Fulfilling the Promise of Preschool

The Report of the NASBE Study Group on Creating High-Quality Early Learning Environments
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October 2006
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The public education system has become increasingly involved in designing early learning programs to meet the educational goal that all children start school ready to learn. This burgeoning interest in early childhood education stems from a number of developments: first, major advances in our understanding of the circumstances that can impact children for better or worse during the early years; second, the dramatic transformations in the social and economic status of families with young children living in the United States; and third, well-documented evidence of the positive impact of early intervention. Policymakers, business and community leaders, practitioners, and parents are reexamining how the nation responds to the needs of young children and their families in response to the significant changes in the demographics, workplace requirements, and the number of children spending time in child care settings. As a nation, we are becoming increasingly aware of how important early life experiences are to children’s social, cognitive, and emotional development and how quality preschool programs and services can increase the odds for favorable outcomes.

These dramatic changes have occurred at the same time that public education has ramped up academic standards so that all young people can succeed in the 21st century. The culmination of this reform effort, the No Child Left Behind Act (NCLB), has significantly affected most schools and every district in the country. But it is states that have the ultimate responsibility for seeing that their schools are up to the task by ensuring all children reach proficiency in academic performance. Yet it has become evident to most policymakers that no matter how hard a state’s K-12 education system is pushed, the goal of leaving no child behind cannot be met without commensurate measures to give all children access to high-quality preschools.

The good news is that substantial research shows that children’s development can be altered by effective early interventions that lead to both short- and long-term favorable outcomes. Many studies of model preschool programs, particularly for economically disadvantaged children, show that students increase their cognitive abilities, leading to improvements in school readiness, school achievement,
graduation rates, and long-term positive outcomes.\textsuperscript{3} Policy-makers, economic analysts, and early childhood experts have made the case for large-scale investments in high-quality preschool programs based on the net benefits from increased academic performance and reduced rates of special education referrals, dropouts, welfare recipients, and criminal activity.\textsuperscript{4}

The bad—or at least challenging—news for states looking to take advantage of these studies is four-fold:

- **First**, very large numbers of young children still do not have access to preschool.

- **Second**, research is very clear that preschools must be of high quality in order to get all the gains that have been demonstrated by model programs.

- **Third**, even as many states have stepped up their investment in early education over the past decade, the fact remains that a majority of preschool programs are not of the quality necessary to bring out the potential benefits—and the least effective programs tend to be those serving low-income families.

- **Fourth**, significant progress in the overall quality of preschool programs will not occur until there are improvements in a range of issues related to teachers, including providing better pay, lowering turnover rates, improving preparation, and providing effective professional development.

In order to help states meet these challenges, in January 2006, the National Association of State Boards of Education (NASBE) launched its Study Group on *Early Childhood: Creating High-Quality Early Learning Environments*. The Study Group focused on how states can build a coordinated, coherent early learning system in order to strengthen the quality of all early childhood programs and providers. State boards of education, which have purview over state public education systems, play an increasingly important role as states boost their investments in early childhood education as a way to improve student's chances of early success. They are uniquely positioned to address issues of quality in early childhood services, first because they have broad oversight for education standards, licensure, and certification, and second because they have the ability to take the best of early childhood policies and practice and bring them to scale statewide. Finally, state boards—whatever their specific responsibilities—serve as a strong public voice for quality education for all children in the state. As such, the work of state boards at all levels of education is interconnected—which in itself is a driving factor for moving forward in building strong early education systems.

Accordingly, the Study Group paid particular attention to the role of state boards and departments of education in supporting early childhood education, especially in terms of extending their standard-setting and licensing authority with respect to early childhood educators. It is critical that state education officials understand the importance of working with broad coalitions to establish comprehensive early learning standards based on the extensive research. The Study Group examined how to coordinate a state early learning system that responds to the diverse needs of young children with and without disabilities and how to establish an infrastructure that provides curriculum frameworks, monitoring and supports, and essential resources.

The Study Group learned not only from national experts, but also from the experiences of states and its individual members who have begun forging quality early learning systems. The participants examined the extant research on child development and preschool program quality, examined alternate delivery systems and cost analyses of preschool programs, reviewed oversight and accountability mechanisms, and identified strategies for designing con-
Continuous improvement systems to expand access and advance program quality.

After viewing the data and considering the substantial challenges, the Study Group posed these key questions that would help define its approach and final recommendations:

- What does the research say about broad access to quality early learning environments?
- What are the characteristics of effective programs and early learning environments?
- What are the implications for policy and practice in fostering quality preschool environments?
- How can states maximize the promise of preschool?

In answering these questions and considering how to drive the design of states’ early learning systems, the Study Group acknowledged two imperatives: The first is that the future of this nation depends on ensuring that we have a highly educated workforce, and that meeting this need begins with creating a comprehensive system for high-quality early childhood education. The second is that policymakers and educators are charged—morally and ethically—with using what we know to nurture, protect, and ensure the well-being of all children. Meeting these imperatives will not be easy. It will require careful attention to crafting and sustaining effective policies and designing new strategies to replace those that fail to provide young children with access to high-quality early learning environments.

Clearly, early childhood education is a public issue, one that juxtaposes the care and education of children with many of our traditional values of self-reliance and limited government involvement. The Study Group weighed these competing considerations, while at the same time acknowledging the urgency for assuming shared responsibility for our children and for planning strategic investments in their future. This report reflects the culmination of the Study Group’s examination of how state policies can advance the quality of early learning environments. Finally, it outlines the Study Group’s specific recommendations on key elements, including early learning standards, teachers’ standards and licensure, funding and resources, and procedures for systematic monitoring and review.
A. What Is Behind Today’s Renewed Interest in Early Childhood Programs?

Today’s widespread concern for ensuring high-quality programs and learning environments for children comes at a time of—and is also propelled by—dramatic demographic, social, and cultural changes within the United States. Our youngest citizens are becoming increasingly diverse, both culturally and linguistically, and they spend an increasing amount of time in childcare outside the home. At the same time, the urgency for schools to ensure that all children reach their potential is greater than ever. But after decades of efforts by K-12 schools to increase academic performance and close achievement gaps have yielded only mixed or disappointing results, there is now an overwhelming interest in reexamining how we respond to the needs of young children in order to give them the developmental and academic boost they need to be successful.

The logic behind this is straightforward: we now know that social and economic factors create huge disparities in children’s early learning environments; serious learning gaps between groups of children already exist even before children enter kindergarten; and that these gaps are likely to persist and become more difficult to close the older a child gets. As demographer Harold Hodgkinson writes, “Long before children knock on the kindergarten door—during the crucial period from birth to age five when humans learn more than during any other five-year period—forces have already been put in place that encourage some children to ‘shine’ and fulfill their potential in school and life while other forces stunt the growth and development of children who have just as much potential. The cost to the nation in terms of talent unfulfilled and lives of promise wasted is enormous.”

Hodgkinson’s words are widely backed by both the professional experiences of countless teachers and by numerous studies. In summarizing their important study on social background and achievement as children enter school, Lee and Burkham note that their data, taken from the U.S. Department of Education’s Early Childhood Longitudinal Study, “are some of the most detailed ever collected for the study of children’s characteristics as they enter kindergarten. And the results are clear—disadvantaged children fall behind at a very early age, before they ever enter a classroom.”

Data show that average scores in literacy and mathematics differ widely by race, ethnicity, and socio-economic status. Before entering kindergarten, average cognitive scores of children in the highest socio-economic status are 60 percent higher than scores of those in the lowest socio-economic status group. Other researchers have found, for example, that close to 85 percent of African American three- and four-year-olds scored lower on a vocabulary test than their white peers.

The implications for an increasing number of young children in the United States are considerable given they are the poorest members of society and are more likely to be poor now than even 25 years ago. In 2003, nearly 20 percent of all children under the age of 6—some 4.7 million children nationwide—were living in poverty. Poverty greatly increases the likelihood that a child will be exposed to environments and experiences that impose significant burdens on his or her well-being and development. Moreover, the combination of the dual risks of poverty experienced...
within a family and within the surrounding neighborhood can seriously limit the foundational linguistic, regulatory, and social skills critical for school readiness and long-term success\(^1\) (see Figure 1).

These striking disparities in what children can know and do before schooling have now been well documented. One oft-noted study comes from Betty Hart and Todd Risley, who undertook a 30-month study to understand how and when different trajectories in language development began.\(^16\) Their observational study of 42 families from different income levels found that families differed enormously in the amount of experience with language and interaction they regularly provide their children and that these differences in children’s experience were strongly linked to children’s later language accomplishments.

Based on the wide disparities in cumulative experience observed on an hourly basis, these researchers estimated the magnitude of differences for children across diverse income strata over a four-year period and found the so-called “30 million word gap.” According to this data, the average child in a professional family would have accumulated experience with 45 million words, an average child in a working-class family would have accumulated experience with 26 million words, and the average child in a welfare family would have experience with 13 million words. They likewise found enormous differences in the frequency and proportion of encouraging and discouraging feedback based on income levels, setting the stage for how children in different groups approach new experiences (see Figure 2).

The long-term implications for children’s later literacy and academic learning were stunning: by the time children were three years old, trends in vocabulary growth and styles of interaction were well-established and foretold of widening gaps to come. Follow-up studies with 29 of the 42 families showed that measures of vocabulary at age 3 predicted levels of language skill at age 9 and 10 on measures of vocabulary, listening, speaking, semantics, syntax, and reading comprehension.

### B. What We Know about the Impact of Preschool Programs

Although we seemingly do not know how to reduce poverty, there is an abundance of research on how to successfully reduce the pernicious effects of poverty through carefully designed interventions with well-defined objectives. Many
studies have shown that such programs produce meaningful gains in cognitive, social, and emotional development that contribute to children’s positive classroom learning, particularly for low-income children. Programs that provide child-focused educational activities with explicit attention to adult-child interactions patterns and relationships seem to generate the greatest impacts. Such programs produce persistent positive effects in achievement, reduced grade retention, and reduced special education placement.

As our understanding of the importance of early development has advanced, there has been parallel growth in the interest of parents, practitioners, and policymakers in how to capitalize on this knowledge to help children and families navigate the changing demands and possibilities of life in the 21st century. To begin the review of this knowledge base, the Study Group invited Dr. Kyle Snow, former Director of the Program in Early Learning and School Readiness Child Development and Behavior Branch.
Early Childhood Development

In the past half century, a convergent body of research documents the astonishing capacity of young children to learn. In 2000, the Committee on Integrating the Science of Early Childhood Development, established by the National Research Council and the Institute of Medicine, issued a rigorous multi-disciplinary report that describes early learning and the implications for education outside the home. The Committee synthesized research that underscores a complex process of development shaped by a dynamic and continuous interaction between children’s biology and their experience. Of particular interest has been the scientific explosion of information on brain development, a process that begins within a few days of conception and continues through young adulthood and beyond.

The keen interest in the early stages of brain development is understandable. The billions of neurons that are produced during early development depend on new experiences to trigger the formation of synaptic connections and refine the brain’s functional roles. While much remains to be learned, traditional processes for development that have been considered genetically hard-wired have been discovered to rely on an exquisite coordination between children’s experiences with the outside world and their genetic blueprint for brain growth.

What is inescapable and paradoxical about early development is that the interplay of genetic and environmental factors can lead to either a robust or fragile stage for what follows. Human development is shaped by children’s innate drive to master their environment. Yet, this fundamental need for mastery must be coupled with intimate and caring relationships that mediate children’s early experiences. Healthy, growth-promoting relationships that foster early development embody the characteristics of contingency and reciprocity, a condition in which “young children and their caregivers are tuned in to each other, and when caregivers can read the child’s emotional cues and respond appropriately to his or her needs in a timely fashion.” Children’s remarkable linguistic, cognitive, and social gains during the first five years depend on the nurturing, secure, and responsive interactions with caregivers.

Contemporary researchers concur that the impact of the environment is spread across the many places where children are reared, including their home, extended family, child care settings, and the community. Moreover, early trajectories are not set in stone; hereditary influences are deeply affected by these varied environments and, in turn, shape how children respond to their experiences. Furthermore, child development experts emphasize that a child’s competence emerges as a function of context, not solely as a characteristic of the individual child. In a number of studies of young children, Fischer and his colleagues found that consistent, substantial differences were found in the performance of the same child depending on the level of feedback and support within the immediate environment.

Given the susceptibility of early childhood development to environmental influences and early learning experiences, Americans’ long-standing interest in making wise public investments in young children is well-founded. Yet, what continues to vex policymakers and supporters of large-scale early intervention is determining under what conditions child care advances or undermines children’s physical and emotional well-being, social skills, and readiness for schools.

of the National Institute of Child Health and Human Development, to summarize the major conclusions from hundreds of studies on early intervention. Following are some of these important findings:

- High-quality, center-based programs enhance school readiness among vulnerable children;
- Effects are strongest for poor children and those with less educated parents;
- Positive effects continue through young adulthood, though effects are smaller than they were in elementary school;
- Programs that are continued into elementary school and those offering higher doses of intervention have the most sustained effects;
- Enrollment in high-quality programs (e.g., Abecedarian, Chicago Parent-Child Centers, High/Scope) is associated with significant long-term economic benefits;
- It is unrealistic to believe that brief, low-intensity programs will have lasting effects;
- The impact of Head Start is statistically significant, but modest; and
• Teacher education and/or training appears to be important;

Further research is underway to answer specific questions about the critical features of effective pre-k programs, the extent to which their impact varies according to the characteristics of the child and the program, and the optimal time periods to intervene. In the interim, states are faced with system-wide considerations for implementing prekindergarten programs, all of which are not well-informed by research. Until we learn more, policymakers must grapple with tough questions and decisions (e.g., total allocations, how to spend investments, eligibility requirements for enrollment, intensity of service, comprehensiveness, accountability) to maximize the benefits of early child care and education. Dr. Snow spoke about the challenge to states in connecting research with policy and practice and that the process for making these determinations must be much more pragmatic and contextual. He emphasized that “despite recent increased interest in developing pre-k programs, an extremely deep research base, and (generally) bipartisan political support…developing state pre-k programs is hard work.”

C. Cost-Benefit Analyses of Model Preschool Programs

The recent groundswell of support for state prekindergarten programs is predicated on economic analyses of the long-term benefits of the model preschool programs described below. Studies have shown substantial returns based on estimated government savings in education, the justice system, health expenditures and in increased economic wellbeing. The greatest returns for high-quality preschool programs are estimated from the total economic benefits per participant, both measured and projected over the course of a lifetime. Estimates range from about $60,000 to $140,000, yielding a cost-benefit ratio of about $4 to $10 for every dollar invested in program costs (see Figure 3 on page 13).

While numerous studies have shown both short- and long-term benefits, studies of three particular programs have established them as the gold standard for quality prekindergarten programs. The Abecedarian Program was started in 1972 as a comprehensive preschool and primary school program for low-income children in Chapel Hill, North Carolina. The program provided children with year-round, full-time care and education, including social and physical enrichment for children in a full-day, year-round program for the first five years of life. The program provided a systematic, comprehensive curriculum covering cognitive, social and emotional, and linguistic development, credentialed teachers who held bachelor’s degrees, and small child to teacher ratios. Parents were involved on the Abecedarian Center’s advisory board and received counseling about child health and development from Abecedarian staff.

At age five, a portion of the children continued in a “school-age support” program that provided a home-school resource teacher and a curriculum for parents to help them work with their children academically until age 8. Evaluations have consistently shown that the 5-year preschool program produced greater intellectual outcomes than the 3-year school-age program. Yet, children that participated in both the preschool program and the 3-year school-age program had the highest levels of intellectual and scholastic performance at the end of the program at age 8. At age fifteen, participants in the Abecedarian preschool and primary program had higher math and reading scores, were less likely to be enrolled in special education, and were less likely to have been retained in school. Economic analyses showed that for each participant the program produced benefits of $135,546 compared to a cost of $35,864, a ratio of benefit to cost of 3.78.

The High/Scope Perry Preschool was established in Ypsilanti, Michigan in the 1960s. The program served low-income African American children who were at risk of failing in school because of environmental factors and low measures on IQ tests. The program provided low adult-child ratios (1:5) in preschool classrooms for two years, staffed by certified teachers, using highly interactive curricula, and including weekly home visits. The High/Scope Perry Preschool Project is a particularly important source of information about the impact of high-quality preschool, because researchers tracked 95 percent of program participants until age 27 and, more recently, conducted a follow-up of participants at age 40.

The results are impressive. The program showed positive effects on special education placement, achievement at age 14, high school graduation rate, earnings, home ownership, welfare enrollment, employment, savings accounts, and reduced crime. Researchers have pointed out that although the High/Scope Perry Preschool Project was expensive ($12,356 per child in 1992 dollars), each participant in the program saved the public system, on average, more than $88,000 in future welfare, judicial, special education, and
crime expenses, as well as increased tax revenue on participant’s earnings. Overall, the program yielded $262,642 in benefits versus $15,386 in costs, a benefit/cost ratio of 17.1.

