. Thomas, & S. Munro. 2007. Preschool program improves cognitive control. *Science* 318 (5855): 1387–88; Hirsh-Pasek, K., R.M. Golinkoff, L.E. Berk, & D.G. Singer. 2009. *A mandate for playful learning in preschool: Presenting the evidence*. New York: Oxford University Press.
- <sup>113</sup>Fein, G. 1981. Pretend play in childhood: An integrative review. *Child Development* 52 (4): 1095–118.
- <sup>114</sup>Vygotsky, L. 1966/1977. Play and its role in the mental development of the child. In *Soviet developmental psychology*, ed. M. Cole, 76–99. Armonk, NY: M.E. Sharpe; Bronson, M.B. 2000. *Self-regulation in early childhood: Nature and nurture*. New York: Guilford; Elias, C., & L.E. Berk. 2002. Self-regulation in young children: Is there a role for sociodramatic play? *Early Childhood Research Quarterly* 17 (1): 216–38.
- <sup>115</sup>Izenberg, J.P., & N. Quisenberry. 2002. Play: Essential for all children. A position paper of the Association for Childhood Education International. *Childhood Education* 79 (1): 33–39; Fromberg, D.P., & D. Bergen, eds. 2006. *Play from birth to twelve: Contexts, perspectives, and meanings*. 2d ed. New York: Routledge; Diamond, A., W.S. Barnett, J. Thomas, & S. Munro. 2007. Preschool program improves cognitive control. *Science* 318 (5855): 1387–88.
- <sup>116</sup>Golinkoff, R.M., K. Hirsh-Pasek, & D.G. Singer. 2006. Why play = learning: A challenge for parents and educators. In *Play = learning: How play motivates and enhances children's cognitive and social-emotional growth*, eds. D. Singer, R.M. Golinkoff, & K. Hirsh-Pasek, 3–12. New York: Oxford University Press; Chudacoff, H.P. 2007. *Children at play: An American history*. New York: New York University Press.
- <sup>117</sup>Smilansky, S., & L. Shefatya. 1990. *Facilitating play: A medium for promoting cognitive, socioemotional, and academic development in young children*. Gaithersburg, MD: Psychosocial & Educational Publications; DeVries, R., B. Zan, & C. Hildebrandt. 2002. Group games. In *Developing constructivist early childhood curriculum: Practical principles and activities*, eds. R. DeVries, B. Zan, C. Hildebrandt, R. Edmiaston, & C. Sales, 181–91. New York: Teachers College Press; Bodrova, E., & D.J. Leong. 2007. *Tools of the mind: The Vygotskian approach to early childhood education*. 2d ed. Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.
- <sup>118</sup>Bodrova, E., & D.J. Leong. 2001. *The Tools of the Mind Project: A case study of implementing the Vygotskian approach in American early childhood and primary classrooms*. Geneva, Switzerland: International Bureau of Education, UNESCO; Zigler, E.F., D.G. Singer, & S.J. Bishop-Josef, eds. 2004. *Children's play: The roots of reading*. Washington, DC: Zero to Three.
- <sup>119</sup>White, S.H. 1965. Evidence for a hierarchical arrangement of learning processes. In *Advances in child development and behavior*, eds. L.P. Lipsitt & C.C. Spiker, 187–220. New York: Academic Press; Vygotsky, L. 1978. *Mind in soci-*

