



FORUM:
Preschool Puzzle

By Douglas Besharov and Craig Ramey

As state after state expands pre-K schooling, questions remain

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Last year, more than 30 states increased public funding for pre-K education. Advocates Pre-K Now and its congressional allies are pushing for new federal spending and regulations. Some analysts project enormous long-term benefits to participants from publicly funded “universal” pre-K as well as societal benefits and taxpayer savings. Others question their methodologies along with their calculations. In this Education Next forum, two of today’s leading authorities on early childhood education consider what the research tells us about the effects of preschool, how preschool programs should be designed, and what it all means for public policy.

EDUCATION NEXT: What does the evidence tell us about the effectiveness of early childhood education programs and interventions?



DOUGLAS BESHAROV: The idea that early childhood education “works” stems largely from the widely trumpeted results of two experimental programs operated in the 1960s and 1970s. Both the Perry Preschool Project and later the Abecedarian Project [see Figure 1] reported substantial initial gains in cognitive indicators followed by significant long-term improvements in later school performance, rates of teenage and nonmarital births, and employment and earnings.



DOUGLAS BESHAROV

Douglas Besharov is director of the Social and Individual Responsibility Project at the American Enterprise Institute and former director of the U.S. Center on Child Abuse and Neglect.



CRAIG RAMEY

Craig Ramey is professor of health studies and psychiatry at Georgetown University and director of the Georgetown Center on Health and Education.

Debate continues about the validity of these findings, but there is no denying that these programs operated in a far different social and demographic setting than programs today and that they were “hothouse” programs: Run by top-notch specialists, the programs served fewer than 200 children, cost at least \$15,000 per child per year in today’s dollars, often involved multiple years of services, had well-trained teachers, and instructed parents on effective child rearing. Significantly, the children they served had low IQs or had parents with low IQs. Since these two pioneering initiatives, no other rigorously evaluated programs have had similar results, despite many efforts to replicate them.

Recent assessments of school-based pre-K programs in Michigan, New Jersey, Oklahoma, South Carolina, and West Virginia indicate that they substantially raise children’s vocabulary, math, and reading comprehension test scores at the end of one year. This important development points to the promise of such programs, but questions have been raised about the studies. In any event, they have so far only measured immediate or early gains in learning. There is as yet no evidence that these programs will have a lasting impact on the children.

One additional note: American families are divided about how much time young children should spend in child care. Although some advocates seem to think that early childhood education can begin in infancy, many families—and experts—are worried about having young children spend too much time in nonparental care. In this discussion, I assume that the

early education is being offered for older preschoolers.

CRAIG RAMEY: The evidence is quite strong in favor of early education benefits, particularly for children from low-resource families. Low-resource families have limited parental education, very low family incomes, and/or parents unable to consistently provide high-quality learning opportunities essential for normal brain and behavioral development. Early education yields results in terms of later academic achievement that are greater and last longer than do educational interventions that begin after failure in school. The Abecedarian Project was not a one-time hothouse program; it was immediately replicated with a new group of similar children (in Project CARE) who demonstrated equal benefits throughout their school years and early adulthood. Next, we adapted this educational intervention for low birth-weight and premature children in the Infant Health and Development Program, conducted in eight cities with 985 participants, and found benefits in all eight cities, with the greatest benefits for children from families with the lowest levels of parent education. The last time these children were assessed, at age 18, they showed continued benefits from their early education. Other rigorously studied interventions include the Milwaukee Project and the Chicago Parent-Child Centers, which served thousands of children in multiple locations and resulted in long-term gains.

Preschool Primer (Figure 1)

A sample of recent high-quality studies shows that intensive early childhood education programs for disadvantaged students can have a positive impact, but the results for large federal programs are mixed.

L. J. Schweinhart, J. Montie, Z. Xiang, W. S. Barnett, C. R. Belfield, and M. Nores.

Lifetime Effects: The High/Scope Perry Preschool Study through Age 40. High/Scope Educational Research Foundation, 2005

Summary: Treatment and control groups were drawn at random in 1962 from 123 low-income African American children ages three and four at high risk of school failure. The intensive preschool program provided to the treatment group paid staff on the public school pay scale and offered an individualized curriculum. Researchers followed both groups through age 40 and found that the program improved social development in childhood, educational attainment, and labor-market success, and reduced criminal behavior. They estimated the return to the general public to be \$12.90 per \$1 invested.

Frances A. Campbell, Craig T. Ramey, Elizabeth Pungello, Joseph Sparling, and Shari Miller-Johnson.

