Working Paper 05-1

How to Expand and Improve Preschool in California:

Ideals, Evidence, and Policy Options

PACE

Policy Analysis for California Education
University of California, Berkeley and Davis
Stanford University

2005

Preschool for All? Tough Questions for Policy Makers

The evidence is quite clear—after a half-century of research—that many children benefit from quality preschooling in terms of cognitive growth. Over 60 percent of California's four-year-olds now attend a preschool center at least part-time. Yet enrollment rates lag behind for children from poor and working-class households—especially those from Asian, Latino, and non-English speaking families. Earlier research also reveals uneven quality among preschools, with middle-class families often confronting low-quality programs and high tuition costs.

Recent calls for a universal preschool system are prompting important policy debates within several California counties and Sacramento. *How* preschooling is expanded and improved—with limited public resources—depends on several key issues. The hopeful ideals of "preschool for all"—with children beginning school ready to learn—spark enthusiasm and broaden public will. But tough policy questions must be addressed by local and state policy makers:

- Should California build and run a *universal system* of preschool, or should public support be targeted on families who face greater cost and quality constraints? In other words, who should benefit and who should pay?
- Who should operate universal preschool— local *schools* or the current *mixed market* of providers, including nonprofit centers and licensed family child-care homes?
- How can the quality of preschool be improved? Does raising the credential levels of teachers yield discernible gains for children? Would other policy options more cost-effectively boost quality and children's development?
- How should preschool be structured for diverse families? Does clearer specification of *learning standards* and *formalization of instruction* inside preschools benefit children? What language of instruction does formalization imply?

Policy strategies—such as, subsidizing a wider range of families or advancing symbols of program quality that are easily recognized—stem from an earnest desire to widen public support. Proponents also invoke differing ideals about how young children should be cared for and instructed in preschool classrooms.

Evidence can play an important role—including drawing on the experience of other states—to inform which policy options will more likely yield intended outcomes for children and teachers. This review considers nationwide evidence on these pivotal questions, relating the findings to current debates in California.

Working Paper 05-1

How to Expand and Improve Preschool in California:

Ideals, Evidence, and Policy Options

Bruce Fuller
Alejandra Livas
Margaret Bridges

University of California, Berkeley
2005

Policy Analysis for
California Education
PACE

Contents

SUMMARY

Evidence — Informing Policy Options and Local Designs

Debates persist over how to close achievement gaps so starkly evident in the public schools. One recent California study found that over 80 percent of the gap in fourth-grade reading scores—observed between children from low-income and middle-class families—is already discernible early in kindergarten.[1]

A number of advocates and policy makers seek to aid the development of young children before they enter the public schools, by expanding access to preschool. The evidence is quite clear—after five decades of sustained research—that many children benefit from attending quality preschools.

We also know that access to preschool in California remains quite unequal, with children of low-income families, and Latino and Asian American youngsters enrolling at lower rates and for fewer years, compared with White children and those from affluent families.[2] We will discuss what is known empirically about whether certain families prefer other forms of child care to formal preschool, or whether uneven enrollment rates stem from inequities in supply and public investment across neighborhoods.

Given the likely benefits of quality preschool and disparate levels of access, proponents of *universal preschool* are gaining support from many parents and policy makers. Four urban counties—Los Angeles, San Francisco, San Mateo, and Santa Clara—have allocated significant funding to widen access and advance preschool quality. The First 5 California Children and Families Commission is making a substantial investment in matching grants to aid universal pre-kindergarten (UPK) efforts, now largely guided by county governments.

This brings advocates and local policy makers to the questions of *how* to expand preschool effectively and *how* to finance new local initiatives. The federal government and many states have devised—since the mid-1960s—several policy mechanisms and institutional arrangements to extend preschool opportunities. Sacramento currently allocates about $3 billion annually for early care and education (ECE) programs, ranging from the regulated state preschool program to largely unregulated child-care vouchers. The decentralized structure of county-level First 5 Children and Family commissions is sparking innovative program designs as well. In short, policy options and organized forms of ECE abound across the state.

Return to Table of Contents

Several related questions arise: Which policy options and program designs should be pursued most vigorously? How can empirical evidence help to weigh alternative policies? In this review we focus on four policy questions that would benefit from clearer arguments and more careful consideration of the evidence—

- Should California taxpayers support *universal access* to preschool for all families, or instead focus public resources on families who cannot afford quality preschooling?
- To advance the *organizational foundations* supporting preschools, should programs be run by schools, or should the current mix of schools, churches, and community organizations continue to operate preschools? What are the benefits and risks associated with including family child-care homes?
- What are cost-effective ways of raising *preschool quality?* Boosting the preparation of teachers is part of this puzzle—but should government require two- or four-year college degrees and at what cost? Would these options significantly improve children's development?
- Should preschool staff be required to use *curricular packages* and organize classroom activities to address easily testable preliteracy skills? Should curricular packages encourage monolingual instruction in English? What are the benefits and risks of crafting preschool programs that are *culturally and linguistically convergent* with the families that program designers hope to attract?

Access to preschool remains quite unequal, with children of low-income families, and Latino and Asian American youngsters enrolling at lower rates than others.

Our review details evidence on each of these issues. We also highlight what is *not known* empirically. Some advocates of universal preschool are advancing claims for which the evidence remains unclear. This is not unusual in the annals of education reform. Stellar ideals and politically attractive claims often dominate policy talk—especially in the early years of a reform movement. At times the problems facing children seem so stark that advocates and politicians cannot wait for more research.

Yet as state and local governments embark on costly efforts to expand preschool access, the question of how to act in a cost-effective manner becomes ever more pressing. It is prudent to advance policy options, experiment carefully, and adjust policies and programs to advance children's early learning effectively .

SECTION 1

Backdrop — Preschool in California

The civic issue of how to provide families equal access to affordable, high quality preschools is not new. California and the federal government have mounted a variety of initiatives in early care and education (ECE) since the initial public investment in child care over half a century ago—spurred by the second world war and rising demand for the labor of young mothers.

Sacramento policy makers now allocate $3 billion each year for a patchwork "system" of early care and education programs.

Sacramento policy makers now allocate about $3 billion each year for a patchwork "system" of early care and education programs. This includes direct support of preschools, more broadly known as *center-based programs*, similar to Washington's support of federal Head Start. The other half of state spending for ECE goes directly to parents in the form of child-care vouchers—grants that parents can take to preschools (if an open slot can be found) or to kin members who care for their young children while parents are working.

As these various policy approaches and institutional forms of ECE have expanded, both in California and other states, evidence has been evolving on what strategies pay off for young children, in terms of their cognitive growth, school readiness, and social-emotional development. We first turn to the evidence most relevant to California's situation—illuminating the gaping holes in this patchwork of programs and funding streams.

The new advocates for universal preschool make important claims about *which children are likely to benefit* from more equal access to preschool. Claims also abound on *how best to organize* a new ECE system within counties or statewide. We detail below which claims are supported by evidence and where our empirical knowledge is simply too thin to support bold assertions.

Access

The *availability of center-based programs*—what we generically call *preschools*—expanded dramatically nationwide from the 1960s forward, driven largely by the unprecedented rise in mothers' educational attainment and entry into the labor force. This sparked demand for non-parental child care of all types, including the creation of preschools in the suburbs, financed through parental fees. At the same time, Great Society initiatives—including Head Start and the community-action movement—provided new federal dollars for preschools in low-income neighborhoods, along with broader support for community-based organizations (CBOs). These neighborhood organizations, in addition to many urban school districts, came to operate the state's vast network of preschools and child-care voucher programs funded by Sacramento.

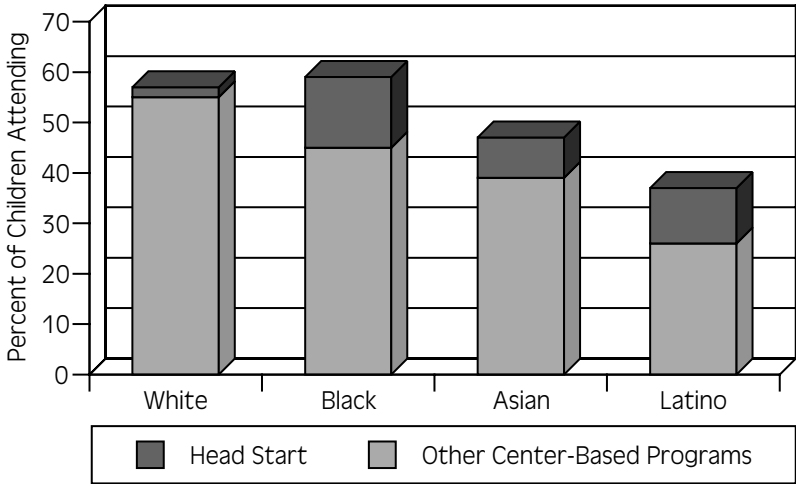
Return to Table of Contents

Historical data for California is limited, but the state has generally followed national patterns. The share of three- and four-year-olds in preschools rose from 21 percent in 1970 to 55 percent in 2002, according to the census bureau.[3] About 62 percent of all four-year-olds in California attended a preschool center at least part-time in 1997.[4]

Yet growth has slowed considerably in the availability of preschool slots for toddlers and preschool-age children since the mid-1990s, despite a fiscal boost in the wake of the 1996 welfare reforms. The number of slots for children 0-5 years of age grew from 13 to 14 per 100 children between 1996 and 2000, based on data provided by local resource and referral agencies.[5] This plateau in supply was observed despite the fact that state funding for child-care programs almost quadrupled between 1996 and 2002, rising to over $3.1 billion (excluding federal Head Start) before the state budget crisis led to cuts. The bulk of the earlier increase was allocated to child-care vouchers, supporting over 100,000 additional mothers moving from welfare to work each year during the late 1990s.[6]

Access to preschools is distributed unequally across California families, sometimes in unexpected ways. Center enrollment rates for California children, by ethnic group, are displayed in Figure 1.1 for 1997-98. Just 37 percent of Latino and 47 percent of Asian American children were enrolled in a preschool the year before kindergarten, compared to 58 percent of White children. This includes both Head Start and all other center-based programs, be they subsidized or supported through parental fees.