For almost 40 years, Chicago’s Child-Parent Center and Expansion Programs have served poor urban families, promoting academic success among low-income children and encouraging parents to become involved in their children’s education. The program provides preschool for three- and four-year-olds, half-day or full-day kindergarten, and early elementary supplementary services based on three components: a child-centered focus on the development of reading/language skills, parental involvement, and comprehensive services.25 The program ensures coordinated staffing (head teacher, parent resource teacher, school-community representative, and teacher aide), funds for a centralized inservice teacher training program in child development; and emphasis on reading readiness through reduced class size, reading and writing activities, reinforcement, and feedback.26 The expansion program is designed to enrich primary grade experiences, reduce class sizes, involve parents, and provide inservice training to classroom teachers and aides.

Evaluations have shown greater benefits for children who participated for longer periods of time. In particular, children who attended preschool and received follow-up services in primary school were found to have higher reading achievement, lower rates of special education placements, and lower grade retention when compared with children receiving only the preschool or the expansion programs.27 More extended services showed persistent effects into high school—lower rates of remedial services and lower rates of delinquency infractions. In the age 24 follow-up, extended program participation was associated with higher rates of high school completion and full-time employment, and lower rates of receiving one year or more of Medicaid and violent arrest. The benefits, particularly from increased employment rates, yielded estimates of $54,754 in savings, compared to program costs of $7,584—a benefit/cost ratio of 7.2.28*

Finally, program impact studies have found the greatest effects are for low-income, minority children, largely because these children present with the highest level of problems. They benefit the most from improving cognitive and social skills, reducing grade repetition, special education placements, low rates of high school graduation, low earnings, and high crime rates. Dr. Steve Barnett, from the National Institute for Early Education Research (NIEER), pointed out to the Study Group that these types of problems are roughly half as prevalent among children from middle income families as they are among children from families in the bottom 20th percentile (see Figure 1). These data suggest that although returns will decline along with increases in income, the impacts on middle-class children would still be about half that for children in poverty and, hence, sufficiently large to warrant inclusion of children from a broader spectrum of income levels.

D. Looking Beyond the Effects of Model Programs

The good news about preschool programs, as stated earlier in this report, is that the evidence for positive effects is clear, especially for disadvantaged children. Yet the challenges for state and local agencies in trying to bring the promise of preschool to as many children as possible are significant. There are considerable concerns that the remarkable gains produced in model programs have not been realized by those served in many federal, state, and private programs. Barnett noted to the Study Group the continued poor educational outcomes of children in poverty despite the billions of dollars invested each year in federal and state programs, including Head Start, subsidized child care, and state and local preschool programs.29

Above all, Barnett said, incorporating the hallmarks of high-quality programs matters greatly (e.g., well-educated preschool teachers, adequate teacher compensation, small classes, reasonable teacher-child ratios, strong supervision, high standards, and accountability). The discrepancy between what has been found to be most effective and current policies that regulate preschool is stark. Barnett pointed out that to date, for example, only half of all states require teachers in

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* Programs that were developed specifically to examine the influence of preschool education on economically disadvantaged children have produced important outcomes and high returns on investments. They increased children’s readiness for school and provided long-term social benefits, particularly for low-income and minority children whose parents have little education. While these programs serve as models of best practices, states face considerable challenges to generalize their effects to scaled-back, real-world services that are more likely to be implemented on a large scale. These model programs incorporated multiple years of language-rich, developmentally appropriate curricula taught by highly trained teachers in classes with low child-staff ratios. They were designed and operated by experts who did not face the challenges of selecting, training, and overseeing large numbers of teachers and programs that operate in accord with different funding sources, rules, and standards.
state-funded pre-k programs to have a four-year college degree. In fact, the variability in long-term effects is not surprising given the well-documented unevenness in the quality of childcare and preschool programs: studies have shown that the vast majority of centers (86 percent) in the United States provide mediocre to poor quality care.

Finally, greater attention has been given recently to attending to what follows preschool participation in order to reap a better return on pre-k investments. In part, these considerations arise from consistent findings that many preschool effects on measures of cognitive and academic performance for all types of programs tend to decline over time. Some attribute the fade-out to methodological flaws or to the measures used in follow-up studies (e.g., IQ versus school-related academic skills); others to the weaknesses in the schools that disadvantaged children attend following preschool. Even though the research is equivocal on the extent to which the outcomes from preschool participation persist and for whom, the need to ensure that children participate in quality learning environments as they move into kindergarten and the primary grades is paramount.

Accordingly, a growing number of researchers and policy leaders recognize that preschool alone is not enough to offset the gaps in student learning that are evident when children enter kindergarten. Evaluations of small-scale model programs and other large-scale studies indicate that...
children reach higher levels in programs when preschool is connected to primary grades through curriculum and assessment alignment, continuity of supports, and quality teaching. The major assumption of a prekindergarten through grade three system is that better coordination and integration of educational programs and practices will enhance learning above and beyond the impact of typically organized school experiences. As Zigler, Styfoco, and Gilman noted:

Do we really want to believe that a year of preschool can ultimately shape the course of human life? To do so is to ignore the many, many factors ranging from the quality of schooling to socialization influences from the family and community….Development is a continuous process, and while it is important to give the child a sound beginning, that does not mean the future is secured.

What remains as a considerable challenge to policymakers and practitioners is how to realize the promise of preschool given the realities of scarce resources and the significant challenges of building a coherent system out of the many pieces (federal, state, local, public, private) that make up today’s early learning network. Given the limits of fiscal and human resources, what are the essential programmatic and instructional elements that ensure delivery of high-quality learning environments to young children?

The rest of this report focuses on what states need to know and do in order to put all the pieces together. In Chapter II, we take up in depth a discussion of what constitutes quality preschool programs and classrooms and examine what are indicators of quality for early learning environments, and what factors contribute to creating and maintaining quality classrooms and programs.

In Chapter III, we will examine how states must design an infrastructure to support the expansion of quality programs and what are important aspects of the overall early learning system that support quality learning environments at the local level.

Chapter IV focuses on the single most critical element affecting both program quality and state development of an effective early learning system: the quality of the preschool workforce, including ways to improve it.
Children are asked to do more in kindergarten and the primary years than in previous generations. At the same time, the accumulated evidence from child development research shows conclusively that young children are more capable learners than current practices reflect. In order to match raised expectations for positive outcomes for young children from early education, what should quality environments look like? What are the critical features of programs, classrooms, and teachers that predict quality and that will yield the academic and social benefits that last beyond kindergarten?

In reviewing the literature on preschool quality, the National Research Council gave priority to defining quality in terms of teaching attributes—how well teachers respond to children’s differences, their learning processes, and capabilities; how successfully they integrate multiple developmental goals; and how well they modify curriculum and teaching practices to meet children’s needs. Early education teachers must have the knowledge and skills to engage in stimulating, responsive, and supportive interactions that are geared to children’s distinct learning needs and interests. Skillful teachers elaborate on children’s language and concepts, helping them to seek connections and look for patterns while expanding their linguistic and conceptual repertoire.

The Study Group concluded that what is most critical in quality early learning environments is having highly trained and well-supported teachers who can provide responsive interpersonal relationships, nurture children’s dispositions to learn, and cultivate their emerging abilities. All aspects of high-quality learning environments are gauged by the extent to which they provide teachers with the training, supports, curricula, guidance, supervision, and feedback to ensure that:

- Children are respected, nurtured, and challenged and enjoy frequent interaction and communication with peers and adults;
- Children have ongoing opportunities to learn important skills, knowledge, and dispositions in classrooms that provide materials and activities that are individualized and challenge children’s intellectual development; and
- Children acquire skills necessary to learn basic school readiness proficiencies and knowledge in such areas as expanded vocabulary and alphabetic principles; phonological awareness; concepts of numbers; areas of language and literacy; shapes, measurement, and spatial relations; task persistence; early scientific thinking; and information about the world and how it works.

This chapter examines the many pieces of an early childhood education system that must be in place in order to create the high-quality learning environments that generate the greatest impacts for children. The Study Group drew from the work of numerous researchers and national experts, as well as recommendations from organizations such as the National Research Council, the National Association of Early Childhood Specialists in State Departments of Education, and the National Institute of Early Education Research in order to develop the following list of elements behind high-quality early education programs.
A. Comprehensive State Standards for Preschool Programs

About 40 states have developed early learning standards as part of their effort to align early education with the K-12 system. But for the school year 2004-05, the National Institute for Early Education Research (NIEER) reports that only 27 states have comprehensive early learning standards that meet criteria for content areas established by the National Education Goals Panel. Standards should serve as the foundation for a shared vision and provide clear articulated goals and indicators to guide the development and implementation of high-quality early learning environments.

Prekindergarten standards should be:

- Comprehensive in covering all areas of development (language, emergent literacy, early mathematics skills, and motor, social, and emotional development), as well as health and nutrition services;
- Manageable given the constraints of time; and
- Applicable to diverse settings.

For each domain, the standards should describe what young children should know and be able to do and reflect skills and foundational understandings that are developmentally and educationally significant.

These goals should be public and understood by all those who have a stake in the early education of young children.

The State of Preschool

Every year, the National Institute for Early Education Research (NIEER) publishes The State of Preschool, a yearbook of the status of preschool in each state and across the whole of the United States. Each state is graded and ranked based on a multitude of benchmarks. Perhaps the most important grade a state preschool program receives is for high-quality standards. Following are the standards on which states are graded, with the ideal policy goal in parentheses:

- Early Learning Standards (comprehensive)
- Teacher degree (BA)
- Teacher specialized training (specialization in pre-k)
- Assistant teacher degree (CDA or equivalent)
- Teacher inservice (at least 15 hours per year)
- Maximum class size (20 or lower)
- Staff-child ratio (1:10 or better)
- Required screening/referral and support services (vision, hearing, health, and at least one support service)
- Meals (at least one per day)
- Required monitoring (site visits)

NIEER also examines the ability of children to access the state’s pre-k programs and the resources put into pre-k. Based on these three areas, the state is graded and ranked. Overall, NIEER’s evaluation of each state’s pre-k system has led them to make the following observations about the state of pre-k in the United States for 2004-05:

- 38 states funded at least one state pre-k initiative.
- In all, state pre-k initiatives served over 800,000 children: an increase of 16 percent since 2001-02. However, enrollment declined in 11 states.
- State pre-k continues to focus on 4-year-olds, with 3-year-olds being largely ignored.
- Arkansas is the only state that meets all 10 of NIEER’s quality benchmarks. Alabama, Illinois, New Jersey, North Carolina, and Tennessee meet nine. Twenty-one states meet five or fewer benchmarks.
- Twenty-one states do not require all state pre-k teachers to have a BA degree or higher. Nine of these states do not require any state pre-k teacher to have a BA degree.
- Thirty state pre-k initiatives use regular site visits to monitor local programs.
- States spent a total of $2.84 billion on pre-k initiatives compared to $240 billion on K-12 education: only one percent of the total state K-12 budget.
- The average state spending per child enrolled in pre-k was $3,551. The top spending state was New Jersey, which spent ten times more than the lowest ranked state (Maryland).
- Increases in state pre-k spending from 2001-2002 were outpaced by increased enrollment, resulting in an overall 7.3 percent decline in inflation-adjusted spending per child over the past four years.

Thus, NIEER concludes that while there has been some improvement overall in state pre-k initiatives, many states have a long way to go in order to have quality early education systems. Two major conclusions NIEER makes are that many states need to establish stronger and more uniform quality standards and most states need to increase their pre-k budgets to keep pace with growing enrollment and to meet quality benchmarks.
The goals and desired outcomes for education and services should support children’s diversity, which includes children’s culture, racial identity, language, and the values of the families and communities.38

States should also develop program standards that address preschool teacher qualifications, group size and class ratios, learning opportunities, assessment procedures, materials, classroom environment, and health and safety routines.

B. Rich, Coherent Curriculum

According to major reports by the National Research Council and the Institute of Medicine, children who attend well-planned, high-quality early childhood programs in which curriculum aims are specified and integrated across the domains tend to learn more and are better prepared to master the complex demands of formal schooling.39 While no single curriculum has been found to be superior, the reports’ recommendations call for addressing cognitive, social-emotional, and physical development as mutually supportive areas that require active attention in the preschool years.40

Sound implementation of curricula should expose children to a variety of classroom structures (whole class, small group, individual), thought processes, and discourse patterns in ways that accommodate their individual needs and abilities. The curricula should incorporate a range of structured and unstructured play that promotes children’s skills in problem solving, self-control, sustaining attention, and the ability to work well with adults and other children.41

Key indicators of effectiveness endorsed by both the National Association for the Education of Young Children (NAEYC) and the National Association of Early Childhood Specialists from State Departments of Education include the following:

- Children are active and engaged;
- Goals are clear and shared by all;
- Curriculum is developmentally, culturally, and linguistically relevant;
- Valued content is learned through investigation, play, and focused, intentional teaching;
- Curriculum builds on prior learning and experiences;
- Curriculum is comprehensive and encompasses critical areas of development;
- Professional standards validate the curriculum subject-matter content; and
- There is clear evidence that the curriculum is likely to benefit children.42

C. Language and Emergent Literacy

The National Reading Panel’s report on early reading has led to an understanding of the importance of developing young children’s foundational preschool abilities that predict success or failure in reading in the early grades.43 Initial differences in children’s foundational literacy skills translates to a one-year gap in reading development by the end of first grade that continues to widen over time. Consequently, more than 80 percent of children reading poorly at the end of the first grade will be reading poorly at the end of the fourth grade and will be unlikely to catch up, even with remedial support.

In particular, deficits in vocabulary have a lasting impact and continue to impede children’s ability to comprehend increasingly complex text as they progress through school. This means that high-quality preschools must provide rich language and literacy experiences, particularly to those who come from backgrounds that limit their exposure to language. Children need to learn words, learn the language, learn to talk, learn to tell stories, and learn to comprehend. Accordingly, teachers must be well-trained to stimulate verbal interaction, enrich children’s vocabularies, encourage talk about books, develop knowledge about print, and generate familiarity with the basic purposes and mechanisms of reading.44

The National Research Council estimated that if children receive proper exposure and systematic opportunities to develop foundational language, reading, and emergent writing skills during early childhood, as few as five percent would experience serious reading difficulty.45 Most children, irrespective of background, can learn foundational cognitive and language skills in preschool when their interests are recognized, supported, and extended rather than ignored or redirected.

Accordingly, to address gaps in children’s early literacy development, states have incorporated foundational or emergent literacy as a core element of early learning and program standards. These standards have emphasized the expectation that “scientifically based research” will guide curriculum development and implementation. Core
components of research-based preschool literacy programs include a strong foundation in language development and emergent literacy skills (including phonological awareness, letter knowledge, written expression, book and print awareness, and motivation to read).

**D. Assessment**

Concerns over the misuse of assessments of young children persist. Because young children learn in ways and at rates different from older children and adults, assessments must be tailored accordingly and used in accord with their intended purposes, whether for supporting learning, identifying special needs, evaluating programs, or ensuring accountability for outcomes. It is critical that assessment instruments are:

- Appropriate for the ages and the characteristics of the children being assessed;
- In compliance with professional criteria for quality; and
- Used by appropriately trained staff.

The following discussion focuses on the important link between assessing and teaching as being a critical part of ensuring the quality of instruction and supports for preschoolers. The issue of ensuring program effectiveness through program evaluation and monitoring is discussed in Chapter III.

In order for assessment to support learning and development, the content of formative classroom assessments must be closely aligned with what children are learning, and the timing of these assessments must correspond to when children are learning particular concepts. Methods of collecting assessment data include direct observation of children during natural activities; looking at drawings and samples of work; asking questions either orally or in writing; or asking informed adults about the child.

States must ensure that appropriate assessment is a central part of all early childhood programs and provide guidance on using assessment methods that are developmentally appropriate, culturally and linguistically responsive, and that include families. Multiple assessment tools should be used to make sound decisions about teaching and learning, to identify significant concerns that may require focused intervention for individual children, and to help teachers adjust and modify curricula and improve their educational and developmental interventions. Instruction should be planned by using a continuous cycle of 1) collecting information through formative evaluation; 2) analyzing and evaluating what you learned; 3) planning for each child and group, and 4) reporting on children’s progress and making changes in programs as part of a continuous improvement cycle.

States should help programs identify assessment tools to inform instruction. These instruments should exemplify important and age-appropriate learning goals that are tied to clear developmental or knowledge continuums, with benchmarks along the way to illustrate what progress looks like. Because it is too great an undertaking for individual teachers or early childhood programs to develop such materials on their own, efforts coordinated at the state level can make a significant improvement in assessment practices.46

There should also be clear guidance on the mechanisms and training for administrators and staff to ensure that children who need additional health and/or educational services beyond what regular caregivers can provide are identified early and appropriately. The purpose of identification is to secure special services for children with disabilities, as well as to ensure that children receive routine checks for vision, hearing, and immunizations. Because of the potential inaccuracy of nearly all sensory and cognitive measures and the cost of in-depth assessments, identification of special needs usually occurs in two stages. Screening is the first step in the identification process. It involves a brief assessment to determine whether referral for more in-depth assessment is needed. Depending on the nature of the potential problem, the child is then referred to a physician or child-study team for a more complete evaluation.