Early Childhood Education: Young Adult Outcomes from the Abecedarian Project. Applied Developmental Science 6, 2002

Summary: The Abecedarian Project was initiated in the 1960s to measure the long-term benefits to high-risk infants of educational intervention within a child-care setting. The 57 children in the treatment group were enrolled at infancy and continued in the program through age 5; the control group consisted of 54 children. At age 21, those in the preschool treatment group scored higher on IQ and achievement tests, had completed more years of education and were more likely to attend a four-year college, were more likely to be employed, and were less likely to experience teenage pregnancy.

Vivian C. Wong, Thomas D. Cook, W. Steven Barnett, and Kwanghee Jung.

An Effectiveness-based Evaluation of Five State Pre-kindergarten Programs. Journal of Policy Analysis and Management 27, Winter 2008

Summary: Study used a regression-discontinuity design to estimate effects of state pre-K programs in Michigan, New Jersey, Oklahoma, South Carolina, and West Virginia, all states with relatively high-quality programs. Researchers found positive effects on children's cognitive skills, especially in print awareness and math, though the magnitude of effects varied by state and outcome.

Michael Puma, Stephen Bell, Ronna Cook, Camilla Heid, and Michael Lopez.

Head Start Impact Study: First Year Findings. U.S. Department of Health and Human Services, Administration for Children and Families, June 2005

Summary: Study included nearly 5,000 low-income three- and four-year-olds who applied to a nationally representative sample of Head Start programs in fall 2002; children were randomly assigned to treatment and control groups. Data from 2002-03 indicated small to moderate positive impacts for three-year-old children on several measures, including pre-reading, prewriting, vocabulary, and parent reports of children's literacy skills. Fewer positive impacts were observed for four-year-olds. No significant impacts for oral comprehension and phonological awareness or early mathematics skills for either age group.

Russell Jackson, Ann McCoy, Carol Pistorino, Anna Wilkinson, John Burghardt, Melissa Clark, Christine Ross, Peter Schochet, and Paul Swank.

National Evaluation of Early Reading First: Final Report. U.S. Department of Education, 2007

Summary: Early Reading First provides funding for preschools serving low-income students to offer scientifically based language and literacy development programs. Regression-discontinuity study compared students in funded programs and students in programs that applied for but did not receive funding. Data from 2004-05 indicate a positive impact on children's print and letter knowledge but no impact on their phonological awareness, oral language skills, or socio-emotional skills.

Robert St. Pierre, Anne Ricciuti, Fumiyo Tao, Cindy Creps, Janet Swartz, Wang Lee, and Amanda Parsad.

Third National Even Start Evaluation: Program Impacts and Implications for Improvement. U.S. Department of Education, 2003

Summary: Even Start is a family literacy program for disadvantaged children from birth to age seven and their parents. Data collected from 1999 to 2001 as part of an experimental study of 463 families in 18 programs showed that, although treatment-group children and parents scored higher on literacy assessments, their gains were no larger than those made by control-group members.

Key features of the proven programs that most likely account for the benefits are 1) employing highly competent staff, trained for their positions and then actively supervised; 2) monitoring children's progress; 3) providing educationally focused professional development or in-service

training; 4) directly addressing children's needs to become capable in language and cognitive/academic abilities; 5) having adequate, stable facilities and supplies to support the educational, social, and recreational activities; 6) including and respecting parents as natural partners in preparing children for school; and 7) reporting the findings frequently to multiple audiences.

EN: Can we generalize the results from well-designed, generously funded pilot programs to large-scale efforts at the state or national level?

CR: It is a serious misrepresentation to claim that the best evidence for benefits of early childhood programs comes only from "pilot programs" that were extremely expensive. The costs of programs that have produced positive results are in the same ballpark as or lower than those of many already funded public and private programs serving three- and four-year-olds. Two very large, congressionally initiated programs that provided funding levels well in excess of the costs for the so-called "hothouse" programs failed. The first one, the Comprehensive Child Development Program, served poverty-level families and their children throughout the first five years of life, at more than twice the cost of the successful programs. The second, the National Head Start/Public School Early Childhood Transition Program, served children, families, and schools from kindergarten through 3rd grade, offering comprehensive Head Start-like services to poverty-level families. Despite very high levels of funding, these programs did not produce any measurable benefits to children, families, or communities.