FIGURE 1.1 Percentage of primary enrollment in center-based and Head Start programs by ethnicity



Return to Table of Contents

Enormous progress has occurred in California since the 1960s in widening access to low-income families. We split the state's families into five groups based on income to display these gains. Looking at the lowest quintile of families (with a mean family income of $17,038 annually), we found that 23 percent of their children were enrolled in a federal Head Start preschool. Another 26 percent attended other centers, primarily state-subsidized programs. Thus, about half of all children from poor families are able to partake in a center program for some hours during the week in their year before kindergarten (usually at age four). If we turn to the highest quintile of families (with annual earnings of $118,570), we find that just over 80 percent of these children attended a center in their year before kindergarten.[7]

In many parts of California it is blue-collar families, not only the poor, who confront scarce supplies of affordable preschools. These parents typically are ranked low for public subsidies, even when eligible, yet do not earn enough to pay preschool tuition on the open market. One earlier study found that the availability of center slots for children, three- to five-years-old, is equally scarce for Los Angeles families who fall in the lowest two quartiles of family income. The poorest one quarter of families face 24 center slots for every 100 children, age three- to five-years-old; the next highest quartile benefits from just 29 slots per 100 children.[8]

National studies reveal a similar pattern: the supply of preschool centers is often higher in poor communities than in neighboring working-class or lower middle-class neighborhoods. Affluent communities typically display three to four times the number of preschool slots, compared to areas populated by families that earn less than the state's median income.[9] In fact, established low-income neighborhoods sometimes have sufficient supply of preschool slots—it is rapidly growing immigrant and blue-collar suburban communities that have the fewest options for young children.[10]

In many parts of California it is blue-collar families, not only the poor, who confront scarce supplies of affordable preschools.

Some ECE organizations display underutilized capacity, as seen in Los Angeles County. Despite long waiting lists in some parts of the county, preschools in other regions are not filled to capacity.[11] Even a few subsidized preschools have closed in recent years, since half-day programs do not meet the needs of parents who work full-time or irregular shifts. Thousands of vacancies also exist in licensed family child-care homes (FCCHs)[12].

We examine below policy options that emphasize free and universal availability for all families, versus targeting public resources on those who face the greatest access barriers. Two points are important to emphasize at this juncture. First, Sacramento has made remarkable progress in extending access to low-income families since the early 1970s. Targeting funds on the poorest communities has yielded dramatic gains in child enrollment rates.

Second, we need to learn more about the relative constraints facing blue-collar and many middle-class families. We know that supply can be comparatively low in their neighborhoods. What we do not know is how various groups in these suburban areas would respond if additional preschool slots (or other child-care options) became available.

Return to Table of Contents

Quality

The new advocates for UPK are pushing to expand the number of preschool slots and raise quality simultaneously—for all children. Existing evidence suggests that focusing public investment on quality is warranted. We know that the quality of preschools is widely uneven across the state, linked to varying training levels of classroom staff and two different sets of state quality regulations.

The good news from recent studies is that publicly supported preschools, which operate under Sacramento's more demanding Title 5 quality standards, do display fairly high levels of quality, at least in terms of smaller class sizes and higher staffing ratios.[13] One survey of directors in three California counties found that quality indicators ranged higher for preschools that received support from Sacramento, compared with centers supported entirely by parent fees. This may have been due to the fact that subsidized centers operate under the more stringent Title 5 regulations, compared to those preschool centers that fall under less demanding Title 22 quality standards.[14]

This pattern—revealing the efficacy of central quality standards and local monitoring—is mirrored in multi-state studies. For example, Phillips and colleagues found that "structural" measures of quality, such as teacher qualifications, ratios inside classrooms, and salary levels are stronger in preschool centers situated in lower-income communities, perhaps due to targeted public support, compared with centers that operate solely on parent fees.[15]

A nationally representative sample of preschool centers yielded somewhat differing findings. The ratio of children to staff inside classrooms was lowest in centers that received no public support, compared with partially and fully subsidized preschools. Teacher qualification and salary levels were highest in preschools situated in public schools. Fully subsidized preschools reported the strongest formalization of curricula and classroom activities and parent participation, compared with fee-supported centers.[16]

Another multi-state study of quality discovered moderate to high levels among preschools serving low-income families in San Francisco and Santa Clara counties, compared with similar communities in Connecticut and Florida. These differences appeared to be linked to more stringent quality regulations and higher reimbursement rates in California programs.[17] The quality of centers contributed to higher growth trajectories in children's cognitive and school readiness skills.

Large gaps in our empirical knowledge exist when it comes to which *alternative investments* in quality cost-effectively pay off.

In addition, the earlier *Cost, Quality, and Child Outcomes* study included observations of center-based programs in California, drawing on a sample of non-profit and for-profit programs (just eight percent of which operated in public schools or colleges).[18] These California centers displayed significantly higher quality than those randomly sampled in Colorado, Connecticut, and North Carolina on several indicators, although three-fourths were judged as "mediocre" in quality by the research team.

In California we know much less about the quality of non-subsidized, fee-supported centers. Earlier studies show that such programs situated in working-class communities, often hosted by for-profit firms, typically display lower quality than those located in affluent communities.[19] This stems from the linkage between parental fees and teacher wages: small preschools serving blue-collar and middle-class families simply cannot charge fees that are sufficient to pay adequate wages and attract better-trained teachers.

High quality preschools have displayed encouraging gains in early language and cognitive development for children from poor families.

Large gaps in our empirical knowledge also exist when it comes to which *alternative investments* in quality cost-effectively pay off in terms of stronger teacher effectiveness and child outcomes. We examine below how UPK advocates are logically focusing on the forms of training received by classroom staff, emphasizing college credentials as proxies for stronger skills and more caring and nurturing behaviors with children. It may be that smaller class groups or fewer children per adult in the classroom would boost child development more cost-effectively. But such evidence necessary to weigh policy options is thin. In sharp contrast, the scholarly field of school effectiveness in the K-12 arena, over the past four decades, has made progress in identifying the classroom factors and human processes that pay off more consistently than others.[20]

Benefits

Given this uneven level of quality across centers, empirical findings are mixed in gauging the effects of preschool on children's development. The significance and magnitude of benefits depend on features of the children enrolled, the domain of child development that is assessed, and program quality.

Children from poor families attending high quality preschools have displayed encouraging gains in early language and cognitive development—a finding replicated across many studies since the 1970s.[21] The Perry Preschool experiment is one example of an intensive and carefully controlled program—center-based yet including extensive work with parents through home visits—delivered to a small set of families.[22]

Studies drawing from more representative state or regional samples of preschools yield more modest and mixed effects on children's cognitive development, compared with controlled demonstration programs. Benefits on cognitive growth still appear to be significant for children from low-income families, especially when program quality is moderate to high.[23] Effects on social-emotional development appear to be negative when detected, even for children from poor families, although the measurement science is primitive.

For children from middle-class families the discrete effects of preschool attendance—even on cognitive development—appear to be modest overall. The most recent confirmation of this claim, based on a large national sample, stems from the ambitious study of child care conducted by the National Institute of Child Health and Human Development (NICHD).[24] This does not rule out stronger benefits for middle-class children if quality gains could be realized.

Return to Table of Contents

However, reaching an upper limit on cognitive gains experienced by children from middle-class families may be closer than advocates assume.

Under some demographic conditions in some states, cognitive gains for middle-class children may be significant. Recent results from a representative sample of California families suggest that children of the middle class may benefit from early and steady exposure to preschools, even under the condition of highly variable program quality.[25] Researchers analyzed cognitive proficiencies and social behavior of over 2,300 five-year-olds early in their kindergarten year. Analysis of this unprecedented data set—the California subsample of the Early Childhood Longitudinal Study (ECLS-K)—led to several important findings:

We know little about the quality of fee-supported programs—those serving large numbers of working-class and middle-class families.

- Over 80 percent of the gap in fourth graders' reading scores observed between Latino and White children is already apparent in young children's kindergarten year.
- This gap in children's cognitive growth may be partially closed by their enrolling in preschool by age three and attending regularly. In fact, those who entered early and attended consistently were about four months ahead developmentally (in the cognitive domain), compared to children who did not attend a preschool.
- The benefits of preschool enrollment on cognitive and school-readiness skills are found across demographic groups. Children from low-income families benefit the most in terms of pre-literacy skills, such as acquiring knowledge of the alphabet and familiarity with storybooks. Even middle-class children displayed significant gains from entering preschool early and attending steadily through age four.
- Attending centers for over 32 hours per week was associated with slightly elevated levels of aggressiveness and crankiness by children. This replicates a finding from the NICHD study and highlights the importance of raising preschool quality.[26]

This recent California study differs from the past research which failed to detect distinct cognitive benefits for children from middle-class families. Are these new findings an aberration, or do the demographic and home contexts of California families offer particular conditions under which middle-class benefits of preschool become significant?

One possible explanation is that the composition of California's middle class differs dramatically from most other states. After grouping the California family sample into the five income groups discussed above, Margaret Bridges and her colleagues focused on the third quintile—the fifth of families clustered around the median household income (equaling $50,935 for this sample of families with young children).

Almost half (47 percent) of these strictly defined middle-class families are Latinos in California. While most are English speaking, pre-literacy practices in the home have been observed to be less steady and more varied than practices of middle-class White parents.[27] This may create the conditions under which early and consistent exposure to preschools yields stronger gains related to school readiness.

Another explanation of these middle-class effects is that the quality of center-based programs may be stronger in California, due to more stringent quality standards and a stronger state investment. Indeed, the earlier study of center effects in San Francisco and Santa Clara counties showed that both exposure to preschool centers *and* higher levels of quality yielded additive benefits for cognitive growth among poor children.[28] Yet we know little about the quality of fee-supported, non-subsidized programs—those serving large numbers of working-class and middle-class families across the state.

Future research that attempts to identify which children benefit from preschool programs must address the problem of selection bias. As we detail below, earlier investigators wrongly attributed children's higher cognitive proficiencies to preschool exposure without carefully considering parenting practices, which influence their selection of a preschool and child outcomes.[29]

SECTION 2

Should Californians Support Universal Access to Preschool?