States should ensure that teachers and administrators receive preservice training and professional development in using various forms of assessment—not only to judge a child’s progress, but to evaluate and improve instructional practice. Continued professional development should build teachers’ and administrators’ assessment literacy, their ability to assess children in culturally and linguistically appropriate ways, and their ability to use the results to improve children’s education and health outcomes.47

**E. Responsiveness to Cultural and Linguistic Diversity**

Dealing with a population of children that is diverse ethnically, racially, and in terms of their dominant language is one of the major challenges that states face as they expand their
prekindergarten programs. The proportion of English language learners in public schools has more than doubled over the past decade and continues to increase.48 By the year 2030, children in families of European origin will make up less than 50 percent of the population under age 5. 49

In addition to addressing the issues of second language acquisition (see textbox on English language learners), programs must be sensitive to great cultural variations in the ways in which adults and children interact verbally.50 For example, many cultures do not cultivate the social norm of adult as “information giver” that characterizes the world of American middle-class children. Middle-class children are expected to listen and watch adults, and as a result the children observe particular social rules when engaging in conversation with adults, rules that many not exist in some other cultures. Such communication patterns can impact how a child participates in preschool environments.

The primary issue for program developers and providers at the local level is to identify the set of program elements that work for the children within their particular community. It is

The following general principles should guide both policies and practices for the assessment of young children.

• **Assessments should bring about benefits for children.** Gathering accurate information from young children is difficult and potentially stressful. Formal assessments may also be costly and take resources that could otherwise be spent directly on programs and services for young children. To warrant conducting assessments, there must be a clear benefit—either in direct services to the child or in improved quality of educational programs.

• **Assessments should be tailored to a specific purpose and should be reliable, valid, and fair for that purpose.** Assessments designed for one purpose are not necessarily valid if used for other purposes. In the past, many of the abuses of testing with young children have occurred because of misuse.

• **Assessments should be age-appropriate in both content and the method of data collection.**

• **Assessments of young children should address the full range of early learning and development.**

This includes physical well-being and motor development; social and emotional development; approaches toward learning; language development; and cognition and general knowledge. Methods of assessment should recognize that children need familiar contexts in order to be able to demonstrate their abilities. Abstract paper-and-pencil tasks may make it especially difficult for young children to show what they know.

• **Assessments should be linguistically appropriate, recognizing that to some extent all assessments are measures of language.** Regardless of whether an assessment is intended to measure early reading skills, knowledge of color names, or learning potential, assessment results are easily confounded by language proficiency, especially for children who come from home backgrounds with limited exposure to English, for whom the assessment would essentially be an assessment of their English proficiency. Each child’s first- and second-language development should be taken into account when determining appropriate assessment methods and in interpreting the meaning of assessment results.

• **Parents should be a valued source of assessment information, as well as an audience for assessment results.** Because of the fallibility of direct measures of young children, assessments should include multiple sources of evidence, especially reports from parents and teachers. Assessment results should be shared with parents as part of an ongoing process that involves parents in their child’s education.

Despite heated debate over which programmatic approach to use with English-language learners (ELLs), there is mounting evidence that the most effective way to educate young ELLs is to teach in both the child’s first language and English. While the research does not support one particular method, rigorous reviews by the National Research Council’s Committee on Developing a Research Agenda on the Education of Limited English Proficient and Bilingual Students found that using children’s first languages in educational activities positively impacts children’s English language development and school readiness. Furthermore, the literature provides evidence that supporting a child’s first language and culture will yield benefits in terms of increased self-confidence and positive attitudes toward school.

In general, there are three different types of programs for ELLs: first language classrooms, bilingual classrooms, and English-language classrooms. A meta-analysis based on studies from 13 states showed that students taught using at least some of their first language perform significantly better on tests administered in English than comparable students who are taught only in English. Furthermore, there is substantial evidence that bilingual children who have relatively equal levels of competence in two languages display numerous cognitive, linguistic, and sociolinguistic advantages compared to monolinguals.

Similar findings were reported in two studies comparing two groups of low-income, Spanish-speaking three- to four-year-old children—one attending a high-quality bilingual program and the other remaining at home. Both studies found that children attending the bilingual preschool made significantly greater gains than the control group in both Spanish and English language abilities over the course of the one-year preschool. Results from a study on children graduating from an emergent literacy preschool program taught in Spanish and English showed that these students outperformed other ELL children in the same district on measures of English proficiency in kindergarten through second grade.51, 52

An evaluation of a first language program that uses Spanish as its primary language, the Carpinteria Preschool Program, showed positive effects for both first-language and second-language acquisition and other outcomes. Even though the preschool program was conducted in Spanish, preschoolers acquired English language fluency faster, transitioned out of bilingual education programs sooner, and achieved higher scores on English language standardized tests when compared to a language-minority comparison preschool group.

More research is needed to determine which types of programs with which types of children are most effective in facilitating English language acquisition and/or native language maintenance. Yet, experts point to the need to move beyond program labels, de-emphasize dictating a specific method for all children, and continue on the more general path of monitoring student learning and intervening in the case of lagging development wherever it occurs. In part, this common sense approach underscores the difficulty in any one-size fits all model to educating English language learners who vary widely on experiential, cultural, linguistic, and social dimensions.

The National Research Council concluded that the primary issue is not in selecting a program model, but in identifying a set of program features that works for the children within a particular community. As with all early childhood programs, the issue rests with the quality of what teachers do in classrooms with children—specifically, the quality of the implementation and use of a curriculum, their social and instructional interactions with children, and the intentionality and productivity of the classroom setting. In providing strong programs for ELLs, this suggests that teachers perceive linguistic diversity as an asset. Teachers would then, in turn, create environments that respect children’s language and culture and that promote both second-language acquisition and preservation of the first language. This conforms to the line of evidence that supports bilingualism as a boon to cognitive and linguistic development—skills developed in home language acquisition transfer to conceptual learning in the second language.

Policy Recommendations

- Pre-k programs should engage all families in meaningful ways in the school and classroom regardless of the language they speak;
- States should ensure that staff receive professional development in providing culturally sensitive and linguistically appropriate instruction and assessment;
- States should adopt at least one bilingual or Spanish language pre-k curriculum; and
- States should establish appropriate measures to assess how well programs are providing services to all children, with a particular focus on first-language development and second-language acquisition.53
critical that the child’s home language and culture are respected, appreciated, and incorporated into the curriculum and classroom. The curriculum itself should be thoughtfully planned, engaging, culturally and linguistically responsive, and likely to produce positive outcomes for young children. Well-implemented curricula promote children’s activity and interaction with teachers and peers and build upon children’s prior individual, cultural, and linguistic learning to maintain a sense of identity and family belonging.

Concomitantly, states should ensure that early childhood educators receive preparation and ongoing training in child development, cultural sensitivity, and linguistically appropriate instruction and assessment. Teachers and program staff need to understand cultural differences and have the knowledge and skills to create learning environments that use culture as a resource for learning.

Finally, states should provide guidance and ensure training on the use of assessment methods that are developmentally appropriate, culturally and linguistically responsive, and include families.

**F. Inclusion of Children with Disabilities**

The Early Intervention Program for Infants and Toddlers with Disabilities, under Part C of the Individuals with Disabilities Education Act (IDEA), and the Preschool Grants Program, under Part B of IDEA, were enacted to provide integrated service delivery for children with disabilities from birth through age five. Federal requirements stipulate that children in the preschool years must be served with nondisabled children in mainstream environments whenever possible. States have expanded preschool options by placing children in community and public settings along with their nondisabled peers to the maximum extent possible.

It is critical that early childhood programs provide a genuinely comprehensive set of services and educational opportunities for all children, including those with disabilities, that are grounded in developmental science. Research suggests that principles for guiding high-quality early childhood programs for children with disabilities are not different in kind from those for typically developing children. Teaching for all young children needs to be intentional, systematic, and individualized for each child.

The guidelines for designing programs for children with disabilities parallel those recommended for developmentally appropriate practice generally. The Division for Early Childhood of the Council of Exceptional Children highlights the importance of attending to the child’s individual development, the integration of curriculum and assessment, the primacy of active engagement with the environment, and an emphasis on social interaction. Moreover, many children not identified as disabled manifest similar language, cognitive, and/or social-emotional delays that put them at risk for developmental difficulties and school failure. Programs that have used itinerants or teams of teachers to provide more specialized services for children with disabilities can augment the overall quality of preschool programs by offering critical expertise in modifying instructional activities in accord with individual children’s needs and competencies.

Accordingly, states have expanded inclusive programs, which can provide peer appropriate models and greater interaction and stimulation than environments in which children are isolated in separate classrooms. More than three-fourths of state-funded prekindergarten programs report that they provide services for children with disabilities. Studies that compare integrated and segregated programs for children with disabilities report two major findings: 1) special needs children make similar levels of developmental progress in both types of programs, and 2) children in integrated programs have more advanced social and behavioral skills. Of course, the quality of the program is paramount. Positive outcomes may not be realized in community programs of low quality or with teachers who are poorly prepared.

**G. Partnerships with Parents**

Proponents of direct intervention with parents believe that helping parents improve their parenting skills will translate into improving children's development and readiness levels. Such an approach has obvious intuitive appeal. However, evidence from intervening with parents as the primary means of influencing children's development shows that this is not as effective as working directly with children.

Most of the model programs reviewed earlier in this report combined strong center-based experiences with extensive parent involvement activities, including weekly or bi-weekly home visits, parent group meetings, and involving parents in classroom activities. The intent is to share knowledge about the child from both the home and classroom perspective in order to help teachers understand the child better and to help parents interact more effectively with their child.
While research on early intervention suggests that parent involvement and training is not an adequate substitute for direct invention, children benefit from close partnerships and ongoing communication between their families and their educational programs. Programs should foster alliances with families to cultivate complementary environments for children. Teachers working together with parents can promote responsive environments and collaborate on developing flexible approaches that are developmentally, culturally, and linguistically sound by:

- Including families as partners in all aspects of the preschool program so that families are routinely consulted about the interests and abilities of their children and welcomed into programs to observe and participate in activities.

- Supporting the culture and language of children, recognizing that all children are cognitively, linguistically, and emotionally connected to the language and culture of the home. Educators must build on the knowledge and learning acquired through the language used in the home to ensure content and concept development.

- Strengthening the connections with the family by honoring the language, culture, and values of families in designing program activities and curricula. All families are viewed as having strengths.

- Providing outreach to parents to offer information on programs and services and to give parents opportunities to improve their educational and/or parenting skills.

- Developing multiple avenues for sharing information on a regular basis regarding each child’s progress that affords parents meaningful opportunities to have input on the educational goals for their children.

- Providing opportunities for parents to participate in key decisions about policies and programs to increase the recruitment and retention of families in preschool programs.

**H. Class Size/Teacher-Child Ratios**

Small class sizes and low adult-child ratios are linked to better instruction and child outcomes by providing a more favorable environment for teaching. Low adult-child ratios are associated with more extensive teacher-child interaction, more individualization, and less restrictive and controlling behavior. Similarly, small group size has been linked with greater child initiation, mediation of children’s social interactions, and encouragement and support for exploration and problem solving.

To realize the advantages of smaller class sizes, teachers need to have appropriate training and supervision in providing responsive and supportive interactions with individual children and in managing behavior and time to increase children’s engagement in educational experiences. In fact, studies show that substantial class size effects are obtained only when the class size is reduced to 15 or fewer children. Model preschool programs such as Abecedarian and the High/Scope Perry Preschool (which provide much of the research on positive outcomes for children) had class sizes of 12 to 13 children with two teachers. National early childhood organizations recommend that prekindergarten programs have no more than 10 children per teacher and no more than 20 children per classroom.

**I. High-Quality Teachers**

Teaching is the most critical component of quality early learning environments, and it will be discussed more extensively in Chapter 4. There are, however, several points on early childhood teaching worth making at this juncture.

First, research is clear that the effectiveness of teachers in creating a supportive, instructional climate is the most powerful determinant of children’s growth in critical readiness skills. In its extensive review of research on early learning, the National Research Council gave priority to defining quality in terms of teaching attributes: how well teachers respond to children’s differences; their learning processes and capabilities; how successfully they integrate multiple developmental goals; and how well they modify curriculum and teaching practices to meet children’s needs.

Second, the research suggests that children are indeed “eager to learn” and have the cognitive apparatus for assimilating concepts, language, and skill sets much earlier than previously presumed. However, to truly take advantage of children’s intellectual readiness, teachers need to be intentional in encouraging communication and reasoning skills, providing frequent verbal feedback, and maximizing children’s engagement in learning experiences. It requires a highly responsive environment that provides a blend of child-directed discovery and teacher-provided explicit information.
Third, policymakers must remember that a good curriculum by itself is not enough. Studies have shown that the curriculum is only as good as what teachers do with it, and despite consistency in selected curricula, wide disparities exist in how it is implemented even with different children within the same classroom. Furthermore, studies have shown that access to high-quality and diverse materials that are specifically targeted toward increasing academic skills is not sufficient to influence outcomes. It requires well-trained teachers who are sensitive to a child’s level of understanding, able to maintain and build on a child’s focus, avoid high levels of restriction on behavior and oral language usage, and provide choices and adapt to a child’s changing needs.  

Teachers need to be capable of systematically observing children’s progress and of using a range of approaches and activities appropriate for their different levels and interests. While children initiate many of the activities throughout the day, these activities should be the result of careful planning and coordination to ensure that children have opportunities to develop the knowledge and skills they will need as they move from preschool into the primary years. In classrooms where teachers were highly rated on encouraging communication and reasoning and managing classroom time to maximize learning opportunities, children’s receptive and expressive language, prereading, and math skills increased.  

Fourth, ensuring that early childhood teachers have sufficient preparation, supports, and compensation continues to be a major challenge in providing quality environments in preschool settings. Early childhood experts have called for increased attention to ensuring that children have access to the best and recommend that all prekindergarten teachers have a minimum of a four-year college degree and specific training in early childhood education. At the same time, the current national trend to raise teacher qualifications has yielded mixed results and raised questions about its sufficiency in assuring quality teaching. Likewise, there has been concern that credentialing per se may be necessary, but insufficient to guarantee high-quality preschool learning environments that will, in fact, mitigate early achievement gaps. For state leaders, recommendations for improving the early education teaching workforce particularly focus on developing systemic supports, which will be addressed in greater detail in the following chapters. Briefly, these supports include:

- Providing for continuous training and quality improvement efforts to all preschool teachers, administrators, and programs;
- Ensuring high-quality, ongoing professional development, mentoring, and feedback;
- Providing strong supervision, supports, and effective administrators; and
- Implementing state and local oversight and monitoring systems.

J. What Do Current State Prekindergarten Programs Look Like

While much lip service has been given to child-focused, developmentally appropriate, responsive preschool classrooms, what goes on in the majority of early learning classrooms is starkly different. Many of the preschool programs in the United States are rated below the minimum for a preschool program to be judged “good.” For example, the 2001 Massachusetts Cost and Quality Study of the quality of community-based programs and the FACES study of a sample of Head Start programs found that scores on quality classroom rating scales showed that most were in the “minimally adequate” range. Moreover, those children who can benefit the most from quality early education are far more likely to attend lower-quality programs. In fact, a review of current quality measures indicates that these estimates of program quality may be overestimates, because the measures used did not capture the enriched language, early literacy, and mathematical and scientific learning that recent research shows young children are capable of learning.

State and local policymakers and practitioners must take concerted action to raise the overall quality of preschool education, particularly for the nation’s most vulnerable children. It is imperative that if the investment in high-quality preschool education is to pay off, there needs to be a clear vision of what high-quality preschool programs look like.

Dr. Robert Pianta of the University of Virginia presented the Study Group with findings from the National Center for Early Development and Learning’s (NCEDL) Multi-State Study of Pre-Kindergarten, a large-scale observational study that looked at 1,000-1,200 classrooms at the prekindergarten, kindergarten, first- and third-grade level, comprising some 3,500 observations in total. The study examined classrooms in states that had committed significant resources to prekindergarten initiatives and provided a national view of pre-k through grade three education. It was designed with
Fulfilling the Promise of Preschool

The study sought to answer the following questions:

- What is the experience of children in pre-k through 3rd grade?
- Are these experiences related to structural features of classrooms?
- In what ways do these experiences matter for children?
- How can the richness and quality of experiences in classrooms be improved?

The observational data showed stunning variability in experiences offered to children even when a common curriculum was used. In addition, there were no differences found between the type of instruction that goes on in state-funded prekindergarten classes and in primary grade classrooms. For the most part, the programs provided low-quality instruction and self-reports on the extent and nature of teaching were not reliable. In general, children participated mostly in whole group or individual seatwork activities and had few, if any, social or instructional interactions with the teacher.