In contrast, results from some of the state and local programs are highly encouraging for low-income children. The Louisiana four-year-old program (known as LA 4) has shown with four successive cohorts of children (totaling more than 15,000 children to date) that a high-quality, full-day pre-K program accelerates children's achievement in math, language, and early literacy skills; reduces grade repetition when they enter public school; and reduces special education placement. The first cohort, now old enough to participate in third-grade testing, scored higher than did other low-income children who did not receive public pre-K. I lament that many of the best-known federally funded grant programs have produced disappointing or no evidence of benefits to children; I judge that this is because too many of these grantees failed to deliver the high-quality programs for which they were funded.

DB: However one interprets the evaluations of demonstration projects like the Perry Preschool and Abecedarian, the unavoidable conclusion is that the measured impacts of three national programs that seek to implement their approach—Head Start, Early Head Start, and Even Start—have been tragically "disappointing," the word used by most objective observers.

According to repeated evaluations, these three programs do not make a meaningful difference in the lives of disadvantaged children. Here's just one example: After almost a year in Head Start (with an average cost of about \$7,700 in 2005), children were able to name only about two more letters than their non-Head Start counterparts, and they did not show any significant gains on much more important measures, such as early math learning, vocabulary, oral comprehension (more indicative of later reading comprehension), motivation to learn, or social competencies, including the ability to interact with peers and teachers.

Separate Purposes, Separate Policies

I read the research literature to say that early education programs can probably make a marked improvement in the lives of disadvantaged children, but that we have only a partial idea of how they should be organized and managed, that is, brought to scale. As of now, there is no actual model of early education or preschool services that has been proven successful in closing the achievement gap, and any additional funding should be used to create a flexible system that can change, and improve, as more knowledge is accumulated.

It is possible that the children from middle-income families might also benefit from preschool programs. The danger is that preschool will become a new middle-class entitlement, displacing the more intensive (and extensive) efforts needed to shrink the achievement gap among severely disadvantaged children. We need separate policies for each purpose, and bundling them together is a sure recipe for a new middle-class benefit that shortchanges the poor.

—Douglas Besharov

EN: Advocates of expanded early childhood education forecast large long-term savings to taxpayers. How are those figures arrived at and do you find those projections to be credible?

DB: The only two rigorously evaluated early childhood education projects with a formal benefit-cost analysis are the Perry Preschool and Abecedarian projects (both performed by Steven Barnett). According to Barnett, for every dollar spent, the Perry Preschool saved taxpayers \$7.20 and Abecedarian saved taxpayers \$3.78. However, in both analyses, the bulk of accrued taxpayer savings is questionable; in the Perry Preschool analysis, the majority of savings resulted from probably inaccurate calculations in crime reduction. (Barnett uses self-reported arrest data from the children when they were older, but these arrest data seem inconsistent with official convictions data, an indication that the arrest data are inaccurate.) In the Abecedarian analysis, the majority of estimated savings accrued from projected participant earnings, which have no effect on savings to the taxpayer. If these questionable savings are removed from the calculations, according to RAND Corporation researchers the Perry Preschool saved taxpayers about \$2.50 for each dollar spent; according to my calculations, Abecedarian saved taxpayers about \$.66 for each dollar spent.

William Dickens of the Brookings Institution recently performed a revised benefit-cost analysis for the Pew Charitable Trusts (the leading foundation supporting the expansion of preschool programs). Although he only considered the benefits to taxpayers, his findings are instructive. Even taking the impacts of the two projects at face value, the benefit-cost ratio of an institutionalized Perry Preschool-type program would turn positive only after about 90 years. For Abecedarian, the ratio would turn positive after about 55 years.

Still, we should not use the absence of valid benefit-cost estimates as an argument against early childhood education. How children are raised, including the content and quality of early education and child care, unquestionably shapes their development. The question is not whether

some vastly oversimplified benefit-cost claim can be used as a political argument in favor of early childhood education but, rather, how best to improve existing programs so that they are more effective in narrowing the achievement gap.

CR: There have been several different methods used to calculate benefits—and wildly different returns claimed—sometimes as high as \$16 returned for \$1 invested (definitely not realistic returns for most children and communities) to more conservative estimates of \$1.40 returned for \$1 invested (far more sustainable and based solely on costs to the public). A similarly high rate of return is unlikely for most current and proposed pre-K programs because many of the children being served have relatively low levels of risk for school failure, placement in special education, later criminal behavior, or failure to become economically self-sufficient in adulthood. The largest benefits claimed economically come from a relatively small study of 123 children in the Perry Preschool Program, where all of the children by age three were performing in the category now labeled developmentally or cognitively delayed (IQ scores below 85 prior to entering the program). This fact is seldom shared in public venues where a community is fighting to obtain support for expanding or improving its supports to vulnerable young children. By overstating the economic return, advocates may be creating unrealistic expectations and ultimately dooming the long-term community support for providing high-quality educational programs to all young children.