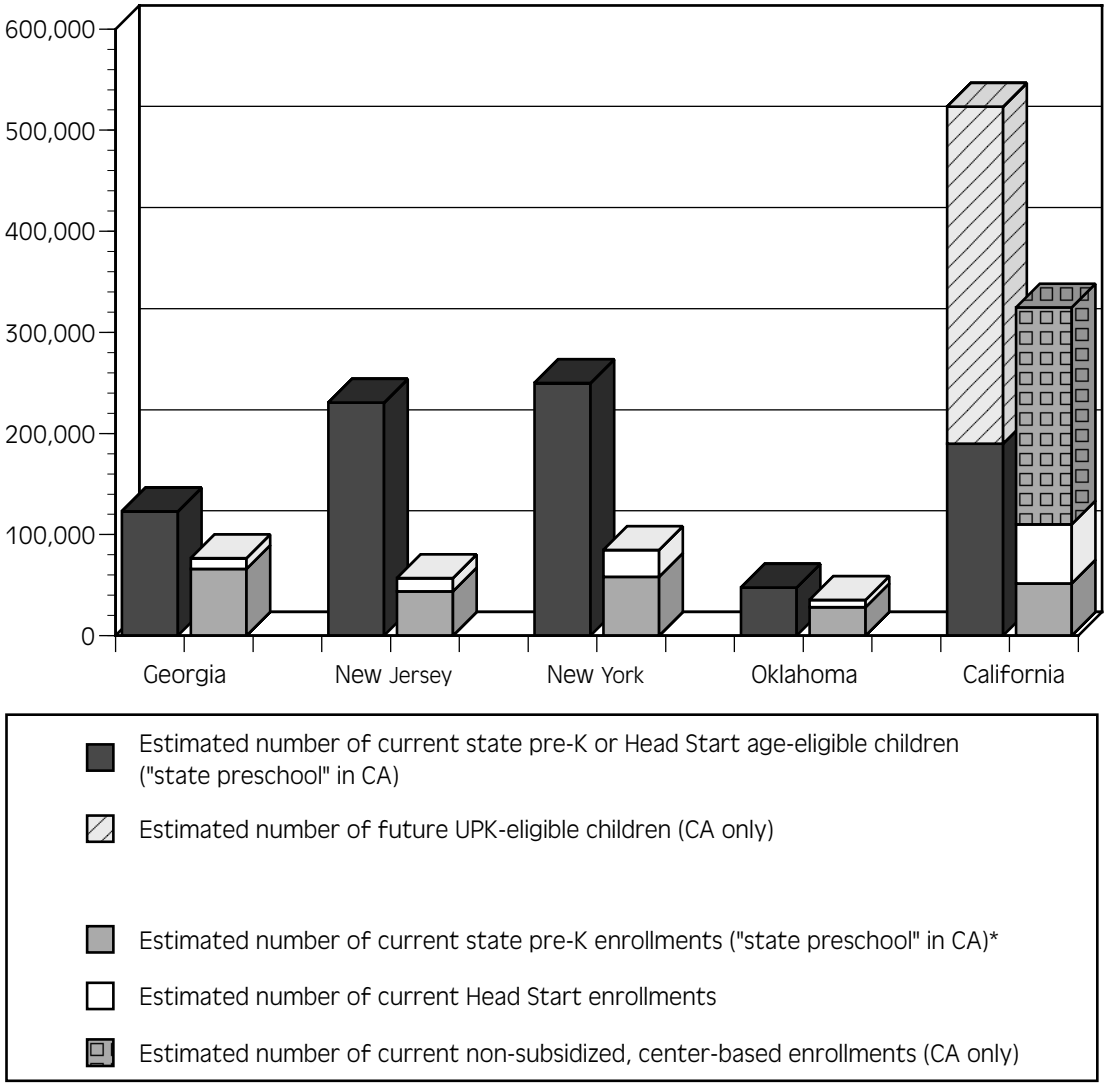
California has steadily expanded preschools and center-based programs over the past three decades. It was state schools chief Wilson Riles who, in the early 1970s, championed the ECE cause, creating a state preschool program (following the comprehensive services model of Head Start). Riles also began to expand aid to school districts and CBOs operating centers, a network that now involves contracts with 1,300 different local agencies.

Governor Pete Wilson later boosted Sacramento's investment in preschooling in the 1990s. Then, dramatic reform of family welfare in 1996 and 1997 sparked large increases in child-care spending by Sacramento. Many of these new dollars went to families in the form of portable vouchers, often supporting informal child-care providers, not formal preschools.

The California education department estimates that in 2003 some 51,575 four-year-olds were enrolled in either a publicly supported preschool, or a half- or full-day program. Many additional children attended non-subsidized preschools which were located in middle-class and affluent neighborhoods supported through parent fees. Figure 2.1 displays the count of young children—for California and other states—who are age-eligible to enter the state's pre-K program, actual enrollments, as well as enrollment counts for federally funded Head Start preschools. [30]

Return to Table of Contents

FIGURE 2.1 Children eligible for state pre-K or Head Start and state enrollment levels.



* In California, state preschool is currently not universal; New Jersey targets particular districts.

California has an estimated 523,425 four-year-olds; of these children, we estimate that 189, 931 four-year-olds are currently eligible for publicly subsidized programs, while about an additional 333,494 children could potentially enter a universal preschool program.[31] For California, approximately 51,575 four-year-olds attend state preschool and 58,700 attend Head Start. From PACE's work with the federal 1997 ECLS-K data set, we estimate that about 214,249 additional children attend some other type of (non-subsidized) preschool.[32] In total, the current preschool infrastructure serves about 62 percent of all California four-year-olds.

Note that it is difficult to compare enrollments in programs across states, since age and family eligibility standards differ. Still, enrollment rates vary considerably in terms of the share of three- and/or four-year olds actually enrolled in preschool relative to the total population.

Return to Table of Contents

TABLE 2.1 Percentage of children in non-school and school-based settings

State	Percentage of Children in non-school Pre-K Settings	Percentage of Children in School Pre-K Settings
Alabama	58%	42%
California	23%	77%
Connecticut	85%	15%
Georgia	57%	43%
Iowa	46%	54%
Kentucky	5%	95%
Massachusetts	72%	28%
Michigan	19%	81%
New Jersey	68%	32%
New York	63%	37%
North Carolina	54%	46%
Ohio	89%	11%
Washington	42%	58%

The Center for Law and Social Policy (CLASP) recently examined state preschool programs situated in non-school settings.[33] Table 2.1 displays the percentage of children in non-school and school-based programs. In California, CLASP reports that an estimated 23 percent of children attend non-school pre-K programs. This number underrepresents the number of CBOs providing preschool since it does not include "general child care"-funded CBOs—those contracted to run centers regulated under Title 5.

Advocates for a free and universal pre-kindergarten system hope to move beyond the diffuse network of small-scale organizations and individuals which currently offer child-care services.[34] We have summarized above the problem of unequal access to preschool and persisting concerns over uneven quality. In addressing these problems, the creation of a unified—perhaps more standardized—preschool *system* represents one policy option.

The question of how to build a system becomes more complex when considering the decentralized nature of county First 5 Children and Family Commissions—the county agencies that currently hold fungible public resources via tobacco taxes. A pressing issue deals with whether each county should engineer its own system, perhaps reinforced by future decentralization of existing programs now centrally controlled by Sacramento. Or, should the state continue to regulate quality and categorical funding flows, largely bypassing county government? Another option is to hand preschooling over to local school districts, essentially extending public education down to four- and potentially three-year-olds. A related option is to involve county offices of education.

Return to Table of Contents

Let's break down the broad issue of a universal system into a few basic parts. Then, we review how the extant empirical evidence informs the component questions—

- Should taxpayers support *all* California families who enroll their three- or four-year-old children in preschool? Or, would public monies be better targeted on families who cannot afford or find a preschool in their neighborhood? The present section focuses on these questions.
- Is a unified system operated from Sacramento, or at the county or school-district level, the best way to organize preschooling? Would a more centralized governance structure lead to greater standardization of classroom practices, language of instruction, and philosophy regarding how children should be cared for and instructed?

  An alternative policy would be to build from the existing mix of schools, churches, and community organizations which currently operate preschools. These issues are addressed in section 3.
- Who would teach and staff a rising number of preschools? As the field becomes more "professional" and better-funded, what kinds of teachers may be excluded and what kinds of teachers will be included? This holds implications for how attractive preschools may, or may not, become among California's diverse families. These questions are addressed in section 4.
- How should preschool be structured for California's diverse famililes? Building an integrated system of preschools implies formalization of the classroom curriculum, raising expectations for pre-literacy skills, moving learning standards down into preschools, and possibly teaching only in English.[35] These issues are discussed in section 5.

Universal Preschool at Public Expense?

State and local governments in California are moving ahead on policies aimed at widening access to preschool. This could take the form of a universal system—like the one envisioned in the revised ballot proposition put forward by Rob Reiner. Or, government could build from the progressively targeted finance system currently in place—where public funds support preschools in low-income communities.

It is difficult to accumulate empirical evidence that precisely weighs the costs and benefits of these policy alternatives. We can, however, clarify the arguments and draw on historical evidence from how public schools are financed, including who pays and who benefits.

Analysts at the pro-UPK National Institute for Early Education Research (NIEER) have developed the following arguments in support of a universal system:[36]

- Many children who currently do not qualify for public preschool would benefit from inclusion in a universal system. The long-term cost of not serving these children, including those from middle-class and affluent families, exceeds the cost of extending eligibility to them.
- The quality of programs serving the poor is generally low. A universally available system would raise quality, since it would not be narrowly linked to Head Start or welfare services for low-income families.
- A universal system—defining preschooling as a *public good,* just like public schools—would spark wider political will and popular support.

In the California context, we can set aside the second and third claims. We have shown that in California, the quality of centers in low-income communities appears to be moderate or high, at least for those programs funded and stringently regulated by Sacramento. This is not necessarily true in other states where quality standards are weak and support of local infrastructure for center-based programs is lacking. Concern does persist over the quality of federal Head Start preschools; yet a state-financed preschool system would not likely absorb Head Start.

The third argument is really about political strategy, not a claim that can be informed by evidence on whether a universal system would advance child development. The state First 5 Commission has sponsored two polling exercises in recent years. Asking parents about starting their children in school one year early (a preschool year) yields more favorable responses than calling it child care. That is helpful to know. But it does not inform the empirical question of whether or not a universal system—essentially moving kindergarten down to age four—would be equitable or effective for a broad spectrum of children.

Who Pays, Who Benefits?

Preschool advocates can learn from historical efforts to equalize the financing and raise the effectiveness of public schools. California's success in lowering class size in kindergarten through third grade, for example, has been very popular and expensive, costing taxpayers about $1.6 billion annually. Yet, class size funds do not move through any equalization mechanism in Sacramento: wealthy school districts receive the same allocation as do poor districts. The state's long-term evaluation of class-size reduction found negligible benefits on test scores and no evidence of narrowing achievement gaps.[37]

An alternative policy would build from the existing mix of schools, churches, and community organizations that currently operate preschools.