Further analyses conducted by NCEDL of the Multi-State Study of Pre-Kindergarten shed light on how programmatic features impact the quality of early learning environments. Observational data sets from a sample of 238 classrooms in six state prekindergarten programs were used to examine relationships among program, teacher, and classroom attributes. The researchers sought to test assumptions underlying state education policies, such as whether or not having credentialed teachers translates to better learning environments for children. Major findings of the study included:

- Classrooms with at least 60 percent of the children from low-income families were rated as significantly lower in quality in terms of teaching and interactions and provisions of learning on the ECERS-R;
- Less experienced teachers taught in classrooms with greater numbers of children;
- Global ratings of classroom quality were lower when the classroom included a majority of children below the

Measuring the Quality of Early Learning Environments

Researchers have designed new ways to measure the quality of early learning environments, and how quality is conceptualized has continued to evolve. The basis for these metrics of classroom quality rests with linking elements of the classroom environment with positive child outcomes in academic and social domains. One approach is to assess the global classroom environment, such as in the Early Childhood Environment Rating Scale—Revised (ECERS-R), which describes the classroom physical environment and materials, as well as the warmth and responsivity of child-teacher interaction.

Other so-called “process measures” assess more directly how the preschool classroom serves as a learning environment and have been used by researchers in observing classrooms to measure the time devoted to “instruction” and evaluating the residual or “value-added” effects of instruction after adjusting for background factors. One such measure, the Classroom Assessment Scoring System (CLASS), looks at the quality of implementation and interaction that is afforded to children and measures the ingredients that produce learning by measuring:

- How teachers and students interact, rather than focusing on physical or structural attributes of schools and classrooms;
- The degree of intentionality—or what teachers do to promote the positive emotional, social, and academic development of students in the classroom; and
- Two broad constructs—emotional support and instructional support—determined by a factor analysis of all CLASS subscales.

Researchers using CLASS to measure learning environments have found that higher ratings of these primary factors—emotional quality (positive and negative emotional climate, teacher sensitivity, and regard for students’ perspectives) and instructional quality (productive use of time, language modeling, quality of feedback, use of time, concept development, and instructional learning formats)—are associated with children’s performance on standardized assessments of academic achievement and better social adjustment in the early grades in school.

These measures provide useful tools in determining the quality of classrooms and identifying to what extent characteristics of the program and of the teacher account for observed quality within classrooms.
poverty line, teachers did not have BA-level training in early childhood, and teachers expressed more traditional beliefs about interacting with children (adult-centered perspective);

- Teachers’ education, training, and experience were significantly related to the global quality measures, though the effects were small; and

- State-to-state differences accounted for the largest increments of explained variance in observed program quality (between 8 percent and 24 percent).

These analyses can help inform decisions on whether regulations on structural program features (e.g., teacher training or classroom size) will have a positive impact on program quality. Findings indicate that program features and teacher attributes are statistically significant (although modest) predictors of quality. In terms of quality differences across states, the authors made several points. First, they suggested that rather than the specific nature or level of state regulation being the factors that make a difference in program quality, “it is the extent to which state regulations are enforced and professional development is actively provided to programs to meet the regulations.”

Second, they concluded that the consistent association between low-quality and high concentrations of children in poverty in the classroom is a cause for concern. Given that programs are often designed and implemented to address the educational and socio-emotional needs of children coming from low-income backgrounds, the resources for counteracting the effects of poverty may not be sufficient, the authors said. As such, more attention should be given to how policies can influence the resources and supports provided to preschools serving low-income children in order to promote improvements in instruction.

Finally, the authors concluded that policy considerations on improving preschool quality should focus less on absolute levels for teacher credentialing and experience and more on professional development opportunities that emphasize the classroom as an instructional setting, children’s actual educational experience in that setting, and teachers’ demonstrated knowledge and skills.

In conclusion, there is overwhelming evidence that high-quality learning environments can produce important positive outcomes for young children. But the impact of early education will depend on how states ensure that teachers receive the training, supports, and supervision they need to be effective. To date, the Study Group found that many programs lack the quality necessary to make good on the promise of preschool. As states struggle to go to scale with effective early education, they will need to pay careful attention to the infrastructure and policies surrounding their early learning system to ensure that children have access to well-trained teachers who know how to create high-quality learning environments.
CHAPTER III

Creating a State Early Learning System

This chapter looks at how states can design coherent systems for delivering high-quality education and services to young children. Public education officials can be a powerful constructive force for strengthening the system. But to accomplish this they must work closely with other constituencies and attend carefully to research and evaluation data to pinpoint effective strategies for maximizing the benefits of early education for young children in their state. The aspects of a state system covered in this chapter include:

- Building a coherent early learning system;
- Using a pre-k – grade three approach;
- Phasing in universal preschool beginning with most the most vulnerable children;
- State regulations and supports to advance program quality; and
- Monitoring and accountability for state early learning systems (including developing rating systems and evaluating programs).

A. Building a Coherent Early Learning System

As states have stepped up to expand access to preschool programs, considerable attention has been given to building an early childhood system that coordinates programs and services provided by an array of private and public programs. In part, the mix of public and private programs helps preserve parental choice in preschool options, as well as reduce the problem of finding appropriate facilities for a growing school-age population. Community-based private centers also extend the preschool options for children with disabilities, who must be placed in less restrictive placements in accord with the 1997 amendments to the Individuals with Disabilities Education Act (IDEA).

In fact, for about 25 percent of state pre-k initiatives, at least half of the participating children attend programs in settings outside of public schools. In addition to providing greater placement options, including private providers alleviates the concern that these programs will be undercut as state-funded programs expand. Moreover, studies of state pre-k programs did not show an advantage for public or private sector settings, but rather found that in general all programs provided mostly passive engagement and low instructional quality to children.73

States are at varying stages in the development of their pre-k initiatives and have taken different approaches to funding, design, organization, and staffing. In the past, most states have spent their time primarily developing particular aspects of programs rather than focusing on the system as a whole and on leveraging regulations to ensure program effectiveness. But differences in program goals and regulations contribute to fragmentation and undercut efforts to promote a consistent level of quality even among publicly funded programs.

In developing their large-scale early learning systems, states have found that it is important to design a framework of regulatory mechanisms and technical support to ensure
Illinois’ State Preschool System

Illinois has been a leader in providing quality early education and services to three- and four-year-olds. NIEER ranks Illinois as one of the five top state pre-k systems in terms of quality, meeting nine out of ten benchmarks. Policymakers have shown a continuous interest in increasing funding and access to pre-k for young children of diverse needs and backgrounds. Illinois has also flourished under strong and able agency leadership, successfully partnering with policymakers to provide stewardship for designing a cohesive infrastructure for early childhood programs.

Through strong agency leadership and firm political support, Illinois has implemented several policies that have contributed to creating a quality state pre-k program. The state has adopted an approved curricula and formative assessments, all based on early childhood research. It adopted quality standards in 2000 that focus on parental involvement and instigated a system for data collection and reporting. Illinois also requires teachers to be certified in early childhood education and has collaborated with higher education to produce qualified teachers. In fact, the Illinois State Board of Education partnered with two- and four-year colleges to provide support for early childhood faculty in preparing dynamic providers who can function within diverse populations. A statewide training on a state curriculum, the Child Care Plus Curriculum, has been provided through a “training the trainers” model, which helped to infuse innovative practices for working with children with disabilities in natural preschool settings.

Another successful aspect of Illinois’ pre-k program is the policies allowing program administration through local boards of education. These policies not only proved effective in committing local programs to early childhood standards, but also allowed subcontracting to meet additional local needs (e.g., wrap-around services and use of special education funds to support inclusive practices). The state also encourages outside agencies, such as Head Start and childcare centers, to directly compete for state funding. In doing so, Illinois bolsters the overall quality of pre-k programs by holding those agencies receiving state funds to the same quality standards as public programs.

Illinois has also worked to align all of its early childhood education and services. They have paid attention especially to integrating Part B & C IDEA services with other federal and state pre-k initiatives. The state also created other programs that targeted parent skills training for families of young children, intensive services and supports for high-risk families of children under three, and set-aside funds (11 percent of total) for the zero-to-three population. Illinois gradually expanded access to a greater number of young children as part of its strategic goal to provide early learning opportunities to all children, not just to some, under an entitlement provision. The compelling reasons for such expansion was predicated on the compendium of research that pointed to accelerated brain development in the early years, the importance of early academic and emotional skills acquisition, and the cost-benefits and high return on investment. In addition, it became clear that many children and families were not well-served by the array of private and public preschool options because of restrictive eligibility criteria, difficulties in navigating the system, few options for English language learners, and uneven quality in childcare programs.

To meet these needs, the state established the Illinois Early Learning Council in 2003 with the goal of meeting the early learning needs of children under the age of five by establishing a high-quality, accessible, and comprehensive statewide early learning system. The council was charged with developing multi-year plans to expand services to address gaps, capacity, and quality. Toward that end, it was critical to engage in collaborative planning, coordination, and linkages across programs and government agencies.

Recommendations for building a comprehensive early learning system included:

- Serve all three- and four-year-olds on a voluntary basis and serve children under age three who are at risk of school failure;
- Make preschool programs affordable for all families and allow families to choose from a wide range of settings and pilot models to reach children cared for by family, friends, and neighbors;
- Include children with special needs and establish local community collaborations to link and coordinate services and childcare;
- Serve non-English-speaking children and families;
- Raise staff qualifications and create a pipeline for qualified staff;
- Ensure high-quality learning environments through application of proven, research-based program models and curricula and evaluate and expand quality programs;
- Build on the existing infrastructure, augment quality by evaluating programs, monitoring adherence to standards, and offering on-site technical assistance; and
- Increase per child spending to maintain high-quality services.

In an effort to further expand the state pre-k system, Illinois has passed into law its “Preschool for All” program, an attempt to become the first state to offer free preschool for any three- or four-year-old who wants it. To start the process, the legislature has set aside $45 million to pay for 10,000 new preschool slots for the 2006-07 school year, in addition to the 130,000 at-risk Illinois children already paid for by state and federal monies. Illinois’ goal is to reach 190,000 three- and four-year-olds by 2010.
consistency and quality, while at the same time incorporating devolution to community governance to allow for flexibility and local decision-making. Illinois, for example, allows local boards to subcontract across program providers to configure more service options, such as wrap-around services or use of special education funds to support inclusive practices. The state expanded local options to increase access for its neediest youngsters, as well as encourage agencies outside the public schools to compete directly for funding. Recipients—whether private or public—can receive state funds if they comply with the same quality standards that apply to public schools.

In like fashion, Louisiana piloted the “LA 4” voluntary preschool initiative that serves four-year-olds from low-income families through local school systems. The enabling legislation required local collaboration with other federally funded and private programs and the inclusion of children with disabilities.

Overall, states have advanced the development of a coordinated system of programs and services by: 1) revising rules, eligibility, regulations, and monitoring criteria to be more consistent across programs; 2) establishing joint training opportunities; 3) standardizing protocols for referrals and follow-up so that service provision is more seamless; 4) developing data systems to manage information and client intake systems in order to reduce duplication and increase coordination and sharing of information across agencies and programs; 5) garnering public and political support by monitoring quality and documenting outcomes as a precursor to expanding enrollment; and 6) developing financing systems that fairly apportion funding and target children and families based on their level of need.

For more information on financing of statewide preschool systems, see the Appendix.

B. Using a Pre-K – Grade Three Approach

With the passage of NCLB and the increased focus on school readiness and closing achievement gaps, sentiment has shifted toward increasing state authority and responsibility for making sure young children receive equitable opportunities to succeed in school. Education officials must respond to calls for a return on public investments in ways that provide evidence that children benefit as they move through the primary grades. In response, there has been a gradual movement away from designing preschool as a stand-alone intervention to integrating preschool into a well-articulated pre-k – 3 continuum.

The contribution of schooling following preschool has been well-documented in the research on model preschool programs such as the Chicago Child-Parent Center (CPC) program (see discussion in Chapter I, page 12). Reynolds, the architect of the Chicago CPC program, contends that preschool in combination with system features that continue, expand, and sustain early learning yields the greatest benefits to children. In fact, research on the Chicago CPC program found that the most significant factor in predicting positive outcomes for preschoolers was later attendance in high-quality elementary schools. The researchers point out that “one assumption of early interventions that continue into the primary grades is that the post-program learning environment at home and in school can reinforce, limit, or neutralize earlier gains in learning, and thus should not be left to chance.”

Accordingly, states and local communities need to continue attending to the quality of instruction and supports that children receive before grade three, a primary marker that presages later academic and social development. Longitudinal studies suggest that the optimal pre-k – grade three approach would consist of extended early interventions for young children, preschool programs, full-day kindergarten, reduced class sizes in the early grades, parent involvement, effective instructional practices, and school transitions.

States have relied on partnerships and ongoing collaboration to connect early childhood programs and the primary grades. They have forged cross-agency and community coalitions with broad representation of state and local stakeholders to jointly envision, plan, and implement key elements of a well-coordinated pre-k – 3 aligned early learning system. To ensure coherence and high quality, states must:

- Focus on preschool through grade three programs and practices based on key principles of effectiveness. States should develop a performance-based system that attends to quality instructional dimensions across the grades and identifies what children need to learn and experience in preschool, including instruction, curriculum, and assessments that will prepare them for the next grade level. Pre-k – 3 alignment should ensure cohesion, seamlessness, and smooth transitions to sustain benefits and minimize fade-out effects.

- Develop pre-k – 3 performance standards and benchmarks for children and teaching practices that include integrated content and desired outcomes based on research on early learning development. Regulation
should focus on principles of effectiveness to drive all elements of the system, particularly teacher development for early childhood providers in all programs and across all grade levels, so that young children receive high-quality instruction.

- Revise and refine state policies on teacher preparation, certification, program approval, professional development, and monitoring systems to reflect the research on effective early learning practices.

C. Phasing in Universal Preschool Beginning with the Most Vulnerable Children

One of the major considerations for policymakers is deciding which children should be eligible for state-funded preschool programs. There are a number of considerations, primarily fiscal and the degree of public and political support. Despite the expansion of state investments in prekindergarten, the current mix of federal, state, and local programs falls far short of meeting the needs of young children, particularly those most at-risk.

Ready Schools: Transition Practices

The “ready schools” movement has coincided with states’ increased investments in early education. In order to take advantage of early education, schools need to strive for continuity between early care and pre-k programs and elementary school. States need to provide guidance on building connections between programs and among home, school, child care, and other contexts before the start of school. It is critical that schools attend to these transition points, particularly in areas serving higher percentages of children from low-income, diverse backgrounds. Often, the public education system has problems connecting with families in ways that build on their existing resources and provide additional supports for children’s education and development. Failure to provide continuity in the child’s experiences and promote positive supportive relationships among the individuals involved with the child’s care and education can increase children’s risk for poor school adjustment and performance.

Unfortunately, standard “transition” practices are not conducive to sharing information in ways that build upon programs’ and teachers’ knowledge of children and families. Rather, standard practices are of low intensity and impersonal in the form of flyers and group open houses that take place after the start of school. Programs need to shift toward more substantive exchanges of information that provide children and families with the supports that are critical to reduce the risk of school failure. Transition practices should also require close partnering with families, teachers, principals, and other providers to ensure that schools are ready to meet the needs of young children.

Transition requirements have been formally stipulated under federal and state regulations for Head Start programs, Parts B and C of the Individuals with Disabilities Education Act, and the No Child Left Behind Act. These provisions emphasize the need to coordinate programs and services for young children among Head Start, Early Reading First, early childhood programs, and public schools in order to prepare parents and staff for the transition, establish channels of communication, conduct meetings to discuss the needs of the child, organize and participate in joint planning and training of personnel, and linking educational services. Statewide implementation of sound transition practices should be extended to all preschool programs and receiver public schools to maximize benefits of early education.

Policy Recommendations

- Strengthen connections between preschools and elementary schools that foster communication around aligning expectations and curriculum across programs and to reduce changes in classroom quality and expectations as children move into kindergarten and the primary grades.

- Require transition planning teams in localities that involve school personnel, preschool staff, families, agency workers, and community leaders to develop and implement a broad spectrum of transition practices that focus on organizing joint planning to discuss children’s needs; linking program and educational services; enhancing the learning experiences of children as they move through the system; and preparing parents and staff for the transition.

- Strengthen the relationship between families and schools and provide supports and training for teachers in partnering with families, especially those from diverse ethnic and linguistic backgrounds.

- Provide high-quality classroom experiences to nurture children’s learning throughout kindergarten and the primary years by providing young children with low teacher/student ratios, well-educated and well-trained teachers, and environments that are productive and supportive.

Sources: National Center for Early Development and Learning, Transition Practices. NCEDL Spotlights No. 1A (January 1999); NCEDL Early Childhood Research and Policy Briefs, Transition to Kindergarten (Winter, 2002).
Dr. Jerry Weast, Superintendent of Montgomery County Public Schools (MCPS), spoke to the Study Group about his district’s Early Success Performance Plan. This initiative, which targets resources at the youngest learners, is part of a comprehensive strategic approach to producing high student achievement in one of the most diverse school districts in the nation. MCPS enrollment has grown by 53 percent to more than 140,000, serving students from more than 160 different countries. The ethnic composition of the county has shifted dramatically from nearly all white to majority minority, with significant levels of poverty (more than 32,000 students qualify for free and reduced lunch).