The largest short-term savings will be from reduced grade repetition (cut in half in the Abecedarian Program) and special education costs (reduced by 75 percent in the Abecedarian Project). Special education tends to cost double what regular education costs, and special education students today are eligible for free education until the age of 21 (rather than 18).

EN: Are there clear instructional standards that states ought to require providers to adopt? Should we consider a national curriculum for preschool?

CR: A single national curriculum should not be adopted for preschool. Early childhood education programs can succeed only when consistent high levels of instruction are provided in ways that are adapted to the learning and behavioral needs of young children. Young children learn through active engagement and play, not just sitting quietly or passively and receiving teacher-dominated lesson plans. Key evidence-based features of what three- and four-year-old children need to learn to prepare for becoming strong early readers have provided the core for a number of new published curricula, some of which have been rigorously evaluated and reported on; others are now being tested and evaluated. When instructional standards are made explicit, then programs can plan in ways that ensure that all teachers and teaching assistants have the knowledge, skills, and appropriate attitudes to provide high-quality instruction.

DB: It is highly unlikely that any one curriculum will meet the needs of all American children. Various curricula, however, show promise and, more importantly, indicate that much more can be done to prepare disadvantaged children for school. For example, both Project Upgrade (funded by the U.S. Department of Health and Human Services) and Early Reading First (funded by the Department of Education) used rigorous evaluation techniques and found that a properly or narrowly focused early childhood intervention can make a significant improvement in at least

some elements of the cognitive development of disadvantaged children. Both programs provide staff with step-by-step, practical guidance about teaching language and literacy to preschoolers.

Congress should mandate a systematic program of research and experimentation, one that tries and evaluates different approaches to see what works best. Most important, making distinctions among children from different family backgrounds and with different degrees of need will be crucial. Those who are most behind almost certainly need a more intensive curriculum.

EN: Should we license early childhood educators? If so, what are the appropriate criteria?

DB: The nature and quality of staff surely matter. The available research, however, is ambiguous at best. Some studies, for example, find that having a preschool teacher with a BA increases math scores; others find no effect on math scores but significant increases in writing scores; and still others find no effects whatsoever. However, the likelihood of selection effects in such studies has led many to question these results. (Better teachers tend to self-select into programs with children from more affluent and better educated families, and that is why the children may do better).

Many have become disenchanted with licensing and specific educational requirements for teaching K–12. Such requirements may not improve child outcomes significantly, and might even compromise them. Imposing more formal educational qualifications might exclude good teachers who were unable to obtain higher levels of education or are unwilling to make the career investment that licensing entails.

The preschool curriculum evaluation studies mentioned above suggest a more promising approach. Project Upgrade had as much impact as the state pre-K programs but, rather than rely on much more expensive public school staff, the program taught the regular child-care staff how to be more effective.

CR: The idea that licensing will help drive up the quality of instruction is a sound one. Licensing would be a major advance if it were grounded in practical demonstration that teachers and teaching assistants have the right set of skills to educate young children, and know how to individualize instruction and interactions with young children who differ in their social and emotional needs, their linguistic needs, and their needs related to specific early academic skills. The traditional ways of preparing teachers for elementary-school education will not suffice to prepare highly skilled educators for children under five years of age. What we urgently need is a thorough review and report about the adequacy of existing college preparation programs that grant associate degrees in early childhood education. Ideally, in the future, the degree-granting programs would work collaboratively with licensing entities in a manner similar to what exists in nursing, clinical psychology, medicine, dentistry, and allied health professions. What should be emphasized is how well teachers instruct in their classrooms, not just their formal education and degrees earned.

EN: What kinds of accountability measures, if any, would you advocate for early childhood education?

CR: The more than a dozen early childhood education programs that produced lasting benefits could point to those results because they held their programs accountable. Following the example these programs set, accountability has been accepted as valuable and been well implemented in a number of large-scale pre-K programs, such as those in Louisiana, Oklahoma, North Carolina, and parts of California. I further want to refute the myth that assessing the progress of individual children is stressful to children (all teachers are expected to monitor and document children's progress already). But I also think that classroom practices should be documented. When classroom instruction is directly observed and feedback is provided in ways that help teachers and teaching assistants improve their classroom practices, children have been shown to increase their gains. How could we not require that each and every program document the instruction and other supports provided, including the quality and consistency of instruction, the amount of time the program is offered, and the progress of the participating children and families?