Indeed, California's history with school finance reform offers lessons regarding the risks of making public initiatives universal, rather than progressively focusing first on children who face the highest hurdles. Whether debating K-12 or preschool financing, we must take into account which children benefit from the expansion of "public goods" *and* who pays the bill.

The recent PACE-LMRI findings on preschool effects for middle-class children lead to related policy junctures. First, what are the relative benefits of widening access to blue-collar, middle-class, or affluent families, compared to first ensuring that low-income families can find an

affordable, high quality preschool? Second, from a financing standpoint, should taxpayers support wider access for a broader range of families, including parents who can afford to buy preschool on the open market?

Affluent parents enroll their children in preschool at higher rates and at younger ages, relative to children from poor and blue-collar families. So, unbridled expansion could actually widen early gaps in learning, not close them. And if everyone is moving up, preschool could reinforce, not close, disparities in early learning. This is one lesson from California's effort to reduce class size in the early grades.

Preschool advocates can learn from historical efforts to equalize the effectiveness of public schools.

We also have seen how parents in better-off communities are willing to tax themselves more heavily to backstop the leveling-off or reduction of state spending on their local schools, via school foundations, parcel taxes, and local bond issues. The same dynamic is likely to unfold if UPK was implemented in a non-targeted way: Wealthier parents might continue to pay out-of-pocket to raise quality and compete for stronger teachers, further exacerbating early developmental gaps among children from affluent, middle-class, and poor families.

The distribution of likely benefits also must be compared against which families would pay for a UPK system through higher taxes. The tax burden currently placed on California's families is not equitably distributed. The lowest fifth of households in terms of income—those earning under $27,000 in 1998—paid 12.1 percent of their income in state and local taxes (excluding federal income taxes). The top five percent of households, earning over $186,000 annually, paid 7.8 percent of their income in state and local taxes.[38] If the cost of preschool expansion was borne by the state general fund, it could be regressively financed. Current discussions of ballot initiatives—either to backstop K-12 finance or to expand preschool—include mention of so-called sin taxes. On top of tobacco taxes, such revenue increases could make the state tax structure even more regressive.

The risk is that UPK advocates could find themselves in a position of supporting tax increases on low-wage and middle-class Californians to subsidize new preschools—which if allowed to grow haphazardly, would disproportionately benefit children of affluent parents. Private spending among better-off families would be discouraged, while lower-income taxpayers would now be supporting preschool expansion in affluent communities.

Another policy approach was contained in the earlier CTA-Reiner ballot initiative: moving property taxes back to a "split role" system where private corporations pay a higher rate on assessed value than that levied on homeowners. Property taxes in California remain below the average rate set by other states, equaling two and one-half percent of state personal income.[39]

Yet another option, initially exercised by Georgia, would finance wider access to preschool but charge parents on a sliding scale to ensure a more fair distribution of the tax burden. This is how the allocation of student financial aid is determined by Sacramento (under the state's Cal

Grant program), tied to financial need and parental income and assets. The Los Angeles UPK program includes fees for upper-income families.

Georgia also targets expansion dollars on communities where less than half the preschool-age children are enrolled in a center-based program.[40] New Jersey employs a similar approach under the Abbott court order, which mandates the provision of free preschools in the state's poorest school districts.

Oklahoma's financing of preschool programs, based largely in the schools, operates under a weighted student formula through which districts enrolling learning disabled, English learners, and four-year-olds receive a higher capitation grant for each child. This has the effect of concentrating funds in districts serving lower-income rural families and communities with declining student counts.

Targeting Resources on Families with Limited Access

The first argument expressed by NIEER in opposition to earmarking preschool funding holds the most relevance for California. The pitch comes in two parts: children from middle-class and affluent families would benefit from quality preschools, and policies focused on low-income families are inefficient.[41]

UPK advocates could find themselves supporting tax increases on middle-class Californians to subsidize new preschools that benefit children of affluent parents.

Extending public support to all—including affluent families—would not necessarily be efficient from a public investment standpoint. Over 80 percent of children from affluent families—those in California's highest income quintile—already attend preschool. So, these children currently reap the gains of preschool exposure, often through high quality programs, without imposing any burden on taxpayers.

Advocates point out limitations of child-care and preschool funding streams that target resources mainly on the poor. Careful targeting does lead to bounded "categorical programs", replete with complex eligibility criteria, centralized regulation, and duplicative monitoring activities. Legislators and governors, over time, target programs in myriad ways. Sacramento, for example, now administers over 20 different funding streams for contracted preschools, general child care, campus programs, and parent vouchers. The administrative bureaucracy grows, as does confusion among families.

Eligibility rules provide that a California family can earn up to 75 percent of the state's median income (or about $31,000 yearly) and receive public child-care or preschool support. In reality, dollars are rationed to the most needy families first, falling short of aiding all "eligible" families. Just over 156,000 children under 5 years of age were supported by public child care or state preschool programs in 2004 (excluding state welfare "stage 1" vouchers and federal Head Start enrollments). Parents report much confusion over the program(s) for which they qualify

and how to obtain steady child-care support.[42] Many eligible parents never express demand for support, despite erratic attempts by the state to raise the subsidy take-up rate.[43]

A related problem is that blue-collar and middle-income families—faced with scarce, costly, or low-quality preschools in their immediate community—may see public preschools expanding for poor children just a few blocks away. This represents a problem of equity and may well undercut political support for government involvement in the child-care arena.

The ideal system from a parent's vantage point would be a single and inviting point of entry—be it a local government, school, or community organization.

The ideal system from a parent's vantage point would be a single and inviting point of entry—be it a local government, school, or community organization—through which an enrollment slot or voucher could be obtained. Some counties are experimenting with a unified eligibility list, where all applicants are put into a common computer file and matched with openings. But until funding streams and eligibility criteria are streamlined in Sacramento—perhaps decentralized to a single county-level agency—parents will experience confusion.

The dilemma for policy makers is how to widen access to quality preschooling for families—those earning up to the state median income or for the strictly defined middle class—while avoiding a costly entitlement for affluent families who can afford to pay. In light of competing demands for scarce state funds—from child health insurance, local government, and K-12 education—it becomes more difficult to argue that public dollars should replace private spending for preschool.

Systems Thinking and Family Diversity

The question of whether government should run a *universal preschool institution* brings into focus key philosophical and organizational issues. Many agree that the current early care and education "system" is far from any such thing. Instead, it is a crazy quilt of disparate funding streams, regulations, and family eligibility requirements.

One tempting policy option is to move all preschool and ECE programs to school districts or county offices of education, perhaps decentralizing oversight of schools and CBOs that operate preschools. At least two in five public centers are currently run by CBOs, not schools, and this share is much higher in affluent suburbs with strong nonprofit organizations.

As policy makers and advocates consider this present mix of preschool organizations, several questions are being asked:

- Should the thousands of CBOs and churches that operate preschools in California give up their programs serving four-year-olds? Other states, including Georgia, and New Jersey, are striving to raise the quality of all programs, be they situated in CBOs or schools. What is the *comparative effectiveness* of these tandem sets of preschools?

Return to Table of Contents

- A preschool system run by school authorities would be under pressure to create classrooms that prepare young children for *standardized tests.* Indeed, UPK advocates promise that expanded access will boost school readiness and achievement in elementary school. The decentralized nature of preschooling now offers parents choice of—and staff discretion over—the *educational approach* that is pursued.
- A parallel concern is whether centralization would lead to *English immersion* for three- and four-year-olds. The formalization of the pre-K curriculum in the Los Angeles Unified School District, for example, emphasizes English language development (detailed below). This may fit the preferences of some parents but not others.
- The issue of who governs new UPK systems—centered in counties or Sacramento—prompts *cultural and moral questions* around who should be granted public authority over the care of California's diverse young children. Some advocates are talking about a UPK institution that is culturally responsive and which meaningfully involves parents.[44] However, the drive to "professionalize" teachers and formalize the curriculum could lead to standardization.

The present array of providers offers some parents a variety of ECE options from quality preschools. Yet, this mixed-market arrangement has failed to strengthen the preschool infrastructure in some communities and at times results in uneven quality, as discussed above. Moving from parental choice to a system run by government or professional "experts" holds risks as well. Recent K-12 reforms that advance small, autonomous schools—such as, charter schools—may offer important lessons for UPK advocates.

The new preschool advocates are eager to build something new. Little discussion is heard about the $3 billion in program funding already in place. Los Angeles County, for instance, will be funding preschool hours for existing children or new enrollees, nested within existing centers and licensed homes. UPK, in essence, may become yet another categorical effort, nestled in the complicated array of existing programs.

On the other hand, UPK may provide the platform to advance county-wide quality standards, such as, teacher qualification levels. But as long as Sacramento sets quality regulations and reimbursement levels (thus wage levels), county efforts will remain constrained and points of entry for parents complex. Advocates might devise a more clear strategy for rationalizing the maze of existing state programs, complementing their campaign for new funding streams at the county level.

Summary — What We Know, What We Don't Know

Current discussions around building a "system" or centralizing the governance of preschooling tend to emphasize the benefits of standardization and greater uniformity. This may be true when it comes to raising certain quality standards across participating organizations—provided that new quality indicators are actually empirically associated with gains in children's development.

Return to Table of Contents

We have learned several lessons regarding the notion of system building. First, leading UPK states differ in their affection for a mixed market of providers. Georgia and New Jersey have embraced community programs, while Oklahoma is moving more slowly toward contracts with CBOs and Head Start, instead relying mainly on local school districts.

Second, expansion of free preschools could disproportionately benefit more affluent families—since these parents already enroll their children at higher rates and at younger ages, compared with children from lower-income families. UPK policies that substitute public dollars for private spending could exacerbate regressive financing of early care and education.

Focusing dollars on families and communities with scarce access to preschool or low quality programs and guarding against regressive tax burdens, would advance the progressive character of preschooling both in who pays and who benefits.

Third, creating a new program without recasting the current $3 billion in state-run programs could be short-sighted. Unless existing categorical programs in Sacramento are consolidated and simplified for parents, counties will remain constrained in their efforts to make the ECE system more accessible and fair.

SECTION 3

Are Preschools Run by Schools Most Effective?