In 1999, the school community coalesced around how to hold high standards for all of its students, while at the same time meeting the needs of the growing urbanized core of students served in approximately 60 schools. These schools educate almost half of the system’s entire elementary enrollment, but they include 75 to 80 percent of all elementary, low-income African-American, Hispanic, and English-learning students in the county. Without a targeted effort to provide more resources and opportunities to the most vulnerable students, the county faced the prospect of becoming a divided community of haves and have-nots. To take on the daunting task of addressing the achievement gap, the district adopted a strategic plan to address the needs of all of the system’s students—including the specific interests of both the more affluent neighborhoods as well as the needs of the high-poverty inner corridor.

In order to “raise the bar and close the gap,” the district launched a set of comprehensive early childhood programs to meet these growing challenges. This Early Success Performance Plan was designed to ensure that all children achieve grade-level performance in reading and math by grade three. The effort focused on how to maintain the overall quality of the system, while at the same time addressing the dramatic shift in the student population.

Tracking the performance records of students who were successful through secondary school, the MCPS identified grade three performances as a strong predictor of whether a student would be able to handle a rigorous curriculum at the middle and secondary school levels. The district found that if children were not meeting certain benchmarks by the end of first grade, there was little likelihood that they would be able to read fluently by third grade. MCPS focused on three factors—access, equity, and quality—ensuring that those with the greatest needs would have the best teachers, smallest class sizes, and supports. Although elements of the reform were phased in across the district, full-day kindergarten, preschool, and reduced class size were provided to the schools with the highest levels of poverty. Weast spoke to the need to allocate resources strategically in order to ensure the most vulnerable children had an equal opportunity to succeed, and to build a system that clearly delineated: 1) what children need to know and be able to do at different points in time; 2) how to determine if they know it; and 3) what to do if they do not have the knowledge and skills.

“We know that more time is essential for addressing the inequality of opportunity,” Weast said. “Equally important is how teachers are using that extra time in the classroom. The national discussion on high-quality early childhood programs must take into account the capacity of school districts to provide more time and to train staff in the most effective use of time.” The district transformed its way of delivering educational programs and services, focusing particularly on providing teachers the necessary skills and supports to effectively do their job. Teachers need to act on the core belief that all children can learn. They need to know how to differentiate instruction and use formative indicators about acquisition of curriculum to respond to individual needs. In order to support preschool and elementary teachers, the district provided the following:

- An overall policy for a challenging curriculum aligned to standards and that focused on foundational reading skills;
- Reduced class size (15:1 in the full-day kindergarten program and 17:1 in grades one and two in the targeted elementary schools);
- Extended learning time for students entering kindergarten through third grade in the 18 most highly impacted schools;
• Staff development on the district’s revised mathematics and reading/language arts curricula;

• Infrastructure capacity and smaller class size that enable teachers to buy in to using formative assessment to differentiate instruction;

• The resources, support, and professional community that serve as incentives to recruit and retain good teachers;

• A process to support new and low-performing teachers, including on-going training throughout the school year and access to coaches and consulting teachers;

• Partnerships with community health agencies and other providers to involve families and provide an array of wrap-around services;

• An accountability system that publicly reports disaggregated data; and

• An integrated technology system to provide access to actionable information such as lesson plans, diagnostic tools, and student performance data.

Working with independent researchers, the county conducted a three-year longitudinal study of 27,000 kindergarten students to determine the results of the reforms. The major findings showed that increasing numbers of students from all socio-economic and racial and ethnic groups, as well as English language learners, are reading in kindergarten. Furthermore, these subgroups continue to perform at higher levels in reading through second grade.

The provision of early childhood education has proved pivotal in achieving high performance across the district’s 125 schools. Montgomery County boasts that 95 percent of its elementary schools achieved Adequate Yearly Progress under NCLB, with the greatest progress made by the schools most challenged by student poverty. The district also reports the following indicators of success:

• The percentage of all kindergarten students who can read and comprehend a simple story (text-reading) increased continuously over three years. On the text-reading benchmark, percentages grew from 39 in 2000 to 59 in 2001 to 70 in 2002.

• Lower-income students in full-day kindergarten outperformed their peers in half-day kindergarten in wealthier communities in text-reading. Students in full-day kindergarten at 56 high-poverty schools met the text-reading benchmark (71 percent) at higher levels than their peers in half-day kindergarten in more affluent communities (69 percent).

• African-American students in full-day kindergarten are performing at nearly the same levels as white students in text-reading. By 2003, 72 percent of African-American students in full-day kindergarten met the text-reading benchmark compared with 79 percent among white students, 80 percent among Asian-American students, and 60 percent among Hispanic students.

Dr. Weast attributed the progress made by low-income, diverse student groups to several key factors. These include focusing on teacher development in the belief that what teachers do matters most and that the system must support teachers by providing them with the right training and tools to deliver effective instruction. In addition, early efforts targeted quality first, phased in changes incrementally, and then expanded access to a larger number of children. According to Weast, many more children would benefit from prekindergarten programs regardless of income strata, because of significant changes in the early environments for children. He also stressed the importance of enlisting political and community support and actively engaging parents. He noted that a culture of continuous improvement now permeates the system. This involves on-going collection of frequent data to drive decision-making, as well as inviting independent researchers to evaluate the long-term effects of programs.
Providing for continuous training and quality improvement

Implementing state and local oversight and monitoring

Ensuring high-quality, ongoing professional development

Indeed, recent reports find that few states serve more than 20 percent of their four-year-olds. Children from low-income families who have the greatest need for early intervention and benefit the most are even less likely to be enrolled in preschool than children from middle and upper income homes. Fewer than 21 percent of four-year-olds whose families had incomes under $20,000 in 2001 were enrolled in preschool. In contrast, 57 percent of four-year-olds whose families earned $40,000 a year or more attended preschool. Moreover, as we have seen, the overall quality of preschools serving low-income children has been found to be consistently lower than that of programs serving more affluent children. Thus, even though state programs are often designed to address the educational and developmental needs of children coming from low-income backgrounds, the reality is that large numbers of these children are still not attending preschool—and far too often those lucky enough to be in a preschool are not receiving the quality of instruction needed to truly overcome their disadvantages.

To help deal with both logistical and funding problems associated with start-up of large-scale programs, many states have taken an incremental approach to expanding access to preschool, targeting those children identified as being at greatest risk. Only three states (Georgia, Oklahoma, and Texas) provide state-funded prekindergarten to more than 45 percent of four-year-olds. When added to the percent enrolled in Head Start and IDEA Preschool Part B, the percentage of four-year-olds served in these states approaches 92 percent, 67 percent, and 64 percent, respectively. Arguments for providing universal prekindergarten are founded on substantial evidence that while low-income children seem to benefit the most, all children benefit from high-quality preschool.

Increasingly, states are envisioning universal access over the long-term, while taking a phased-in approach that targets the most vulnerable populations first. States have taken strategic interim steps to build the overall system by focusing on the quality of all programs and leveraging regulations and funding to expand access to a greater number of children. Oklahoma, for example, phased in universal programs by gradually increasing enrollment by about five percent a year. Illinois passed legislation in 2006 to begin expanding its "Preschool for All" program toward the goal of providing voluntary preschool for all three- and four-year-olds by 2010.

D. Advancing Program Quality through State Regulations and Supports

As we have seen, state-level factors account for significant differences in the quality of state prekindergarten programs. To some extent, states are still uneven in setting minimum standards for teacher credentialing, but the relationship between teacher licensure and program quality is modest. There appears to be even greater variation in the extent to which states leverage program quality through effective regulatory mechanisms and the extent of professional development provided to local programs to meet the regulations. Of considerable concern are the disparities in preschool quality that are associated with the income level of preschoolers. States must attend more closely to policies related to the resources offered to children in preschool classrooms in accord with the mix of children from different economic backgrounds and to the capacity of teachers to address their students’ instructional and emotional needs.

Regulatory mechanisms that include a system of supports and training should focus on the classroom as an instructional setting, children's actual educational experience in the setting, and teacher's demonstrated knowledge and skills. As states struggle to take to scale early childhood programs for a greater number of children, they must create a system of policies and guidance that maintains a focus on what determines quality learning environments. To that end, the overall early learning system must attend to:

- Providing for continuous training and quality improvement efforts to all preschool teachers, administrators, and programs;
- Ensuring high-quality, ongoing professional development, mentoring, and feedback; and
- Implementing state and local oversight and monitoring systems.

States must begin by defining what preschool classrooms should look like and then craft a system to mobilize incentives to impact those teaching practices that lead to desirable outcomes for young children. Policymakers must go beyond simply specifying the structural inputs to programs (e.g., time, location, class ratios) and unpack the “black box” of delivery systems and programs to clearly define the practices and teaching skills that are linked with improving children’s knowledge and skills. Policymakers, working closely with practitioners, higher education, and state agencies, must craft systems that focus on how classrooms should operate to achieve desirable outcomes and then configure the system of resources, training, supports, oversight, and measures to ensure that children participate in high-quality learning environments.
Accreditation Standards for Programs for Young Children

The National Association for the Education of Young Children (NAEYC) approved revised standards and criteria for accreditation of programs for young children in April 2005 that took effect in September 2006. The conceptual framework for the accreditation standards incorporates four areas of focus—Children, Teaching Staff, Partnerships, and Administration.

As accreditation is a new phenomenon in early childhood, only a small percentage of early childhood and school-age care programs are accredited. The move to accredit programs is growing as policymakers, practitioners, and families recognize the need to improve learning opportunities for children of all ages and to hold agencies and providers accountable for providing quality education and care. A recent trend is for states to create differential reimbursement rates, providing higher subsidies to eligible families that use accredited programs than to those using nonaccredited programs. In this way, states can help expand access of families with low incomes to higher quality programs and leverage other programs to seek accreditation.

NAEYC has set forth a position statement that focuses on the role that policies related to program accreditation can play in improving the delivery of quality services for children. The organization posits that accreditation can serve as a powerful program-improvement tool and it serves as a standard-bearer for quality early childhood programs. It also recommends that policies on program accreditation should build off a strong regulatory system, and not seek to replace regulation with accreditation, pointing to research that suggests that states with low standards or weak monitoring systems have more difficulty meeting accreditation standards. Policies regarding regulation and accreditation should be paired with efforts to increase public awareness about the role of these systems in strengthening quality programs that promote children’s development. Public demand for good programs increases the incentives for providers to meet state standards and stimulate quality improvements throughout the field.

**Standard 1: Relationships**
The program promotes positive relationships among all children and adults to encourage each child’s sense of individual worth and belonging as part of a community and to foster each child’s ability to contribute as a responsible community member.

**Standard 2: Curriculum**
The program implements a curriculum that is consistent with its goals for children and promotes learning and development in each of the following areas: social, emotional, physical, language, and cognitive.

**Standard 3: Teaching**
The program uses developmentally, culturally, and linguistically appropriate and effective teaching approaches that enhance each child’s learning and development in the context of the program’s curriculum goals.

**Standard 4: Assessment of Child Progress**
The program is informed by ongoing systematic, formal, and informal assessment approaches to provide information on children’s learning and development. These assessments occur within the context of reciprocal communications with families and with sensitivity to the cultural contexts in which children develop. Assessment results are used to benefit children by informing sound decisions about children, teaching, and program improvement.

**Standard 5: Health Standard**
The program promotes the nutrition and health of children and protects children and staff from illness and injury.

**Standard 6: Teachers Standard**
The program employs and supports a teaching staff that has the educational qualifications, knowledge, and professional commitment necessary to promote children’s learning and development.

**Standard 7: Families Standard**
The program establishes and maintains collaborative relationships with each child’s family to foster children’s development in all settings. These relationships are sensitive to family composition, language, and culture.

**Standard 8: Community Relationships Standard**
The program establishes relationships with and uses the resources of the children’s communities to support the achievement of program goals.

**Standard 9: Physical Environment Standard**
The program has a safe and healthful environment that provides appropriate and well-maintained indoor and outdoor physical environments. The environment includes facilities, equipment, and materials to facilitate child and staff learning and development.

**Standard 10: Leadership and Management Standard**
The program effectively implements policies, procedures, and systems that support stable staff and strong personnel, fiscal, and program management, so that all children, families, and staff have high-quality experiences.

For more information on NAEYC’s accreditation standards, go online to www.naeyc.org/accreditation.
E. Monitoring and Accountability for State Early Learning Systems

It is essential that state policymakers get the accountability system for early childhood education right. The standards movement has taught us that the system tends to regulate itself around what is measured. Accordingly, public education has shifted from looking at inputs (location, child-to-staff ratios, group size, staff credentials) to focusing on outcomes (achievement levels, graduation rates). Current staples of public education accountability systems include sets of assessment tools that can be used for designing professional development and program improvement and informing instructional and individual services. On the other hand, there are aspects of the state public education accountability systems that have not been embraced by the early childhood education field—and for good reason. As noted previously, young children are notoriously difficult to assess accurately, and well-intended testing efforts in the past have done unintended harm, particularly when assessments intended for one purpose are inappropriately used for other purposes.

What is clear is that states must address those programmatic aspects that will lead to desirable outcomes for young children. The early childhood community has begun conceptualizing a monitoring system in early childhood education that focuses on building systems to measure and enhance the effectiveness of early childhood programs. The intent of emerging work is to step away from the punitive aspects of current educational accountability systems and forge a common set of metrics that lifts the quality of all programs through a process of continuous monitoring and improvement.

States are becoming more sophisticated in using a range of assessment tools that provide a finer grain analysis of the “instructional quality opportunities to learn,” such as the Early Childhood Environmental Rating Scale (ECERS) or the Supports for Early Literacy Assessment (SELA); information about the quality of learning, such as application of value-added systems to ascertain the progress of individual children and parse programmatic features; children’s developmental progress within domains; and analyses of achievement trends over time for key subgroups of children. As with all assessments, the appropriateness of a particular option should be based on the nature of the question under study and the intended uses of the results. The system should rely on multiple indicators that provide a picture of both how children are progressing and the quality dimensions of classrooms that pinpoint needed improvements and professional development. States should combine quality control mechanisms such as program accreditation, large-scale program evaluation, and designing quality rating systems to monitor preschool effectiveness.

Use of Quality Rating Systems

As part of their monitoring and accountability procedures, states are in the process of designing quality rating systems to assign rankings to preschool programs based on sets of quality indicators. These systems are based on a shared framework for understanding and communicating expectations for young children’s development and for creating, evaluating, and improving the conditions necessary for children’s optimal learning. They require on-site visits that document quality indicators in such areas as educational qualifications, learning environment and curriculum, and business practices.

Program monitoring should focus on what is happening in programs and on the quality of teacher-child interactions. A program may receive a Tier 1 rating that is commensurate with meeting general licensing requirements for childcare facilities; Tier 4 ratings are reserved for high-quality programs that have accreditation and receive high marks on process measures of classroom quality. These systems afford incentives to improve by combining tiered reimbursement of state funds, intensive supports and training to improve program ratings, and public reporting to inform parental decisions about preschool options.

It is critical to define quality indicators in accord with research that identifies the factors that predict positive child outcomes. The more the system of training and accountability focuses on things other than the quality of instruction and teacher-child interactions, the less preschool programs will ultimately benefit children. States need to define desired goals and outcomes not just in terms of absolute performance on the part of children, but in terms of how teachers work with young children and tailor their activities to foster individual children’s development. In large measure, the benefits of early learning systems will depend on how information is used to improve the quality of learning environments and how it drives the nature and extent of resources and training to achieve program goals.

Conducting Evaluations to Assess Program Quality and Outcomes

States are increasingly using program evaluations, including data about children’s outcomes, as part of a system to
The office of the Commissioner for Early Childhood Education at the New Jersey Department of Education has administered the implementation and evaluation of high quality preschool in over 150 school districts, serving 50,000 children and their families in the state. However, this accomplishment required several shifts in New Jersey’s state prekindergarten programs in the late 1990s that resulted in the expansion of these programs and services.

In 1996, the New Jersey legislature funded half-day preschool for four-year olds in 132 districts considered to serve families in mid-poverty through the Early Childhood Program Aid (ECPA). Then in 1998, the state Supreme Court made a bold decision, ordering that the state provide at least a half-day preschool for three- and four-year olds in the 31 poorest districts, which became known as the Abbott districts. In 2000, the state Department of Education went beyond the court decision and required full-day, full-year preschool in the Abbott districts. Finally, in 2004, the state allocated $15 million for the Early Launch to Learning Initiative (ELLI), which requires districts to match state preschool monies, include children with and without disabilities, and allow a charge for families of non-disabled children. As a result of these concerted efforts, the state’s preschool programs began providing more intensive services to the poorest districts (programs are mandated for districts and voluntary for families).