- ety: *The development of higher psychological processes*. Cambridge, MA: Harvard University Press.
- <sup>120</sup>Bodrova E., & D.J. Leong. 2006. Vygotskian perspectives on teaching and learning early literacy. In *Handbook of early literacy research, Vol. 2*, eds. D.K. Dickinson & S.B. Neuman, 243–56. New York: Guilford; Berk, L.E., & A. Winsler. 2009, in press. *Scaffolding children's learning: Vygotsky and early childhood education*. Rev. ed. Washington, DC: NAEYC.
- <sup>121</sup>Wood, D., J. Bruner, & G. Ross. 1976. The role of tutoring in problem solving. *Journal of Child Psychology and Psychiatry and Allied Disciplines* 17: 89–100.
- <sup>122</sup>Vygotsky, L. 1978. *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press; Bodrova E., & D.J. Leong. 2006. Vygotskian perspectives on teaching and learning early literacy. In *Handbook of early literacy research, Vol. 2*, eds. D.K. Dickinson & S.B. Neuman, 243–56. New York: Guilford; Berk, L.E., & A. Winsler. 2009, in press. *Scaffolding children's learning: Vygotsky and early childhood education*. Rev. ed. Washington, DC: NAEYC.
- <sup>123</sup>Sanders, S.W. 2006. Physical education in kindergarten. In *K today: Teaching and learning in the kindergarten year*, ed. D.F. Gullo, 127–37. Washington, DC: NAEYC; Lary, R.T. 1990. Successful students. *Education Issues* 3 (2): 11–17; Brophy, J. 1992. Probing the subtleties of subject matter teaching. *Educational Leadership* 49 (7): 4–8.
- <sup>124</sup>Garner, B.P., & D. Bergen. 2006. Play development from birth to age four. In *Play from birth to twelve: Contexts, perspectives, and meaning*, 2d ed., eds. D.P. Fromberg & D. Bergen, 3–12. New York: Routledge; Johnson, J.E. 2006. Play development from ages four to eight. In *Play from birth to twelve: Contexts, perspectives, and meaning*, 2d ed., eds. D.P. Fromberg & D. Bergen, 13–20. New York: Routledge.
- <sup>125</sup>Kagan, S.L., E. Moore, & S. Bredekamp, eds. 1995. *Reconsidering children's early learning and development: Toward common views and vocabulary*. Report of the National Education Goals Panel, Goal 1 Technical Planning Group. ERIC, ED391576. Washington, DC: U.S. Government Printing Office; NEGP (National Education Goals Panel). 1997. *The National Education Goals report: Building a nation of learners*. Washington, DC: U.S. Government Printing Office.
- <sup>126</sup>Hyson, M. 2008. *Enthusiastic and engaged learners: Approaches to learning in the early childhood classroom*. New York: Teachers College Press.
- <sup>127</sup>NCES (National Center for Education Statistics). 2002. *Children's reading and mathematics achievement in kindergarten and first grade*. Washington, DC: Author. Online: [nces.ed.gov/pubs2002/kindergarten/24.asp?nav=4](http://nces.ed.gov/pubs2002/kindergarten/24.asp?nav=4).
- <sup>128</sup>Fantuzzo, J., M.A. Perry, & P. McDermott. 2004. Preschool approaches to learning and their relationship to other relevant classroom competencies for low-income children. *School Psychology Quarterly* 19 (3): 212–30.
- <sup>129</sup>McClelland, M.M., A.C. Acock, & F.J. Morrison. 2006. The impact of kindergarten learning-related skills on academic trajectories at the end of elementary school. *Early Childhood Research Quarterly* 21 (4): 471–90.
- <sup>130</sup>Frank Porter Graham Child Development Center. 2001. *The quality and engagement study. Final report*. R.A. McWilliam, principal investigator. Chapel Hill, NC: Author; Stipek, D. 2002. *Motivation to learn: Integrating theory and practice*. 4th ed. Boston: Allyn & Bacon; Rimm-Kaufman, S.E., K.M. La Paro, J.T. Downer, & R.C. Pianta. 2005. The contribution of classroom setting and quality of instruction to children's behavior in kindergarten classrooms. *Elementary School Journal* 105 (4): 377–94; Hyson, M. 2008. *Enthusiastic and engaged learners: Approaches to learning in the early childhood classroom*. New York: Teachers College Press.

### **Guidelines for developmentally appropriate practice**

- <sup>131</sup>Epstein, A.S. 2007. *The intentional teacher: Choosing the best strategies for young children's learning*. Washington, DC: NAEYC. 3.
- <sup>132</sup>For a more complete discussion of principles and indicators of appropriate curriculum and assessment, see NAEYC & NAECS/SDE (National Association of Early Childhood Specialists in State Departments of Education). 2003. *Early childhood curriculum, assessment, and program evaluation: Building an effective, accountable system in programs for children birth through age 8*. Joint position statement. Online: [www.naeyc.org/dap](http://www.naeyc.org/dap).