We are learning more about the qualities and comparative effectiveness of school- versus CBO-based preschools and how both sectors attempt to fill certain niches. This research originates from large samples of preschool organizations, including recent evaluations of UPK efforts in other states. We also review what is known about the quality of licensed child-care homes (FCCHs), as California counties begin to include them in local UPK systems.

Initial evidence has shows that preschools run by school districts tend to attract and retain more highly credentialed teachers, compared with programs run by CBOs. The federal government sponsored a national survey of preschool centers over a decade ago, yielding rich data on teacher attributes and alternative indicators of quality.

TABLE 3.1 Quality of child-care center by type, 1990 - National U.S. Department of Education Survey

Type of Center	Teacher qualifications		Child : staff ratios for child groups ages 3-5		Parent participation index
	2-year college degree only (%)	High school plus child development courses (%)	Child : teacher ratio	Child : adult staff ratio	
Nonprofit					
Head Start[a]	24	30	16.4	8.4	7.0
Public school[b]	10	3	13.7	7.5	3.5
Church[c]	27	22	12.0	8.4	2.8
Independent[d]	27	21	12.4	8.3	2.4
For Profit[e]	31	33	12.0	9.1	1.8

Sample Sizes: a.n=231, b.n=280, c.n=233, d.n=471, e.n=556. Source: Kisker et al. (1991).

Table 3.1 displays quality indicators for center-based programs by organizational auspice in 1990, stemming from this large sample of centers.

We see that teachers employed by school districts are more highly qualified in terms of formal education than those employed by other programs. A *lower* share reported they had only acquired a high school diploma and some child development courses (three percent) or a two-year community college degree (10 percent). The remainder, 87 percent, reported having more than two years of college.[45] In contrast, among teachers working in independent nonprofit centers, 21 percent had only acquired a high school diploma and some child development training, and another 27 percent reported having attained a two-year degree (48 percent total). Thus 52% had more than two years of college. We will return to the question of whether college degrees help to predict child outcomes, but this gap in exposure to highly educated teachers is notable.

Other quality indicators did not differ markedly between school- or CBO-based centers. The overall ratio of children to employed teachers was *higher* in school-based centers, compared with both Head Start and independent CBO centers. Classroom-specific staffing ratios remained lower for both Head Start and CBO centers, compared with school-based programs. Higher ratios generally predict stronger developmental outcomes for children from low-income families.

The apparent strengths and weaknesses of different subsectors—school- or CBO-based preschools, Head Start versus state-funded programs—depend on the quality indicators on

Return to Table of Contents

which we focus. Certain sectors, especially Head Start, have focused on collateral aims, such as recruiting aides from the community and moving them into lead-teacher roles.

More broadly, we know very little about which indicators of "quality" actually relate to more effective teaching practices for which particular children. Child-care researchers have been understandably preoccupied with demonstrating the magnitude of benefits stemming from ECE programs since the 1960s. Only recently have scholars begun to ask about the comparative effects of different quality ingredients, from class size to staffing ratios, to teaching practices and curricular options.

Findings from Georgia and New Jersey

Recent evaluations of state UPK programs provide important findings on the question of comparative effectiveness, although the frequency and methodological rigor of state evaluations remains disappointing.[46] Sound work in Georgia and New Jersey is identifying the facets of quality that help to predict children's developmental trajectories.

In Georgia, across 11 cognitive and three social-behavior measures, the researchers found just one significant difference between children attending preschool in a CBO or public school.

Georgia's evaluation was thoughtfully designed to compare the quality and effects of three sets of preschools: those funded by the state pre-K program (still heavily targeted on lower-income families), Head Start preschools, and private or independent centers.[47]

Contrasting features of the sectors are intriguing. Among children attending Georgia's pre-K program, 49 percent are White and 41 percent African American. This compares to Head Start where 31 percent are White and 57 percent African American. Independent centers serve more White, middle-class communities: 64 percent of their enrollees are White and 26 percent are African American. This third sector clearly serves more advantaged families: 49 percent of the mothers selecting independent centers hold Bachelor's degrees, compared to 29 percent and five percent of mothers who selected Georgia pre-K and Head Start programs, respectively.[48]

Preschool teachers are better credentialed in Georgia pre-K centers: 54 percent of the lead teachers have attained a Bachelor's degree and another 26 percent have completed some graduate work. This compares to just 20 percent of the independent center teachers with BA degrees and five percent with graduate training. In Head Start preschools, just 13 percent have attained a BA and none have pursued graduate training. The average ratio of children per teacher is lower in Georgia pre-K, compared to the independent centers, although the average class size is higher in the former sector.

Overall, these patterns mirror findings from other states: we see children from lower-income families entering centers where teachers appear as well or better credentialed than teachers found in (non-subsidized) programs serving blue-collar or middle-class families.

Three-fourths of Georgia pre-K teachers are White and 22 percent African American, quite similar to the ethnic profile of teachers in the independent centers. Among Head Start teachers, 69 percent are African American and 28 percent White. One important policy question—with clear implications for California—is whether the precipitous growth of programs in middle-class communities discouraged the preparation of a more diverse workforce, reinforcing de facto segregation of children between state and federal preschool systems.

Less than one-third of Georgia pre-K programs operate within a public school, according to the state evaluation, and fully two-thirds are situated within a CBO. Auspice made no difference in terms of children's development. Participating children were tracked over one year of preschool (typically at age four) and through the end of kindergarten. Across growth on 11 different cognitive proficiencies and three social-behavior measures, the researchers found just one significant effect from whether children attended a Georgia pre-K program in a public school or CBO. Attending a school-based program was associated with slower growth in expressive vocabulary, compared with children who attended a CBO preschool.

Similar results were reported by researchers in New Jersey who tracked successive cohorts of children over a year of preschool. These youngsters participated in the near-universal preschool program which serves families residing in the 30 so-called Abbott school districts, those subject to court-ordered school finance reforms, which includes public provision of preschool.

This research team found no consistent differences in children's growth between those attending school versus CBO-based programs.[49] Over two-thirds of all children in the Abbott program currently attend a CBO-based preschool.

The second-year follow up did find some differences, depending upon the specific child proficiency assessed. For instance, English-speaking children attending school-based programs scored higher in English vocabulary, compared with English-speaking children attending CBO-based programs. But Spanish-speaking children scored significantly higher on Spanish vocabulary after their year in a CBO program, compared with children in school-based programs. This suggests that CBO preschools may be more responsive to Latino communities, at least in terms of language development. Still, the preschool's auspice made little difference in explaining variation in the rate of children's cognitive or social-emotional development.

Along certain quality indicators CBO preschools lagged behind school-based programs. This included lower scores on the Early Childhood Environment Rating Scale (ECERS), conducted during the 2000-2001 school year.[50] Yet the researchers detailed wide variability among program quality *within* each subsector. Average quality differences between school and CBO programs appeared to be small, of insufficient magnitude to explain variation in children's development.

A recent evaluation of Oklahoma's preschool program may eventually inform the auspice question as well. Local school districts oversee each preschool site, but 18 percent of participating children are enrolled in programs operated by CBOs or Head Start sponsors which agree to meet the state's quality standards. This includes the YWCA and blended full-day programs situated in Head Start preschools.[51]

Return to Table of Contents

Another policy option—aiming to reach diverse families who might not otherwise choose an organized child-care setting—is to include licensed family child-care homes (FCCHs) within a universal preschool network. Los Angeles County is experimenting with such inclusion, and the current UPK plan in San Francisco does as well. The L.A. decision may be wise, given the significant number of vacancies within existing FCCHs and the popularity of this form of organized care in many neighborhoods. Over 1.3 million children nationally, under five years-old with an employed mother, were enrolled in FCCHs in 1997, according to the census bureau.[52]

On the other hand, little is known about the quality of FCCHs overall. In general, these human-scale organizations display lower quality in terms of adult education levels and the structured character of children's activities. Yet the quality of child-adult interactions are not consistently found to differ from those observed in preschool centers, and higher quality FCCHs do yield significant cognitive gains for children from low-income families.[53]

Summary—What We Know, What We Don't Know

Few differences in children's outcomes have been found to date between preschools operated by school districts and those run by CBOs. Varying levels of college-level training persist nationwide. Yet pioneering UPK states have established uniform quality standards under which both subsectors operate local programs. This may help to explain why significant differences in quality indicators and child development have been difficult to detect.

Various facets of quality are likely more influential than a preschool's organizational auspice. Researchers have, in recent years, associated quality and other indicators to children's developmental trajectories, including the ratio of children to adults in the classroom and teacher education levels.

But we know little about the influence of other quality indicators, especially teaching practices, or the comparative cost-benefit of investing in one preschool "input" over another. As some California counties begin to implement tiered reimbursement plans, contingent on meeting quality indicators, this lack of empirical knowledge is troubling. The new LA UPK program, for instance, will be allocating more dollars per child to preschools that employ more teachers with BA degrees—despite scarce evidence that this level of credential actually boosts children's developmental trajectories. Counties and the state may end up investing millions of dollars in "quality improvements" that fail to benefit children.

SECTION 4

What Are Cost-Effective Ways of Raising Preschool Quality?

Children's early language and cognitive growth advances more robustly when in the care of better-educated adults. This claim has received ample empirical support, as researchers have studied a variety of children, situated in home and child-care settings over the past three decades.[54]

What we don't know empirically is: (1) what level and type of college training pays off for children's development; and (2) whether college credentialing yields skilled *and* caring adults who are responsive to culturally diverse ways of raising young children. Several studies have shown that specific training in child development yields significant returns, whether embedded in a degree program or not, as detailed below.[55]

Ratcheting-up credential requirements would raise costs and drive some teachers of color out of the profession.

Some UPK advocates and allied researchers have begun to claim that research says preschool teachers with a BA degree will boost children's early learning. In fact some counties are moving toward higher reimbursement rates for preschools that employ more BA-level teachers, as with the Los Angeles initiative. But a careful reading of the empirical literature finds that broad claims about the discrete effect stemming from the acquisition of a BA degree can not yet be substantiated. And Marcy Whitebook argues in a recent review, "We do not yet understand precisely what we gain from the BA over the AA… or what value is added with an advanced degree."[56]

About one-third of all preschool teachers have attained a BA degree nationwide, although estimates vary. Teachers in federal Head Start programs are less likely to have a BA degree. Here too, estimates have ranged from 26 to 37 percent.[57] Twelve of 33 states with preschool programs require lead teachers to complete a four-year degree, which implies higher wage costs for pre-K programs.[58]

The policy option of requiring the BA degree may hold political appeal—symbolizing that the status of preschool teaching is on the rise. And, as some advocates argue, preschool teachers should become more like public school teachers for equity reasons. The evidence, however, is not clear that a BA mandate actually helps children, beyond the benefits linked to a two-year degree with specific training in child development. Rapidly ratcheting-up credential requirements would raise costs and drive some teachers of color out of the profession. Moreover, it would not likely benefit children, depending on the scope and effectiveness of in-service training initiatives.