The state took the lead role in providing guidance for implementing a continuous cycle of improvement that specifies program and learning standards. Beginning with the Abbott ruling, the state mandated a maximum class size of 15 students, certified teachers with early childhood expertise, assistant teachers in every classroom, comprehensive services, and a developmentally appropriate curriculum designed to meet learning standards. However, despite these efforts, great inconsistencies in budgeting and implementation arose due to a lack of specific programmatic standards (see table below).

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<th>Class Size</th>
<th>Hours</th>
<th>Per Pupil Expenditure</th>
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<td>$11,046</td>
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In order to address these inconsistencies, New Jersey formed the Early Childhood Education Work Group, which developed the Abbott Preschool Program Implementation Guidelines to address relevant concerns of early childhood program components. The Work Group limited itself to recommendations so as to not overshadow local needs and concerns, but those recommendations have been incorporated into state regulations as it became evident they were universally warranted. Thus, annual district plans and budgets are based on researched best practices. Revisions were also made to the state learning outcomes. Initially, they were developed with input that was not consistent with research. Work groups were thus formed with experts and practitioners to improve them. The major result was the coupling of child learning outcomes with teaching practices to assist in meeting those outcomes, culminating in the State Board of Education adoption of Preschool Teaching and Learning Expectations: Standards of Quality. Abbott districts are required to plan or adopt curriculum and practices that adhere to this document, while the department of education has provided annual professional development and identified recommended curriculum models.

New Jersey has also taken a lead in incorporating evidence-based accountability into its state programs. At the state level, four types of data collection have been used to measure progress and improve practice:

- Randomized structured classroom observations;
- Standardized child assessment instruments on a random sample;
- Program implementation self-assessment, criterion based system; and
- Randomized fiscal examinations of private providers to determine need for accounting and other fiscal training.

The Department of Education formed the Early Learning Improvement Consortium (ELIC) in 2002, composed of the state’s top early childhood education faculty, to collect and report data on children and classrooms. The goal is to assess each fall kindergarteners’ skills as a measure of progress toward success in school. The ELIC also conducts random classroom observations of Abbott preschools to measure progress in program quality, using multiple instruments such as Early Childhood Environment Rating Scale-Revised (ECERS-R) and Support for Early Literacy Assessment (SELA).

However, early data collection by the Department of Education found that most classrooms were not only inadequate educational environments, but also unsafe, unhealthy, and potentially harmful. An instrument that captures these environmental concerns was needed, since SELA and other tools were unable to do so. Thus, New Jersey designed a reporting mechanism that tracks trend data for the program as a whole through a sampling of classrooms using a collection of standardized observational tools.

Overall, New Jersey has identified several key issues that warrant consideration. First, states should target incremental increases in the number served along with improvements in program quality through collaborative efforts by both the state and districts. Second, states need to utilize strategic planning to go to scale with human resources, buildings, recruitment, standards, and evaluation. Third, sustainability of programs and services depend on tying funding to a stable source. Fourth, it is important to have strong state agency leadership that sets standards and uses evaluation data to guide planning.
The Georgia Early Childhood Study

Georgia was not only the first, but remains one of the few states that offers universal pre-k to all of its four-year-olds. Operating without enrollment restrictions since 1995, the program has been funded by proceeds from the state lottery. Pre-k program funding received per child varies based on teacher qualifications, program type, and program location.

In 2001, 52 percent of the estimated four-year old population in Georgia participated in the program. Including Head Start, 61 percent of the state’s four-year-olds are enrolled in publicly subsidized early childhood programs. The pre-k program is administered by the state, but providers may be local public schools, nonprofit organizations, or private forprofit firms. Each provider is required to seek approval from the Department of Early Care and Learning (DECAL) in order to offer pre-k classes. There are 3,152 classes offered in Georgia by 1,683 providers at no cost in tuition for families for 6.5 hours of instructional programming. Private, forprofits are the largest providers of classes (1,460), but public school systems are a close second with 1,325 classes.

Georgia holds all providers accountable to the same programmatic quality standards. To be a lead teacher, professional staff must have at least a technical institute diploma or either an associate degree or college degree in a field related to early childhood education, or a college degree in a field related to child development or education. Each classroom can have up to 20 children enrolled and is required to have a lead teacher and teacher’s aide whenever the children are present. The instruction provided must conform to an approved curriculum, including national curricula such as High Scope, Creative, High Reach, and Montessori. Locally developed or proprietary curricula may also be used, but must be pre-approved by DECAL.

The Georgia Bright from the Start Pre-K Content Standards are comprehensive and aligned with the Georgia Performance Standards for Kindergarten. The standards are coupled with ongoing assessments that document child progress, guide instruction, and inform parents. The state also uses site visits (two per year per program) to monitor programs’ adherence to state standards.

In an effort to understand the effects of Georgia’s program on four-year-olds, Georgia State University’s Andrew Young School of Policy Studies conducted a study from 2001-2004. The study examined, amongst other things:

- Children’s growth and development from preschool entry through the end of first grade in the following areas:
  - Language and communication skills;
  - Cognitive development;
  - Health/physical well-being;
  - Social behaviors;
  - Attitudes toward school and learning; and
  - Early school success.

- Differences in children’s development over time and their developmental status at the end of the first grade as they are related to family and child characteristics; and

- Differences in children’s development over time as well as their developmental status at the end of first grade as it related to their experiences as four-year-olds (type of preschool or not participating in preschool) after controlling for differences in family and child characteristics.

As a result, this study provides estimates of the growth of children in Georgia’s pre-k program, allowing for comparisons with national norms for children of the same age in several measurable areas. Using these comparisons, the study attempts to address the following evaluative questions:

- How do individual child and family characteristics influence the development of four-year-olds?

- Do certain children participating in pre-k, such as minorities or those from poor or working poor families, develop more, less, or about the same as other children through the end of first grade?

- Does the development of four-year-olds differ by program?

- What is the effect of Georgia pre-k on children in poverty and minorities?

A probability sample of four-year-olds receiving instructional and supervisory services from Head Start, Georgia’s pre-k program, and private preschools was drawn upon for this study. A fourth group of children who did not attend full-time preschool as four-year-olds was added later in the study for comparison. A total of 630 preschool four-year-olds were selected, who were directly assessed in their skills by independent assessors at the beginning of preschool, the end of preschool, the beginning of kindergarten, and the end of first grade. Teachers and parents were also surveyed, observations of classroom quality and teacher-child interactions were conducted, and teachers’ ratings of children’s social, communication, and pre-academic skills were gathered. Whether these additional sources were linked to outcomes in this study is unclear.
The study found that children made significant gains from the beginning of preschool into first grade; however, ground was lost in several areas assessed by the time first grade was completed. For example, using the Peabody Picture Vocabulary Test (PPVT), children began with a mean score of 92.9, which is below the national norm of 100. By the end of kindergarten, the mean score rose to 100.7. However, by the end of first grade the mean score had dropped to 98. Similar patterns were observed in word and letter recognition skills.

When analyzing the data based on socio-demographic characteristics, significant differences were found based on race and receipt of TANF. White children consistently scored higher on the PPVT; however, by the end of kindergarten, minority students other than African-Americans closed the gap to within four points (see Figure 4). By the end of first grade, the gap increased to 5.4 points for those same students. Gaps between African-American students and white students remain considerably larger. At the beginning of preschool, the gap was 14.3 points on average, decreasing to 13.6 points by the end of first grade.

Children from families receiving TANF also scored significantly lower than children not receiving TANF. At the beginning of preschool, the PPVT score gap was an 11.7 point difference between the two groups. Unlike racial gaps however, the gap did not lessen in size. By the end of first grade, the gap actually increased slightly to 12 points.

The study shows that achievement gaps persist in Georgia’s pre-k programs. Gains are made compared to having no intervention, but simply having a pre-k program is not the answer in and of itself. No one thing works to close gaps. States need to take a formative approach, utilize program evaluation, undertake a continuous improvement approach, and align pre-k programs to one another and to K-12. Where quality is high in preschools, often that quality is not carried over efficiently or effectively into kindergarten and first grade. State boards of education can play a critical role here because of their role in alignment on quality issues. Also, while universal pre-k is an excellent goal to strive for, there is a need to target individual needs within programs. As this study revealed, while improvements are made, certain groups continue to lag behind others, requiring special attention to their particular needs.

Sources:


determine the extent to which programs meet quality standards and to evaluate intended as well as unintended results. While these evaluations are not used for purposes of oversight, they do provide important information on whether programs are meeting standards and what improvements in programs and policies need to be considered. Likewise, kindergarten readiness surveys can be used to identify gaps and inform policy and programmatic discussions more generally. National experts recommend addressing multiple dimensions for early learning and development, including collecting information from parents, teachers, and the children themselves, both through direct measures and portfolios of classroom work.

The technical requirements for program evaluation should be stringent owing to their use for making important policy decisions. Large-scale assessment data must meet high standards of technical accuracy and conform with the principles for assessing young children as discussed in Chapter II. Standardized, developmentally appropriate instruments should be used to evaluate progress toward the achievement of specific results across multiple domains. These measures should be administered for purposes of program evaluation and monitoring trends—because data aggregation would provide both safeguards and improved accuracy. However, such assessments cannot be made sufficiently reliable and fair to be used for high-stakes decisions about individual children.

Matrix sampling should be used when individually administered, norm-referenced tests of children’s progress are administered, whereby each child who participates in the assessment takes only a part of the total assessment. This has two advantages. First, it allows comprehensive coverage of a broad assessment domain without overburdening any one child or student who takes the assessment. Second, it safeguards against misuse of assessment results, because each student takes only a portion of the total assessment, and therefore the results cannot be used to make decisions about individual children.

If policy changes are going to be made because reading scores have gone up or down, it is essential that the reported results are valid and not an artifact of measurement error or changes in the test. One of the difficulties of using teacher opinion surveys to report on kindergartners’ readiness for school, for example, is that changes over time could be happening because children are becoming more or less ready or because teachers’ expectations of readiness vary or are changing. Also, in order to inform public policy adequately, large-scale trend data and evaluation measures should address the conditions of learning—the adequacy of programs, the level of training of caregivers and teachers, the curriculum materials used, and the adequacy of support services—as well as the outcomes of early education and intervention.

For three- and four-year-olds, indicators that describe the adequacy of services in support of learning and development are presently the preferred mode of assessment. For example, Ohio’s annual Progress Report on Education reports data on the percentage of three- and four-year-olds in poverty who participate in Head Start or preschool. It is also possible to assess learning of three- and four-year-olds directly. Many of the large-scale program evaluations of prekindergarten are used to assess the impact of programs and the efficacy of early childhood programs and specific investments.

While almost all states have early learning standards, about 12 are assessing child outcomes for preschool age children and about 18 states use kindergarten readiness surveys. When coupled with process measures of early learning environments, sound program evaluations can provide rich data sources for improving the quality of preschools. States could consider developing an early childhood assessment program for monitoring trends that is aligned to other educational data systems for the K-12 system. However, the cost of developing such a system that is both comprehensive and technically sound would be substantial. All evaluation results need to be shared in ways that increase public understanding and inform decisions about early care and education.

Evaluation Recommendations for Policymakers

Program evaluations should be regularly conducted in light of program goals, using varied, appropriate, conceptually and technically sound evidence to determine the extent to which programs meet expected standards. The National Association for the Education of Young Children and the National Association of Early Childhood Specialists in State Departments of Education recommend adhering to clear guidelines about placing child-level data within a larger system that includes technically sound measures of classroom quality, parent interviews, and community-level data. There are specific cautions about misusing child outcome data in terms of penalizing programs serving the most vulnerable children; interpreting data from assessments administered to culturally and linguistically diverse students; and conducting poor quality evaluations because of
insufficient investment in training, technical assistance, and data analysis capabilities.95

Other guidelines for evaluating early childhood programs include the following:

• The focus and design of program evaluations should be for purposes of continuous improvement guided by comprehensive goals related to children, teachers and other staff, and families;

• Evaluations should include attention to the processes by which educational programs are delivered, as well as to the outcomes or results;

• Outcomes cannot be understood without knowing how effectively educational and other services were actually implemented;

• Safeguards should be in place when children are assessed using individually administered, norm-referenced tests to ensure that the measures are technically sound and administered by well-trained personnel; and

• The results of evaluations should be publicly shared to guide decisions about changes that would improve program quality.
Fulfilling the Promise of Preschool

There is considerable agreement that the most important indicator of quality is likely to be how teachers relate to and interact with children and that this trumps curriculum or other factors in determining program outcomes. Moreover, there is considerable evidence that how well children do need not be prescribed by socio-economic status and that initial learning gaps can be closed over time solely as a result of the cumulative effects of quality teaching. If state investments in prekindergarten are going to pay off, we must ensure that our youngest children are learning from sensitive, responsive teachers who are intentional about organizing students’ learning in classrooms.

The significant benefits to children provided by the model programs underscore this point. Preschool teachers had college degrees and certification in early childhood and received systematic training and supports to implement curriculum and tailor instruction in accord with individual children’s interests and needs. Subsequent studies have confirmed that teachers with adequate formal education and specialized early childhood training generally provide more appropriate educational experiences, care, and discipline for children. Well-trained and educated practitioners are less harsh and restrictive than staff with less training and are more likely to establish positive relationships with parents. They tend to elicit more language activity and higher levels of complex play from children compared with teachers lacking commensurate education and credentials.

The Study Group holds that states should require prekindergarten teachers to possess at least a Bachelor’s degree that includes specialization in early childhood education. States should also provide professional development and other technical assistance regarding the educational and social development of young children. Yet, the problems chronicled in the preparation and professional development for teachers throughout the K-12 system are even greater across the mix of public and private preschool programs. Moreover, recent studies on preschool quality call into question whether credentialing from higher education preparation programs provides teachers with the knowledge and skills to meet rising expectations for prekindergarten programs. States that enact prekindergarten likewise need to place teachers at the center of these initiatives and provide them with the knowledge, skills, and supports to realize the potential benefits of preschool.

This chapter examines the current unevenness in the quality of teaching both across states and across programs within states; the state role in improving the quality of the preschool workforce; the key role of professional development in improving teacher quality; and the importance of linking professional development with state oversight and monitoring efforts.

A. Uneven Pay, Uneven Credentialing, and Uneven Training Results In Uneven Quality

Despite expanded investments in early childhood programs, most states lack a coherent, articulated system for developing and supporting early childhood teachers and struggle to generate a supply of well-qualified early education profes-

* A full exploration of the state’s role in teacher development is beyond the scope of this report. However, it has been addressed in several recent NASBE publications, including The Numbers Game II: Bringing High-Quality Teachers to All Schools and The Full Circle: Building a Coherent Teacher Preparation System (available online at www.nasbe.org).
sionals. There are concerns regarding uneven training and credentialing requirements for providers within and across states, as well as problems of inadequate professional development, supervision, and supports. Turnover rates that approach 30 percent annually (compared with a seven percent turnover over rate for K-12 teachers) pose further obstacles to providing quality early learning environments. Finally, low compensation for preschool teachers thwarts efforts to attract and retain a high-quality early childhood education workforce. The average pay for a child care provider is barely $8.00 per hour, while the national mean for preschool teachers is about $19.00 per hour—about half what the average elementary school teacher earns. And preschool teachers have little opportunity to increase their pay over time. States vary widely in how well they compensate preschool teachers, ranging from $19,000 a year in Florida and Oklahoma to $52,000 in New York. The good news is that as states locate more prekindergarten programs in public schools, a substantial portion of teachers in school-based pre-k programs (82 percent) receive salaries using the same pay scale as the rest of the school.

Although states are beginning to institute formal requirements that preschool teachers hold a Bachelor’s degree with specialized training in early childhood education, there is remarkable variability across preschool teachers’ education and credentialing even within the same delivery system and within the same state. Data from the National Prekindergarten Study (NPS) describes the characteristics of a sample of 3,898 lead preschool teachers from 52 state-funded prekindergarten systems operating in 40 different states. The authors found that although 73 percent of teachers sampled hold a Bachelor’s degree or higher, wide disparities existed among systems. For example, in five of the preschool delivery systems with the most highly educated preschool teachers, the majority of teachers hold a Masters degree or higher, whereas in three systems with the least educated preschool teachers, the majority hold no formal education degree higher than a high school diploma or GED. Similarly, across the nation, 56 percent of state-funded prekindergarten teachers report holding a teaching certificate issued by their state department of education that specifies teaching children younger than kindergarten. But only one percent of teachers in Alaska have such a credential, while 97 percent of state-funded teachers in Oklahoma have earned such a credential.

Even in states that have strengthened credentialing, these requirements are not often met. The NPS study found that many states have substantial portions of their classrooms that are out of compliance with state mandates. In 44 systems that require a teacher credential, seven percent have not obtained a degree or credential that meets the state system’s mandate. In only nine systems did all of the sampled teachers hold a degree or credential that met or exceeded their state’s mandate.