DB: If we are to believe the repeatedly negative evaluations of Head Start, Early Head Start, and Even Start, these programs have unacceptably small impacts to justify their cost. The political process has begun to recognize their limited effectiveness and to hold them accountable. Presumably because of disappointing evaluations, Head Start's funding has essentially remained flat since 2001, at about \$7 billion. Yet, during the 2007 reauthorization of Head Start, nary a word was spoken about its questionable impacts. Most members proclaimed that Head Start "works" or "is highly successful." Worse, Congress eliminated the Head Start National Reporting System, a series of cognitive tests administered twice a year to all Head Start children and designed to be "used in planning training and technical assistance efforts for local programs." Critics argued that the tests focused only on cognitive impacts, that the questions were not age appropriate, and that the process was intentionally designed to prove Head Start was ineffective and therefore should be terminated.

Whether or not these complaints are valid, the accountability system was still in the development stage, and there is now no systematic way to measure the progress of Head Start children through the program. A better route would have been to improve the testing system the way all testing systems are improved: by trial and error, while keeping an open mind.

A Complicated Question

The research funded to study long-term benefits of early educational programs was concentrated on children from highly impoverished families or children who already showed delays or disabilities. To date, the limited evidence about children with lesser risks or children from strong, healthy, well-resourced families indicates that high-quality education (as expected) does not have a strong positive or negative effect. This confirms what the most detailed scientific reviews conclude: children need to have frequent positive learning experiences on a regular basis during the first five years of life. Whether these are provided by parents, natural kinship networks, or paid-for child-care and preschool programs does not matter.

There are important societal and practical issues, however, regarding whether pre-K should be provided free only to families who cannot afford an alternative. These questions include the potential value of having a socially and economically diverse group of children together prior to kindergarten; supporting families with working parents who require full-day care and education for their young children; and where best to serve children with special needs whose early education costs already are fully assumed (regardless of family income) by the public schools (based on the Individuals with Disabilities Education Act [IDEA]).

—Craig Ramey

EN: If the government is to finance early childhood education, how should the funds be distributed: through the school system, by giving tax credits or vouchers to parents, or by some other mechanism?

DB: Up to now, the early childhood education movement has focused on expanding school-based pre-K programs [see Figure 2 for enrollment and state spending trends], with the ultimate goal of “universal pre-K.” According to the National Institute for Early Education Research, in 2006 states spent \$3.3 billion on pre-K programs, up from \$970 million in 1992. As much as 90 percent of these funds go to public schools, with the remainder going to selected center-based child-care providers. It is difficult to see why all pre-K programs—nationwide—should be entrusted to a public system fraught with so many serious shortcomings, especially in the low-income communities most in need of effective early education programs.

When early education funds are given to schools and other agencies to serve a specific neighborhood, parents must either send their child to the local free program or use their own money to pay to use a different one. Hence, they are denied real freedom to select the provider of their choice, or at least to receive government help to pay for their chosen provider.

More troubling, this top-down approach to funding early education programs is a retreat from the unquestionable success of child-care vouchers. Since 1991, the Child Care and Development Fund and other federal programs have provided almost \$100 billion in child-care subsidies via state-distributed vouchers—with nary a problem—and low-income parents have had the freedom to choose the particular providers they want, largely without government constraints (even unlicensed providers can be used in most states).

CR: We do not have an adequate scientific basis, thus far, to endorse any single system of funding for early childhood education. I also do not think that programs with little or no benefits should continue to receive funding. The mega-child care subsidies program has funded programs that sometimes are of extremely low quality. Head Start and Early Head Start programs have ambitious goals and reasonable standards, but their actual implementation is far too uneven. These public subsidies for poor quality care must not be tolerated. Accordingly, I favor competitive market-driven approaches alongside publicly funded initiatives, so long as all of these are held publicly accountable

using the same standards and measures of performance and benefits. Several interesting ideas have scarcely been tried, such as adequately funded vouchers, substantial tax credits, public-private partnership programs, and parent participatory contributions to early childhood programs. We need to support rigorous investigations of alternative strategies for providing young children with the care and education they need to succeed in school and life. There is likely to be plenty of room for having multiple approaches—all of which could be held to the same high quality standards—to help young children and their families.

Douglas M. Call assisted Douglas Besharov in the preparation of his responses.

Pre-K Picture (Figure 2)

Enrollment in center-based pre-K programs increased steadily from the 1960s through the 1990s and flattened out after 2000. From 2001 to 2006, average state spending per child dropped by 20 percent.