Return to Table of Contents

California's mixed market of preschool centers hosts a diverse array of teachers and caregivers. Among the 3,404 center-based staff participating in the First 5 Commission's child-care retention incentive program evaluation, less than half (47%) were non-Latino Whites; this compares to California's elementary and secondary schools in which 74 percent of all teachers are White. California's preschool teaching force presently possesses impressive language versatility. In Alameda County, for example, 37 percent of all Head Start teachers are fluent Spanish speakers; yet this skill level drops to 12 percent among more suburban preschool teachers.[59]

More highly credentialed teachers could spur stronger child outcomes *due to the training* they have received, or because certain kinds of individuals are able to complete the formal training and credentialing process. We know that students with higher verbal skills and those from more affluent backgrounds, at entry, are more likely to achieve in university systems. These *prior attributes,* for graduates who enter the ECE field, may explain stronger child outcomes, when observed—not acquiring the credential per se. This empirical question is crucial—since wider access to BA programs could also dissipate any effects we might detect among the current, more select, set of preschool teachers who hold BA degrees.

Teacher Education

One recent review—advanced by W. Steven Barnett at the Rutgers University NIEER institute—concludes that states should mandate the BA degree for all preschool teachers. In summarizing empirical work to date, Barnett says, "The key finding is that only teachers with at least a four-year college degree consistently provide the good-to-excellent quality linked to future school success." He relies on five empirical studies to validate his claim.[60] How solid is this evidence which undergirds Barnett's strong claim?

Correlates of having a BA degree. Authors of early studies essentially asked, what do BA teachers display in center classrooms that other teachers do not? The first study cited by Barnett was conducted in Bermuda by a respected researcher, Jeffrey Arnett, but with just 59 caregivers who worked in 22 centers.[61] Only 17 of the teachers had completed a BA degree. The others had four or fewer courses in child development. Arnett found that the 17 teachers with BA degrees held more "modern" views of how children should be raised, were more engaged and responsive to children, and punished children less harshly.

Note that the sample is small, it stems from a particular setting (Bermuda), and the author did not control for prior background attributes of the teachers. For example, we do not know whether these differences in classroom behavior are due to teacher training levels, or whether those who obtained a BA were from more affluent families, displayed stronger verbal skills, or held different beliefs about how to treat young children, *independent* of their training.

Furthermore, the contrast between acquiring a BA versus just four courses in child development tells us nothing about the relative advantage of a BA over a two-year degree. Nor do we learn whether these behavioral differences, displayed by teachers, were of sufficient magnitude to influence children's early learning and development.

Another study on which Barnett rests his case involved observing 37 center teachers, working in one of 13 centers in "a small mid-western city."[62] Of this tiny sample, 27 of the teachers had acquired a BA or Master's degree. This group could not be distinguished from the two teachers with a two-year AA degree, so this paper fails to isolate the effect of a BA degree. When the researcher compared teachers with only a high school diploma to those with a two or four-year degree, she found that the latter group offered more information to children, were less "rule oriented," and encouraged children to explore and verbalize more frequently. No prior factors were taken into account, such as the teacher's background or the social-class backgrounds of children being served. Again, we do not know whether observed differences for this sample are attributable to attaining a BA or AA degree.

Specialized training in child development. The third study cited by Barnett was conducted with 30 center teachers, all situated in north-central Indiana.[63] Training levels ranged from teachers who had not completed high school to those who completed a graduate degree. Those with more years of schooling were more likely to have taken courses in child development. This latter facet of training—preparation in child development—was related to child outcomes, but credential levels were not.

The alleged effect of child development training was strongest for children from more affluent families. We respectfully use the word "alleged," given that the author statistically took into account the prior effects of children's social-class background, but then controlled only on the teacher's level of experience before estimating the effect of child development courses on youngsters' growth. So again, prior background attributes of teachers may be explaining child-level effects, not training per se. This study does suggest that if teachers stay in school longer, they are more likely to take child development courses; however, this would be an inefficient way to eke out a small benefit for children.

Prior background attributes of teachers may be explaining child-level effects, not training per se.

The fourth study cited by Barnett is the pioneering investigation of quality, known as the *Child Care Staffing Study*.[64] One virtue of this investigation is that 227 centers were sampled from five metropolitan areas: Atlanta, Boston, Detroit, Phoenix, and Seattle.

After assessing teachers' interactions with children inside classrooms, the authors found that "in general the amount of formal education obtained by a teacher was the strongest predictor of appropriate teacher behavior, with specialized training [in child development] emerging as an additional predictor in urban classrooms."[65] But this research team could not detect consistently discrete effects from obtaining some college courses, even when running simple statistical tests that did not control on teachers' social-class background. Statistical contrasts

did show that teachers with BA degrees behaved in more sensitive ways with children and displayed less harsh forms of discipline, when compared to teachers with only high school diplomas or vocational education degrees. When weighed against teachers with some college, the BA degree made little difference even in the absence of statistical controls.

Methodological improvements, quasi-experimental design. More rigorous estimations of teacher-education effects appear in recent studies. This includes the *Cost, Quality, and Child Outcomes* (CQO) study conducted in 655 center classrooms situated in four states, and the quasi-experimental evaluation of Florida's aggressive effort to raise teacher quality.

Carollee Howes combined these tandem data sets to examine how different features of teacher and classroom quality may contribute to children's development.[66] Howes advanced how we think about and statistically model the discrete effect of teacher credentials by assessing whether the association between credential levels and teacher behavior (in turn, influencing child outcomes) may be conditioned by other features of quality, such as the ratio of children to classroom staff.

After estimating children's growth—along nine different measures of cognitive and social development—the evaluation team found that teacher credential levels did not have a significant effect.

First drawing from the CQO study, Howes found that teachers with BA degrees displayed more sensitivity to children in the classroom, compared with those holding a two-year degree, some child development training, or simply a high school diploma. A discrete association, however, could not be detected with three other teacher behaviors observed by the study team: harsher treatment of children, greater detachment from the children, and teacher responsiveness. No significant differences were found when BA status was associated with child outcomes, assessed across four domains of cognitive development.

Howes then reports a similar analysis, drawing from the Florida Quality Improvement Study. This is quite informative, focusing on how improvements in the state's quality standards may have altered teacher behaviors and child outcomes—representing a rare quasi-experimental design. Howes points out that just 15 teachers in this sample had attained AA degrees in child development and thus were dropped from the analysis. Those teachers who attained a BA were significantly more sensitive and responsive with their children, but no difference was found in harshness or the degree of being detached from children, compared to teachers with a Child Development Associate (CDA) certificate or high school diploma. Teachers with some child development training did not consistently display differing behaviors from those with BA degrees.

When it came to teacher behaviors related to "instruction" in the Florida study, teachers with CDA certificates equaled or exceeded the positive behaviors of BA holders, such as initiating positive interactions with children and engaging in playful language activities. Whether these differences in teacher behavior were of sufficient magnitude to affect children's development was not reported. Howes found no relationship between the maternal education levels of par-

ticipating children and teacher education levels. No other child-level controls were employed, nor were other teacher attributes included as control variables. So, we do not know whether the inconsistent associations between having a BA and desirable teacher behaviors were due to training levels or to other, unobserved factors.[67]

While the Barnett review is now widely cited by UPK advocates, his claim that "only teachers with at least a four-year degree consistently provide the good-to-excellent quality linked to future school success," goes beyond the evidence that he cites. Only the more recent studies drew from diverse multi-state samples of teachers. None of these papers adequately considered child and teacher attributes that could be correlated with attaining a BA *and* positive teacher behaviors and child outcomes. This incomplete specification of statistical models leads to the possibly false inference that it is the BA per se that is yielding the effect on child outcomes. It is a classic case of selection bias.

This weakness is similar to arguing that Harvard graduates reap success in the job market due to the quality of undergraduate teaching—ignoring how selective Harvard is in admitting outstanding students prior to and independent of their professors' impact.

Two-year Degrees and Child Development Training

Attempts continue to isolate the level or type of college training that effectively advances preschool teachers' skills and, in turn, child outcomes. Recent evaluations from Georgia and New Jersey help to inform this issue.

The recent Georgia evaluation found that 56 percent of teachers were "certified" with a BA degree in child development; another 19 percent had BA degrees in other fields. The remaining quarter had a CDA certificate or less training. But after estimating children's growth through the end of kindergarten—along nine different measures of cognitive and social development—the evaluation team found that teacher credential levels did not have a significant effect. What mattered most, not surprisingly, was the child's family background and earlier proficiency levels. Particular curricular packages inside preschool classrooms also proved effective in raising developmental trajectories, as discussed below.[68]

In New Jersey, the teaching force within the Abbott districts remains somewhat segmented. The majority of classroom staff within CBOs is non-White: 68 percent were of color in 2002, compared with just 41 percent of school-based preschool staff.[69] Of the lead teachers working in CBOs, 42 percent of non-Head Start and 49 percent of Head Start had attained a BA degree, or had attained a BA and graduate training. These shares compared to 91 percent of lead teachers in school-based preschools.

Gary Resnick and his evaluation team discovered that the majority of variability among children's growth over two years was attributable largely to differences among children *within* classrooms, *not* to differences across teachers or classrooms. This suggests that the effects stemming from between-classroom differences in teacher quality pale in comparison to between-family differences in (mostly low-income) children's backgrounds. Children's developmental trajectories were steeper when they attended classrooms that scored higher on the

Early Childhood Environment Rating Scale (ECERS). Otherwise, variation in developmental gains was attributable to the education levels of children's mothers and other family characteristics, not to teacher credential levels.

Resnick's team conducted a useful analysis revealing that teachers holding AA or BA degrees tended to structure higher quality classrooms, at least as measured by the standard ECERS gauge. Teacher credentials per se did not consistently predict higher quality classrooms, especially after taking into account the "Teacher Beliefs Scale" which taps a teacher's knowledge of developmentally appropriate practices. This gets closer to detecting what teachers need to know to advance other elements of classroom quality, and raises the question of whether important pedagogical knowledge can be acquired in a two-year degree program as effectively as a four-year BA program.