The variability in teacher education and certification accounts for some of the differences found in preschool quality among state-regulated programs (even without factoring in the considerable differences in the education and training of private child care providers). In addition, researchers for the NCEDL multi-state prekindergarten study also found that the quality of learning environments was higher on some measures of quality when teachers had some level of specialized training in early childhood education. The specialization may have been a more significant factor than in other studies because there was a substantial number of teachers with four-year degrees, but who had no early childhood training. These findings lend further support for requiring specialized early childhood training to obtain state certification. Evidence of the value of specialized training in early education is consistent with the findings that more experience teaching four-year-olds is also related to higher quality. The association between teachers’ education and training and experience teaching young children and classroom quality may reflect their greater understanding of children’s developmental needs and teachers’ comfort and skill in interacting with young children individually, as well as managing them in groups.

But while experts agree that early childhood teachers should hold a Bachelor’s degree, researchers have raised questions about the strength of teacher credentialing as a proxy for quality, contending that there is no clear association between credentialing and observations of classroom quality. Part of the problem with relying on credentialing is that the quality of teacher preparation programs is very uneven. This is not inconsistent with longstanding concerns about K-12 teacher preparation in general. Despite considerable advances in knowledge about what constitutes good teacher preparation, there has been broad agreement that the actual practice of preparing teachers remains inadequate. The National Commission on Teaching and America’s Future, for example, has noted that “long-standing problems with teacher education have been widely documented in recent years.” The Commission’s report on teaching noted such problems as “fragmentation” that separates academic content from pedagogy, “uninspired teaching” by faculty, a superficial “once over lightly” curriculum, and haphazard policies or political
Major Findings from the National Prekindergarten Study

Teacher Education

1. Nationally, prekindergarten teachers reported their highest educational degree as High School Diploma or GED (13%), Associate’s Degree (14%), Bachelor’s Degree (49%), or Master’s Degree or higher (24%). Some teachers (0.1%) reported having none of these educational degrees. Additionally, 23% of teachers held a CDA, mostly those in Head Start systems.
   a. In 20 state prekindergarten systems, at least 90% of teachers held a BA or higher.
   b. Of the 10 state systems with the most highly educated teachers, 9 locate over 75% of their classrooms in schools.
   c. Seven of the 10 systems with the least educated teachers are state-funded Head Start systems.

2. In 5 systems, the majority of teachers hold a Master’s Degree or higher:
   - New York State Experimental Prekindergarten Program (82%)
   - New York State’s Universal Prekindergarten Program (57%)
   - West Virginia Public School Early Childhood Education (66%)
   - Maryland Extended Elementary Education Program (65%)
   - South Carolina Early Childhood Program (53%).

   Whereas, in 3 systems the majority of teachers have a high school diploma or GED as their highest educational degree:
   - Arkansas Better Chance (72%)
   - New Mexico Child Development Program (68%)
   - Florida Partnership for School Readiness (55%).

3. A majority of prekindergarten teachers (57%) report holding a state department of education teaching certificate for teaching preschoolers, Oklahoma reported the highest rating (97%).

4. Of the systems that have teacher credential requirements, 7% of the teachers are below those requirements. In 9 state systems, 10% or more of the teachers failed to meet the mandated credential requirements.

Teacher Experience and In-service Training

1. Nationally, teachers reported 8.2 years of experience teaching preschoolers — 5.8 years at the same local program and 3.5 years in the same classroom.

2. Nationally, teachers reported 32.9 clock hours of inservice training in the past year. Extremely wide variability of average inservice hours was evident, ranging from Delaware Early Childhood Assistance Program (22.9) to over twice that amount in New Mexico State Funded Head Start (55.3).

Teacher Compensation and Benefits

1. Teachers work an average of 36.8 hours per week and earn a median salary of $30,998. Median hourly wage was $19.18 per hour. Significant variability exists. The highest median hourly wages were reported by teachers in the New York State Experimental Prekindergarten Program ($34.38). The lowest median hourly wages were reported by teachers in the Florida Partnership for School Readiness ($10.07).

2. Nationally, 14% of teachers reported a yearly salary below the federal poverty guidelines, and 71% earned a salary below the threshold for “low-income.”

3. Nationally, 18.7% of teachers work an extra job for pay.

4. Nationally, most teachers were offered health (89%) and retirement (80%) benefits.

Assistant Teachers and Planning Time

1. Nationally, 59.1% of paid assistant teachers had a high school diploma or GED as their highest credential, 17.3% had a CDA, and 23.6% had an Associate’s degree or higher.

2. In 9 state systems, the majority of assistant teachers held a credential higher than a high school diploma or GED, led by:
   - Vermont Early Education Initiative (59%)
   - Arkansas Better Chance (58%)
   - North Carolina More at Four Pre-kindergarten Program (58%).

3. Only 4 state systems require assistant teachers to hold a CDA, yet about half of the assistant teachers fail to meet this requirement:
   - Tennessee Early Childhood Education Pilot Program (69%)
   - Washington Early Childhood Education and Assistance program (61%)
   - Alabama Office of School Readiness (44%)
   - Arkansas Better Chance (42%).

4. Nationally, teachers reported an average of 4.1 planning hours per week, with 2.2 hours spent preparing with another staff member. Average planning hours per week ranged from 1.6 (Louisiana 8(g) Preschool Block Grant) to 7.9 (Massachusetts State Funded Head Start and Wisconsin State Funded Head Start).

Source: W.S. Gilliam and C.M. Marchesault, From Capitols to Classrooms, Policies to Practice: State-Funded Prekindergarten at the Classroom Level, Part I: Who’s Teaching our Youngest Students? Teacher Education and Training, Experience, Compensation and Benefits, and Assistant Teachers (New Haven, CT: Yale University Child Study Center, 2005).
expediency that allow poor-performing education programs to continue despite their inadequacies.105

Such problems are even more pervasive in the programs to prepare early childhood educators. As states increase investments in early education, they are facing challenges to ensuring an adequate supply of highly trained and well-supported teachers for all preschool classrooms. Critics of early childhood teacher preparation programs contend that these programs have not really taken into consideration the science of teaching. The institutions of higher education themselves report that several factors—a limited number of faculty members prepared to teach early childhood education, budget constraints, and low salaries for their graduates—make it difficult to produce more teachers with a specialization in early childhood education.106

Community colleges, which play an important role in providing affordable training for the early childhood workforce, are chronically underfunded. They have small education departments, employ few early childhood faculty, and assign part-time and adjuncts to teach early childhood courses. Low compensation and few career advancement opportunities also limit the number of strong candidates interested in pursuing early childhood training.108 Additional efforts and resources will be required to bring more personnel into the field and to provide ongoing training and supports to all teachers in both public and private preschool programs.109

B. The State Role in Improving Preschool Teacher Quality

States can play a pivotal leadership role in structuring both preservice and inservice education, but it will require both a bottom-up and top-down approach to developing teachers’ skills. Policymakers must work with institutions, program directors, and practitioners to craft teacher development systems that focus on the research-based features of good instruction. In addition, the training must be able to provide aspiring preschool educators with strong models and supervised practice that goes beyond simply setting up the classroom environment and selecting materials. Notwithstanding the longstanding barriers to redesigning higher education posed by fragmented governance, institutional bureaucracies, and entrenched incentive systems, states can play an effective role in mobilizing institutions to improve teacher training. Indeed, states have recently played a central role in upgrading K–12 teacher education and in spearheading the redesign of principal preparation programs.

What will be required is for states to take the lead in collaborating across the institutional and governance systems in which preparation and professional development systems operate to promote “best practice” to ensure that preparation programs and inservice training:

- Share a common vision of high-quality early education that permeates all course work and clinical experiences;
- Be guided by a well-defined set of early learning and teacher standards;
- Use a rigorous curriculum that provides conceptual knowledge about child development and strong pedagogical knowledge and strategies across all domains;
- Use problem-based methods of learning that includes application of pedagogical strategies and analysis of teaching practice, informal assessment of children’s

The Need for Qualified Early Childhood Administrators

In order to attract, support, and retain high-quality early childhood education teachers who promote children’s development and learning, programs need qualified early childhood administrators. States should attend to the preparation and credentialing of administrators to make certain they have the knowledge and skills in both early childhood education and program administration.

Minimal preparation is required to date to become a center director. The National Child Care Information Center (NCCIC) reports that only 38 states have any preservice requirements for directors and only eight states require formal training in program administration. Only two states, Indiana and Pennsylvania require a director to have a minimum of an Associate’s degree.107 This contrasts with the credentialing required for elementary school principalship, where school principals are generally required to have a minimum of a Bachelor’s degree and specialized training in school administration. This wide discrepancy in requirements exists despite common responsibilities for each role in overseeing facility management, curriculum design and implementation, assessment, staffing, family and community relations, and fiscal management.

When expanding programs, it is critical to include well-qualified and well-compensated center administrators as part of a state plan to expand access to high-quality early education.
learning, use of reflective tools to evaluate quality of interactions with children, and extensive demonstration of exemplary teaching;

- Build strong relationships with local early childhood programs that are committed to advancing quality learning environments and that have the support of both higher education institutions and partner programs;

- Collaborate to design structures and incentive systems to provide early education teachers and program directors with ongoing professional development and support;

- Link theory and practice by assessing their outcomes, which should include observing and measuring what teachers are doing in the classroom and how it relates to children’s progress; and

- Provide training in second-language acquisition and working with linguistically and culturally diverse children and families.

Another key finding from studies of state prekindergarten programs highlights the importance of how well states actively regulate programs. An analysis of the linkage between state-level factors and preschool quality shows that what is most critical is the extent to which states actively enforce regulations and follow up with professional development and technical assistance to help programs meet program regulations. Accordingly, states need to: 1) clearly define what high-quality preschool classrooms look like; 2) craft standards that focus more directly on what teachers do; 3) build systems for preparation and professional development; and 4) design accountability systems to monitor and rate program quality.

In addition, states should ensure that preschool programs have the resources necessary to attract qualified personnel and to provide ongoing supports and training to keep the focus on the child, illuminate the teaching cycle of planning, teaching, and assessing, and encourage intentionality in how teachers interact with young children.

Finally, to extend and sustain the benefits of early education, states must attend to the quality of teaching as children move into kindergarten and the primary years. Longitudinal studies that followed 1300 children who were enrolled in preschool found that only 10 percent participated in three consecutive years of high-quality classrooms.

C. Collaboration and Improving the Preschool Workforce

Collaborating with universities and community colleges, school districts, and other professional associations is critical in order to articulate a coordinated system for preparing and supporting early childhood educators. States have been effective in partnering with higher education and key constituencies to articulate a better system of preparing and supporting teachers by:

- Developing and disseminating curricula and teaching standards for what children should learn and what teachers should teach;

- Aligning professional development with early learning standards to build a more aligned and coherent system of teacher preparation;

- Designing certification and licensure requirements to ensure that practitioners have the knowledge and skills they need to teach children effectively;

- Affiliating community training with higher education and developing articulation agreements between two-year and four–year programs;

- Training college faculty to ensure their coursework is up to date in terms of the current research and practices in the field;

- Increasing the degree of coordination and cooperation between different agencies involved in the professional development of practitioners; and

- Providing extensive training coupled with an infrastructure that provides curriculum frameworks, monitoring and support, and resources.

D. Professional Development

The quality of professional development, supports, and supervision for all young children will be a determining factor as to whether state investments in early education pay off. As with credentialing, inservice training varies considerably across states. While the national average is 33 hours of training per year, there is wide variability among and within programs. In Delaware, for example, the average was 23 hours
Models of Effective Professional Development

Studies show that the amount and kind of inservice training is significantly related to program quality. The Center for Children and Families at the Education Development Center, for example, piloted a series of professional development programs that targeted the literacy and language development practices of early education teachers. The models provided explicit, intensive training in two- or three-day sessions separated by three to five months. Participants received college credit for course completion and engaged in highly interactive sessions that blended discussions, presentations, demonstrations, and hands-on activities. Between sessions, practitioners completed a carefully sequenced set of assignments to apply new strategies and reflect on their practice and the impact on children’s learning.

The coursework also included a supervisor track that targeted improving supervisory skills in observing classrooms and providing content-rich feedback to teachers. A longitudinal examination of program impact on teachers and supervisors showed a powerful impact on classroom practices that was linked with improvement in children’s literacy and language development. Participants received higher scores on observational classroom instruments using the Early Language and Literacy Observation (ELLO) when compared to a control group. Children in classrooms with teachers who received the training scored higher on measures of emergent literacy. The researchers also found changes in supervisors’ communications with teachers, their efforts to provide feedback, to listen to teachers, and encourage teacher efforts.

Subsequent iterations of the model were developed to add components that address the need for better on-site support for teacher/supervisor teams and in order to ensure that changes in practice were substantive. The developers focused on how teachers changed their interactions with children rather than surface level changes in materials or classroom organization. Alternate models included a content-focused mentoring program to bolster on-site support and ensure the fidelity of implementing new practices. A distributed learning model was designed as well that included distance learning technologies and provided videotapes of exemplary practice.

The Connecticut Department of Education worked with EDC to integrate its model for professional development as part of the higher education system for supporting early childhood staff. Drawing on the lessons of the earlier versions, teachers and supervisors received college credit for participating. The sessions included more videotaping of teachers and supervisors as a cost-effective measure to help supervisors better support teachers and tune into their own supervisory skills. Higher education faculty delivered part of the course content, conducted on-site visits, and used rubrics developed to grade performance-based assignments. In 2004, the state began to make systemic changes in developing early childhood teachers by addressing articulation agreements among colleges. Focus groups and classroom observations revealed that the model was effective in providing participants with new frameworks for structuring their classrooms and changing their interactions with children.

Core features of the model included:

- **Establishing a state role in supporting professional development in collaboration with higher education and program developers.** The state was critical in recruiting participants, paying staff to attend sessions, and in determining whether programs are in compliance with mandated education levels.

- **Linkage to community colleges.** The program served practitioners, increased the capacity of community colleges and higher education to prepare new teachers, and created collaborative efforts to work with the state in raising the overall performance levels of teachers.

In general, stakeholders express continued frustration with the lack of a coherent, well-supported system to enhance the knowledge and skills of early childhood practitioners. Much training is geared to the lowest common denominator, with entry-level training offered over and over and few opportunities for the more advanced coursework needed to create dynamic, interactive learning environments. Professional development tends to be fragmented and uncoordinated and characterized by a workshop approach, with sessions that are superficial and require little preparation or follow-through by participants. Staff who pursue training must navigate an uncoordinated and unsequenced array of offerings. In many cases, coursework is not tied to academic credit. Even when credit is applied, it is difficult to transfer coursework from one institution to another, particularly
from community colleges to four-year programs, posing challenges to earning a degree. The field simply does not have the capacity to produce adequate numbers of well-trained individuals. Yet revamping the education and training for early childhood education teachers is fundamental to creating a quality early learning system.yn13

There are many challenges associated with scaling up research-based teaching practices in state prekindergarten programs. States need to develop models of professional development that have been shown effective in improving teaching practice in classrooms and impacting children’s learning and development. They will have to attend carefully to how professional development is organized and delivered. Many teachers lack foundational knowledge regarding child development, language and literacy, emergent mathematical concepts, and other key domains.

Models that impact teacher behavior and child outcomes incorporate a conceptual knowledge of learning domains and provide multiple opportunities extended over a sufficient period of time to help teachers apply and reflect on newly acquired pedagogical strategies. Effective models have shown that five- to six-month interventions can be effective in changing classroom practices and bolstering children’s learning if they provide sufficient intensity (two- to three-day sessions) and frequency (periodic sessions that include application within classrooms). Training components should include well-designed modules that link theory and practice and that provide extensive demonstration and hands-on opportunities for teachers to see and learn about classroom strategies related to instruction and assessment. Follow-up support and guidance should help teachers apply new strategies and reflect how their teaching impacts children’s learning using structured approaches.

Policymakers must devise regulations and systems that can deliver training and supports efficiently to large numbers of programs and teachers, sustain the effectiveness of the training, and demonstrate changes in practice. Models with demonstrated effectiveness create conditions that leverage program staff’s commitment to ongoing training and then provide well-sequenced course material that requires teachers and administrators to apply new pedagogical strategies. For example, through the training program, staff should be able to earn college credit leading toward a degree. Alternative approaches should be considered, such as those that incorpo-
rate technology for distal learning purposes and that provide practitioners in widely dispersed programs, particularly in rural communities, with access to skilled trainers and the use of videotapes to present exemplars of instructional practices.

Promoting Effective Professional Development through State Oversight and Monitoring

Regulatory mechanisms for program accountability should incorporate high-quality professional development as an integral component. States must create a shared framework for understanding and communicating expectations for young children's development and for creating, evaluating, and improving the conditions necessary for children's optimal learning. States' ability to scale up quality preschool is tied to the development of broad policies that create incentives for change and provide funds to help programs engage in the kind of comprehensive, sustained professional development initiatives most likely to result in substantial changes. States that are creating quality rating systems, for example, should incorporate high-quality training, mentoring, and feedback as part of a system of continuous improvement to advance the quality of all preschool programs. These systems can provide important incentives to increase the commitment of program directors and staff to improving program quality by linking ratings with increased funding, public reporting of program ratings, and opportunities to participate in well-designed professional development.