One explanation for not detecting discrete benefits from teacher credentials in New Jersey is that average credential levels are quite high, compared with national averages. Perhaps after a certain threshold level, additional increments of college-level training do not yield discernible differences in teacher behavior, or at a magnitude that advances child development.

In Oklahoma all lead teachers are required to hold a BA degree with child development training. Initial evaluation work has found clear benefits of this state's preschool program, but discerning possible effects from teacher training per se has yet to be studied.[70]

This research team also discovered that better-educated FCCH providers yielded stronger benefits for children's development.

Results from the NICHD longitudinal study. The exhaustive study of young children's early development by the National Institute of Child Health and Human Development (NICHD) offers a large national data set for studying the effects of caregiver education. One analysis focuses specifically on children's exposure to centers at age 24 and 36 months.[71]

The study team found no consistent relationship between teacher education levels and child outcomes at age two. But three-year-olds in classrooms with teachers who had acquired at least some college displayed higher language comprehension and school readiness scores and showed fewer behavior problems, compared with youngsters in classrooms where teachers had only completed high school. No discrete association was found for teachers holding BA degrees. Specialized training in child development also was positively associated with children's cognitive growth.

A second NICHD analysis includes all types of caregivers—preschool teachers, family child-care home providers, and individual kith or kin—and identifies how training may advance caregiver behaviors that boost child development.[72] This analysis found that credential levels (ranging from high school dropouts to caregivers with graduate training) are associated with more sensitive, emotionally warm, and stimulating interactions between caregiver and child and better-structured learning tasks. These behaviors and emotional tone, in turn, advanced children's cognitive growth, after taking into account maternal education and the family's socioeconomic status.

Credential effects were slightly stronger than the positive influence of lower child-to-staff ratios, one alternative policy for raising quality. Yet no discrete effect from attaining a BA degree could be identified. The magnitude of caregivers' aggregate effects on children's development equaled less than one-fourth the effect-size associated with the quality of mothers' own parenting practices in the home.

Including licensed homes (*FCCHs*). Another recent study—tracking low-income mothers and their young children over a two-year period—found that caregivers' education levels helped to predict youngsters' cognitive growth between 2½ and 4½ years of age.[73] Language and school-readiness gains were strongest for children exposed to preschool centers in California and Florida, compared with youngsters cared for within home-based settings. Children benefited from preschool teachers with a two- or four-year degree, but no added effect from the BA was detected.

This research team also discovered that better-educated FCCH providers yielded stronger effects for children's development, but education levels ranged lower for FCCHs on average, compared with teachers in center-based programs.[74] This suggests that inclusion of FCCHs in universal preschool networks—as with initiatives in Los Angeles and San Francisco—is warranted, provided that minimal quality levels are met.

Finally, a new review of how teacher education and training shape child development was recently completed by Bridget Hamre and Margaret Bridges. They include 12 additional studies not included in the present paper. One reported a significant positive effect from teachers with a BA degree. A second found a relationship between BA attainment and children's language and vocabulary development, although completing specialized workshops yielded an effect of similar magnitude.[75]

In summary, we cannot find consistent evidence to support the claim that the Bachelor's degree yields significant gains in child development beyond the benefits observed when teachers have experienced "some college", particularly child development training in combination with a two-year degree. This lack of consistent benefits for children stemming from BA-level training is observed even prior to any consideration of the relative costs of different policy options. For example, if AA-level training yields a similar effect to the BA, the former option would be much less costly.

Costs and Institutional Change

A pair of evaluations recently conducted by PACE for the First 5 California Children and Families Commission makes some headway on the question of costs. The Commission, beginning in 2000, funded pre- and in-service training projects for a two-year period. Each local project, based either within a community college or CBO, combined training incentives with classroom training in child development. Some projects also included English language training for new entrants to the early childhood field.[76]

Incentives for entering training ranged from $96 per participant to $1,025 per participant in a smaller, more intensive program. Training costs ranged from $153 per trainee to $1,744 in

a project which focused on recruiting diverse women of color for ECE jobs. Another project experimented with enhancing California Early Childhood Mentor Program. Overall, the evaluation design did not allow study of what skills or caring behaviors the training project imparted, or medium-term effects on child development.

The second, much larger experiment is the statewide Child Care Retention Incentive (CRI) Program, known in the field as CARES. The state and local counties have spent over $150 million since 2001 to offer incentives and classroom training to ECE staff, from entry-level classroom aides to preschool directors and administrative staff. The First 5 California Commission and PACE recently completed a three-year evaluation of this ambitious initiative which has reached over 23,000 preschool teachers and FCCH providers statewide.[77]

The CRI evaluation looked extensively into the costs of different county-level programs, which varied in their relative emphasis on cash incentives for participants to engage in training programs versus providing classroom training, most often through community colleges. County First 5 commissions provided 60 to 80 percent of the funding for CRI efforts, matching state dollars. Counties varied in the emphasis placed on upgrading entry-level assistant teachers versus a mix weighted toward lead teachers and administrators.

The point again is the wide variability in per participant costs, ranging from $694 to $1,040. One county spent 84 percent of its funds on cash stipends to participants, compared to another which spent 67 percent on stipends and a larger fraction on classroom training. But higher unit costs does not necessarily mean lower cost-effectiveness. For instance, one county's program—involving creation of an early childhood teacher corps and multiple supports—proved to be relatively costly. But this model yielded strong effects in terms of college units accumulated and retention in one's job, perhaps ensuring greater stability for children being served.[78]

The CRI evaluation also found that 78 percent of all participants enrolled in child development courses and 39 percent in general education courses, hopefully on their way to a two-year degree. Among those who took child development courses, the average accumulation equaled six units (about two courses) over the two-year tracking period.

By all accounts, county First 5 initiatives energized community colleges and other training organizations to accommodate this influx of new trainees. A record number of providers received their Child Development Permit, a permit for becoming a classroom aide, lead teacher, or FCCH provider. Yet after a sizeable public investment and enormous institutional movement locally, the yield— considering the number of units required for a BA—was modest. This offers a cautionary note for hopeful advocates who are eager to move all preschool teachers to the BA level.

The Conditions Under Which Credentials Matter

Fresh thinking is beginning to emerge on *how* college-level training may help shape children's development. Both the content of pre-service training and the character of the preschool as

a workplace likely play a role. The effects of obtaining a two- or four-year degree may hold modest effects until the teacher's workplace nurtures and rewards effective practices.

Economist David Blau found that teachers with college degrees and exposure to child development workshops appeared to create richer classroom environments, scoring higher on the ECERS quality assessment, even after controlling for unobserved between-center factors (fixed-effects statistical models).[79] This suggests that benefits for children linked to highly credentialed teachers are mediated, not surprisingly, by how well teachers deploy their acquired knowledge and skills in their classrooms. Their propensity to sustain more robust practices may be driven by their own preschool's norms and professional expectations.

Marcy Whitebook and colleagues similarly found that children were more engaged in their classrooms (spending less time wandering about, unoccupied) when a higher share of teachers in the entire center held BA degrees. Yet effects of a given teacher's credential level on their respective children could not be detected. This suggests that organization-wide quality matters, not simply individual-level credentials.[80]

Carollee Howes raises another contingency between teacher credentials and preschool context: how the teacher's ethnic and cultural background fits the child's. We have assumed that more credentials equate with acquisition of more teaching skills—proficiencies that hold utility no matter which children are being served. We know that this is not necessarily true for aiding children with special needs: higher credentials for preschool teachers, in the absence of training specific to children with learning disabilities, may not hold much effect. As Howes argues, our conceptions of teacher quality need to become more contingent on the types of kids being served.[81] This, of course, holds implications for the content of preschool training in both two- and four-year colleges.

Summary—What We Know, and What We Don't Know

Advocates may counter our critical review of the evidence in two ways. First, one could argue that even if the effects of a Bachelor's degree have not been established empirically, mandating higher credential levels will raise the status of the profession. It is a useful point to emphasize, but professionalization also involves higher salaries and improvements in the preschool workplace. Wage gains will be expensive. And the standardization of preschool classrooms—in the wake of school accountability pressures—threatens to de-skill preschool teaching, not enrich daily work. Raising credential requirements might also screen out teachers of color, and those with bilingual skills sorely needed to match the diversity of California's children.

If advocates seek symbols of professionalization—given that benefits to children may be more cost-effectively achieved from training in child development or two-year degrees—this should be their primary argument in advocating for BA requirements. Claims that a Bachelor's degree further advances child development simply cannot be substantiated by studies conducted to date. To pay-out higher reimbursement rates based on the number of BA-credentialed teachers will be costly and may not yield significant benefits for children.

Return to Table of Contents

Another point made by advocates is that mandating BA degrees will offer parity with teachers in the public schools. We know that many preschool teachers, often persons of color from modest backgrounds, barely earn a livable wage. Certainly a society that values young children should pay care-giving professionals adequate wages. Civil society has largely made this commitment to K-12 teachers. Yet this remains a labor equity issue.

We have much to learn about the length *and* forms of training in classrooms or worksites that yield stronger payoffs for children's early learning. In the meantime, policy makers might explore alternative ways of raising preschool quality, options that could cost less and yield stronger effects for children. The state and counties could design UPK efforts that carefully test differing mixes of quality inputs, then assess the cost-effectiveness of these alternative strategies. We will return to the challenge of designing informative evaluations.

SECTION 5

How Should Preschool be Structured for Diverse Families?

Some UPK proponents argue that preschool initiatives will help get children ready for school and boost their early test scores. Public school reformers—eagerly advancing school accountability and testing regimes—are pushing curricular standards and assessment of young children (typically in English) down into kindergartens and preschools.

Alignment is the driving concept: delineate what young children are to learn, break knowledge into bits and pieces, and engineer teaching practices to deliver the official curriculum. The belief seems to be that the sooner preschool teachers can get with the program and young children abide by classroom routines, the faster the system can raise test scores in the early grades. This is the elegant design in the minds of some policy makers. Indeed, the clearer specification of classroom content and pedagogical method has yielded gains in elementary school students' test scores, at least until recently, in California.

The problem is that not all parents necessarily agree with this conception of how preschool-age children best learn, what they should learn, and in what language they should be learning.