State regulatory systems can help disseminate approaches that focus on building the capacity of local programs to deliver training, ensure the implementation of recommended practices, and then sustain these practices. Collective program accountability can leverage institutionalization of effective approaches by securing buy-in and providing ongoing supports that go beyond the traditional classroom by classroom approach. Given the high turnover rate in early childhood teachers, it is difficult to sustain program improvements when professional development is delivered idiosyncratically one teacher at a time. In contrast, all teaching and supervisory staff within a program should receive training that provides common expectations for what constitutes appropriate practice and provides a common reference point for discussions and evaluations of classroom quality.

E. Conclusion

State boards play a key policy role in setting teacher standards and program approval requirements for teacher preparation programs. States need to leverage their authority to raise teacher standards and licensing, hold higher education accountable for quality teacher preparation programs, and institute regulations for ongoing supports and supervision as part of the accountability system for preschool programs. In order to maximize and sustain preschool benefits, policymakers working in close collaboration with researchers, practitioners, and preparation programs should:

- Develop prekindergarten through grade three performance standards and benchmarks for children and teaching practices that include integrated content and desired outcomes based on research on early learning development.

- Focus on principles of effectiveness to drive all elements of the system, particularly teacher development for early childhood providers in all programs and across all grade levels so that young children receive high-quality instruction; and

- Revise and refine state policies on teacher preparation, certification, program approval, professional development, and monitoring systems to reflect the research on effective early learning practices.
The State Policymakers’ Early Childhood Education Checklist

When it comes to early childhood education, states clearly have very unique contexts and are at varying stages of development. At the same time, there are many common threads that must be used in knitting together a high-quality system. Accordingly, the Study Group urges states to use the following checklist as a gauge for determining where to begin, where to fill in, or where to continue their work in early childhood education.

**Groundwork**

1. Are state policymakers knowledgeable about issues related to early childhood education, including the potential benefits of prekindergarten programs, the research on child development, and the elements of programs and classrooms that are critical to providing young children with high-quality learning environments?

2. Has the state created mechanisms to communicate to the governor, the legislature, and the public the goals of its early learning system and how the state intends to create, evaluate, and improve the conditions necessary for young children’s optimal learning?

3. Has the state established ongoing partnerships with practitioners, higher education, and state agencies to articulate a credible vision for quality classrooms for young children?

4. Does the state have an infrastructure to collect data from multiple indicators to identify the needs of young children in the state, coordinate and inform the provision of high-quality education and services, and assess the impact of early education programs?

**Setting Standards for Preschool Quality**

1. Does the state have aligned, comprehensive prekindergarten through grade three early learning standards that are manageable and applicable to diverse settings and that ensure children acquire the skills and foundational understandings that are developmentally and educationally significant?

2. Does state regulation ensure that children participating in preschool programs have access to well-planned curricula in which goals and benchmarks are clearly specified for cognitive, linguistic, social-emotional, and physical development domains?
   a. Does the curriculum adhere to research on child development and learning?
   b. Does the curriculum provide children with systematic research-based learning opportunities to develop language and emergent literacy that is appropriate for children from diverse backgrounds?
c. Does state guidance on curriculum include assessment strategies to continuously assess children's learning and the effectiveness of teaching strategies and to identify children who need additional education and/or services?

3. Do state policies ensure adherence to principles for using assessments with young children and, as such, require their technical soundness, require the selection and interpretation of assessments that are appropriate for identified purposes, and require that they provide clear benefits to children—either in direct services to the child or in improved quality of educational programs?

4. Do state early learning policies address the need for early education programs and staff to provide culturally sensitive and linguistically appropriate instruction and assessment to young children and engage their families in meaningful ways?

5. Does the state's early learning system provide inclusive settings so that children with disabilities have access to preschool experiences with non-disabled children in mainstream environments?

6. Does the state require programs to foster connections with families by developing multiple avenues for regularly sharing information and providing parents with meaningful opportunities to have input on the educational goals of their children?

7. Does the state regulate programs to ensure that programs provide children throughout prekindergarten and the primary years with small class sizes and low adult-child ratios with minimum requirements for preschool classrooms set at no more than 10 children per teacher and no more than 20 children per classroom?

**Establishing the Early Learning System**

1. Has the state collaborated with key constituencies to jointly envision, plan, and implement key elements of a well-coordinated, pre-k – grade three approach that consists of preschool programs, full-day kindergarten, reduced class sizes in the early grades, parent involvement, research-based instructional practices, and school transitions?

2. Does the state have a cohesive infrastructure to coordinate different early childhood programs and to guide the system of resources, workforce training, supports, and oversight to maximize children's benefit from early education?

3. Does the state have a clear and public approach to establishing and expanding its early learning system? Has the state designed a phased-in approach to serving the most vulnerable populations first and expanding the eligibility of four-year-olds toward a long-term goal of voluntary, universal access to high-quality preschool programs?

4. Does the state have regulatory mechanisms, funding, and technical support to mobilize incentives that positively impact teaching practices and promote high-quality early learning environments?

5. Does the state have an accountability system that relies on multiple indicators of both how children are progressing and the quality dimensions of classrooms so that needed improvements and professional development can be identified?
6. Does the state use a continuous improvement approach that requires ongoing evaluation to assess the plan for meeting early learning needs, the quality of its implementation, and its impact on children and families?

7. Does the state regularly conduct program evaluations in light of its early education goals, using varied, appropriate, conceptually and technically sound evidence to determine the extent to which programs meet expected standards, provide children with rich, learning environments, and yield desired short- and long-term outcomes for children? Are the results of evaluations publicly shared to guide decisions about changes that would improve program quality?

Ensuring That All Teachers Have the Necessary Preparation and Supports to Create High-Quality Learning Environments

1. Does the state have a well-articulated, coherent system for developing early childhood teachers who have the knowledge and skills to nurture children's development and competencies?

2. Does the state set standards for teachers and preparation programs that require early childhood education teachers to have a Bachelor's degree and specialized early childhood training at the college level consistent with a common vision of high-quality early education? Does that vision permeate all course work and clinical experiences?

3. Does the state have core requirements and standards for programs and professional development that reflect the research on effective early learning practices and that address the capacity of programs to deliver quality instruction?

4. Does the state link professional development, technical assistance, and supports to a well-designed accountability system that assesses both classroom quality and child outcomes?

5. Does the state have standards for the preparation and credentialing of administrators that ensure school leaders have knowledge and skills in both early childhood education and program administration?

6. Does the state system for teacher preparation and professional development provide training in teaching strategies for children from diverse backgrounds, including children with disabilities and children from linguistically and culturally diverse families?

7. Does the state provide sufficient compensation and benefits to the early childhood workforce that are commensurate with comparably qualified K-12 teachers?
A critical issue facing policymakers is finding sources of funds that are sustainable and adequate for implementing, maintaining, and improving early childhood education programs in their states. Creative and varied approaches using a multitude of funding sources have often been the most effective recourse, but doing so is difficult. Various sources or funding streams are riddled with competing eligibility requirements, regulations, and administrative red tape. Several states and communities have found answers, and there are general strategies that can be used to improve and implement programs.

One strategy is to coordinate or “braid” existing categorical funds in a flexible and integrated manner. This is a difficult proposition because categorical funding streams have differences in eligibility requirements, program regulations, and funding flow and administration. For instance, Head Start requires 90 percent of children covered to be from families below the federal poverty level. On the other hand, the Child Care and Development Fund covers families earning less than 85 percent of the state median income. Generally, braiding of funding streams is a strategy done at the community or program level. At this level, services can be tailored to the needs of the community or individual families, while reducing the need to rely on only one source of funds. This strategy requires intensive behind-the-scenes organization and record keeping, which is difficult at the state level. However, many providers do not have the administrative capacity to successfully braid funding streams. One solution has been the formation of community networks of providers built around institutions, such as school districts, that have the capacity to manage the administrative requirements. Thus, states may be wise to adopt policies promoting the formation of such networks.

State policymakers can also encourage the braiding of funds by providing technical assistance and training to local education leaders and providers. Informing them of funding sources and ways to access those funds effectively and efficiently can go a long way toward improving early education programs. States can also align and adjust the requirements of different funding streams to make them easier to coordinate. For example, some states are providing programs that coordinate Head Start and child care funds with a full-day child care subsidy, which has encouraged a model that ultimately allows states to offer full-day programs with a variety of services. States can also structure new funding streams such that they encourage and facilitate coordination with existing streams. By taking into account the existing landscape and pre-arranging ways for programs to efficiently access multiple funding sources, policymakers can significantly impact early childhood services.

A second strategy, which is most effective if conducted at the state agency level, is to allow for the pooling or blending of funds at the local level so that programs have increased discretion. State agencies are in the unique position of having access to state funds as well as administrative duties over some flexible federal programs, which can be combined to support comprehensive initiatives. For example, some states have driven local needs assessments and action planning through federal block grant funds and state funds. These funds are then pooled together and handed down to local entities in block-grants. This strategy allows for greater local decision making and economical usage of funds to meet local needs and priorities. States can even pool funds across multiple agencies and programs to garner support for statewide system reforms.

Decategorization is a third strategy that can be used at the state agency or legislative level of policymaking. Perhaps the most direct approach, the goal is to remove any restrictive requirements or programmatic boundaries between different sources of funds by altering pertinent regulations. The removal of boundaries allows for smooth blending of funds into one single stream for early childhood programs. One example of this practice is an Ohio measure that lengthened the period of certification for child care subsidies from six to twelve months. Thus, the timeframes for subsidies became more closely aligned with other sources of funds for early childhood education and child care.
Major Ways States Fund Early Education

States have found a myriad of ways to fund early childhood education programs. Most states use general revenue, but some have found other more creative ways to funnel funds into preschools. Some states simply augment federal Head Start programs, while others fund their own state preschool programs. The variability among states is very large, and understanding the various strategies and methods of funding early education is important in understanding differences in preschools among states.

The most common means states use to fund early childhood programs is through the allocation of general revenue. The legislature appropriates state revenue from taxes and other fees to fund state pre-k programs. Illinois, Oklahoma, and Wisconsin have been particularly successful in expanding their programs with continuous and increasing funds from general revenue. This strategy is extremely flexible and quite viable in good economic climates. Unfortunately, this method leaves pre-k in the open, competing with other priorities. Thus, if the economy is poor, funds may be reduced or disappear in favor of other programs.

Some states that have been unable to procure general revenue for early childhood programs have turned to another strategy: using dedicated funding streams. Such sources include state lottery and gaming revenues, tobacco settlement monies, and excise taxes. States using these sources of funding have enjoyed recent success and have been able to expand their pre-k programs. Using dedicated funds has the advantage of being a more popular option than general tax increases. This strategy can also be structured to prohibit diversion of dedicated funds to other public programs, unlike general revenue funds.

The disadvantage of using dedicated funds is that the income from these sources, especially excise taxes, may be insufficient by themselves to support the program. Furthermore, most dedicated revenue streams fund more than just pre-k programs. Oftentimes, other education or social programs receive funds from the same source. Georgia and Tennessee, both of which use lottery revenue to fund pre-k, also dedicate lottery funds to college scholarships. Thus, it is possible that pre-k may have to compete with other programs for the same pot of money in times of financial hardship. Therefore, it is important for policymakers to identify stable and reliable sources of dedicated funds and not supplant general revenue funding with dedicated funding sources (but rather augment pre-k funding with dedicated monies).

There are other concerns for policymakers to consider when contemplating the use of dedicated funding streams for pre-k. Many opponents of the strategy argue that the use of lottery and excise tax dollars sets a bad example for children and encourages vices like gambling and alcohol consumption. Furthermore, the use of such sources amounts to a regressive tax on low-income families, as they are more likely to play the lottery or utilize the services and goods taxed. Some even argue that dedicated monies may divert retail dollars and thereby reduce sales tax revenue.

While both the use of general revenue and dedicated funds can prove to be successful sources for financing pre-k in the states, a critical concern is establishing pre-k education as a policy priority. This can be done by tying pre-k funding to K-12 education spending. In other words, states that desire to make a serious investment in early childhood education should include pre-k in their state’s K-12 school funding formula. Since most formulas are based on numbers of children attending school, states can guarantee that funding for pre-k will match any changes in population. This method is used in Maine, Nebraska, Oklahoma, Vermont, West Virginia, and Wisconsin, all of which maintained or increased their pre-k funding in FY05.

Overall, states have many avenues open to them for funding early childhood education. The goal needs to be not only to find sufficient sources of funding, but also stable and reliable sources that have the potential to increase over time. Over-dependence on one source without policies that assure continued funding can be fatal to a state’s effort to invest in high-quality pre-k education. Therefore, it is essential that policymakers consider the long term and the implications of relying on one funding stream over another.

Provider Compensation

A key component of any educational program is the provider. Teacher qualifications and training have a profound effect on the quality of the program. As the research has shown, the quality of child care is related to both formal education levels and the degree of specialized early childhood training of the teachers. As a result, those programs that employ providers with higher levels of education and training in early education tend to provide the best learning environments.

The body of research supporting teacher quality as being critical to program quality has lead several researchers and education organizations to recommend various initiatives and policies towards increasing teacher competency. Some suggest
that special licenses be required specifically for early childhood education providers.\textsuperscript{120} Many also contend that higher quality inservice training be required of providers.\textsuperscript{121}

However, even if credentialing and inservice training policies are improved, there are concerns about whether these alone would have any lasting impact. The confounding factor is the very high rate of turnover among preschool teachers, which is directly linked to their low levels of compensation when compared with their K-12 counterparts. Research shows that better pay is correlated with higher quality of child care services.\textsuperscript{122} On the other hand, where there is insufficient provider compensation, pre-k programs are usually only able to retain teachers with lower levels of education and training.\textsuperscript{123}

Generally, the research shows that adequate compensation is an amount comparable to that which K-12 teachers receive.\textsuperscript{124} Adequate teacher compensation for pre-k programs, then, is vital to establishing high-quality learning environments. If preschool teachers are not paid adequately, those who are best qualified tend to leave the field or only teach where programs can afford to properly compensate their services. Thus, those children most in need of quality teachers are those least likely to have access to them. Therefore, proper funding of early childhood programs is essential for increasing and maintaining quality. If programs cannot afford to compensate their teachers, very little benefit will be derived from other policies aimed to improve quality.

![Figure 5. Revenue Sources for State Pre-K Programs](image-url)

Source: Adapted from Diana Stone, Funding the Future: States’ Approaches to Pre-K Finance (Washington, DC: Pre-K Now, 2006).
Endnotes


2 J.P. Shonkoff and D.A. Phillips (Eds.), 2000.


6 V.E. Lee and D.T. Burkham, Inequality at the Starting Gate: Social Background Differences in Achievement as Children Begin Kindergarten (Washington, DC: Economic Policy Institute, 2002).


8 J.P. Shonkoff and D.A. Phillips (Eds.), 2000.


18 J.P. Shonkoff and D.A. Phillips (Eds.), 2000.

19 The average initial effect on cognitive abilities is about 0.50 standard deviations, seven or eight IQ points; the average effects on social and emotional outcomes were positive 0.35 to 0.40 standard deviations. W.S. Barnett, Maximizing Returns from Prekindergarten Education (New Brunswick, NJ: National Institute for Early Education Research, 2004).


23 Ibid.


27 Ibid.


31 Cost, Quality, and Child Outcomes Study Team, Cost, Quality and Child Outcomes in Child Care Centers (Denver, CO: Department of Economics University of Colorado at Denver, 1995).


34 Ibid.


38 Ibid.

39 Cost, Quality, and Child Outcomes Study Team, Cost, Quality and Child Outcomes in Child Care Centers (Denver, CO: Department of Economics University of Colorado at Denver, 1995).


41 Ibid.

42 Ibid.

43 Ibid.

44 Ibid.

45 Ibid.

46 Ibid.
55 National Association of State Boards of Education

46 The Harvard Education Letter, Literacy to Learning: Catherine Snow on Vocabulary, Comprehension (Cambridge, MA: July/August, 2005).
47 C.E. Snow, M.S. Burns, and P. Griffin (Eds.), 1998.
52 B.T. Bowman, S.M. Donovan, and M.S. Burns (Eds.), 2001.
57 B.T. Bowman, S.M. Donovan, and M.S. Burns (Eds.), 2001.
63 B.T. Bowman, S.M. Donovan, and M.S. Burns (Eds.), 2001.
66 NAECY defines developmentally appropriate practices as: “Those that result from making decisions about well-being and education of children based on: what is known about child development and learning; what is known about the strengths, interests, and needs of each individual child in the group, and the knowledge of the social and cultural contexts in which children live” (see also S. Bredenkamp and C. Copple [Eds.], Developmentally Appropriate Practice In Early Childhood Programs (Washington, DC: NAEYC, 1997)).
70 Ibid.
74 Ibid.
81 Ibid.
87 Ibid.
88 Ibid.
89 Ibid.
90 Ibid.
Points by fifth-grade solely as a consequence of being taught.

Achievement (Knoxville, TN: University of Tennessee Value-Residual Effects of Teachers on Future Academic


14. Ibid.


16. Ibid.


21. Ibid.

22. Ibid.