From upper middle-class parents who value inquisitive, highly verbal children, to Latino parents who may want their children to become literate in English and Spanish, families express quite variable developmental goals for their children.[82] One risk of standardizing preschools and the work of teachers is that it may turn-off the very parents that advocates hope to attract into a universal system. Better trained (young) teachers may avoid workplaces that offer scripted curricula rather than settings that recognize the complexity of children and allow for professional discretion. This is already a much-debated issue in the public schools.

Early childhood professionals do not always agree with the emphasis on standardizing learning objectives and a more regimented structure classrooms. The National Association for the Education of Young Children (NAEYC) has repeatedly urged a balance between enriched academic content while incorporating what we know about child development and the ways in which young children are motivated to learn. Surveys of kindergarten teachers consistently show that they are more concerned with children's social skills and eagerness to learn in group settings rather than whether they know their ABCs.[83]

But it is the ABC's and phonemes and English vocabulary that many policy makers and local educators now emphasize. Thirty-nine states and the District of Columbia have created, or are devising, formal learning standards for pre-kindergarten programs.[84] Certainly some states, including California, are urging a balanced focus across cognitive and social-behavioral development, along with "school readiness skills." But the preeminent policy pressure is on boosting test scores, and this emphasis may advance the routinization, not the enrichment, of preschool classrooms. This debate is partly philosophical—implicating moral values about what and how parents and activists believe young children should learn. Enforcing the instruction of pre-literacy skills through early assessment is not necessarily a bad policy, assuming the testing tools yield valid and reliable information. This kind of assessment, however, may narrow the range of cognitive skills that teachers address and, moreover tends to ignore children's social and emotional growth—the domain about which parents and kindergarten teachers often care most about. Empirical research, can help to inform this discussion.

Cultural Diversity

One fact illustrates why early educators in California should become more understanding of, and responsive to, diverse communities: Over half of all newborns open their eyes to see at least one Latino parent. Among the estimated 1.1 million California children, age three to five, who might enter preschool, about 39 percent are not proficient in English.[85] Yet in the face of such diversity, how much do advocates and policy leaders understand about how the (soon to be) *majority* of California's parents hope to raise their young children? Latino families, of course, vary enormously in the behaviors they value in children and the languages they want their youngsters to learn.

We must think carefully about why and how preschools might become more responsive to the child-rearing values of local communities, not shaped simply by the political expediency of linking preschools to the important yet more narrow aim of raising test scores—

- To be *inviting* to a wide range of parents from various ethnic, linguistic, and social-class groups.
- To hire teachers who can organize classrooms in ways that *scaffold* culturally-situated forms of learning and social engagement.
- To minimize *concerns* over whether government should endorse (*de facto or de jure*) one model of child development, a uniform curriculum, or a single classroom language.
- To ensure strong *involvement* by parents in contributing to their children's development at home and in preschool.

The leading UPK states are addressing the question of who controls preschool curricula in various ways. The Georgia Department of Education, for example, requires that preschool programs select from among an approved list of curricular packages. This has the advantage of not dictating to local preschools specific learning objectives or classroom practice. It provides the opportunity for—though does not guarantee—substantive input from parents. The Georgia evaluation is usefully assessing the effects of alternative curricular packages, as detailed below.

In New Jersey and Oklahoma, state education departments detail expected learning outcomes in cognitive and social-emotional domains which local programs must address. The New Jersey quality standards stress "developmentally appropriate teaching practices," not rote academic skilling, nor does New Jersey require any particular curricular package.

In California, UPK planning efforts include concerted attempts by local architects to craft culturally responsive preschools. The new board governing the Los Angeles UPK effort includes two parents as voting members—one element of a blueprint for parental involvement advanced by local groups.[86] This plan also proposes a strong presence of parents on local councils that would govern preschools receiving funding under the UPK initiative. Planners in San Francisco are discussing how funded programs can address culturally appropriate learning objectives, from language to social behaviors.

A recent issues brief from *Children Now* sketches various policy options, including workforce development efforts to recruit diverse trainees and develop in-service courses to advance "family-centered" approaches. This strategy would include training parents in pre-literacy activities and devising meaningful volunteer roles for parents (similar to strategies employed by Head Start preschools since the 1960s).[87] These ideas and examples of what other states are doing represent an important new thrust by at least one leading advocate of UPK.

Early educators are making costly decisions on curricular packages despite a lack of evidence regarding their effectiveness.

Proponents of a universal system are rightfully preoccupied with the basics of institution building. These foundations, according to some, include stronger central control by state or county government, setting higher credential levels for teachers, and moving toward uniform conceptions of quality. A next step would be to face the trade-offs inherent in central control of curricula and teaching practices versus enhancing the professional discretion of early educators. How to professionalize teachers without disempowering parents remains a key challenge.

Empirical studies can address two sets of questions regarding how a unified preschool network might address the learning aims of California's diverse range of families. First, how effective are different curricular packages in boosting children's development in cognitive, linguistic, and social-emotional domains? Second, as many classrooms become more structured, focusing on linguistic language development in English, what are the benefits and costs of this narrower (linguistic) priority?

Formalizing Preschool Classrooms

Preschool teachers have long debated how best to structure their classrooms. And, early education leaders have warned that many classrooms lack coherent structure and engaging learning materials. Indeed, the preschool quality studies discussed above reveal that many classrooms manifest care that is largely "custodial," with few learning materials and detached adults plugging children into videos or television shows to occupy them. This reality should not be ignored as policy efforts to expand and improve preschooling continue to unfold.

When it comes to structuring classrooms, professional associations tend to favor "developmentally appropriate practices," synchronizing learning tasks and engaging social activities with fairly set stages of children's development and ways of learning. NAEYC has detailed how classroom activities can be devised which mesh with children's developmental stages (along Piagetian lines) and encourage children to construct their understandings of, and efficacy in handling, elements of language, gross and fine motor tasks, and social relations.

This philosophy sees early learning as an active process that blossoms as the child engages inventive materials, oral language, written text, and the social environment. This typically is implemented in variably structured activities in small groups or imaginative activity centers where children flip through books, build with Legos while counting out loud, or dress-up in costumes to play cooperatively with others, to name just a few examples.

This "developmental" approach postulates that children need to be physically and mentally active to engage ideas, materials, and other children—to enhance their motivation. How cognitive tools or social behavior is embedded in cultural contexts is not emphasized; instead, universal aspects of development are put forward. Widely accepted curricular packages, such as High/Scope materials, build from this active-learning, developmental conception of how young children learn and acquire pro-social behavior.

In contrast, other early educators and policy makers argue that children would benefit by spending less time "learning through play" and more time in structured academic lessons—sometimes called *direct instruction.* Through school-like teacher presentations and individually performed exercises, young children would more effectively acquire oral language, become familiar with printed text, and acquire mathematical understandings according to this approach. Whole group lessons are more characteristic of this teacher-centered approach.

Some preschool directors and teachers draw on both philosophies rather than seeing them as mutually exclusive. The Los Angeles Unified School District has adopted a curricular package for its preschools which is aligned with Open Court, the highly scripted language arts package

mandated for the district's elementary classrooms. Its supporters are attracted to the emphasis on language and cognitive skills, pointing to the variety of activities and tasks designed for three- and four-year-olds.[88]

Lack of independent evaluations. Early educators inside and outside California are making costly decisions on such curricular packages despite the lack of evidence regarding their effectiveness. Moreover, we know little about the benefits for different groups of children, or the relative effectiveness of different packages when placed in the hands of teachers who display widely varying skills.

Recent studies are beginning to provide a clearer empirical picture. For instance, the website describing the High Reach curriculum, a widely used and mixed approach to classroom activities, posts two evaluation studies. The first is an evaluation conducted by Praxis inside Georgia state pre-K programs.[89] The study compared a treatment group (preschools using High Reach) against a comparison group which included preschools using High/Scope, Creative Curriculum, or a traditional direct-instruction approach. The researchers found that High Reach was more effective than the other programs (when combined) and the High/Scope program (when studied as a separate group) in advancing young children's school readiness skills and behavior.[90]

Yet the reader has no way to judge the validity of the findings, nor is it clear that the data have undergone independent analysis. This does not necessarily mean the evaluation is invalid, but transparency in method and re-analysis by objective researchers would be reassuring.

Another case in point is the highly regarded High/Scope curriculum, developed by Lawrence Schweinhart and David Weikart of Perry Preschool. They conducted a longitudinal evaluation which compared High/Scope against Direct Instruction and traditional nursery school programs.[91] The initial findings show that students in Direct Instruction experienced higher gains in cognitive development (on a traditional measure of IQ). In the long run, however, the initial advantaged enjoyed by children exposed to Direct Instruction faded out, and High/Scope children displayed stronger "social adjustment", such as lower delinquency rates and stronger emotional well-being.

Children attending didactic programs displayed higher levels of stress than youngsters in child-centered programs.

Evidence from Georgia. The team evaluating Georgia's UPK initiative examined the effectiveness of alternative curricular packages, since the state encourages adoption of approved programs. Contrary to the earlier findings, children in High Reach classrooms displayed lower growth in mathematical understandings, received lower academic proficiency ratings by teachers, and exhibited weaker task persistence and attitudes towards learning, compared with children in classrooms using Creative Curriculum or High/Scope.[92]

Does direct instruction work better for some children? Initial research has occurred on the possible benefits of direct instruction as opposed to active-learning or developmental approaches.

Thus far researchers find that children's pre-literacy skills in Spanish—including letter and word recognition—contribute to their pre-literacy skills in English.

One important advance in this literature is the notion that different approaches may yield variable effects for differing types of children.

An early study examined the effectiveness of Bank Street, Montessori, and DISTAR (the Bereiter-Engelmann direct instruction program), and a blended approach called DARCEE.[93] The authors followed children, who were randomly assigned into one of the four programs, from preschool through second grade. They found that children assigned to the Bank Street and Montessori models displayed both higher levels of curiosity and inattention to the teacher, compared with those assigned to DISTAR or DARCEE. Youngsters in the latter two programs, sharing direct-instruction elements, showed stronger pre-reading and mathematical understandings by the end of preschool. By the end of second grade, children who attended Montessori and DISTAR programs displayed the strongest reading scores. These results were largely replicated in a second study. How the effects may have been conditioned by children's prior characteristics was not examined.[94]

More recent work distinguishes between short- and longer-term effects of differing instructional strategies. Rebecca Marcon studied classrooms following what she labeled, a *child initiated, middle of the road,* or *academically directed* curriculum.[95] Classrooms and children who participated in the study were randomly assigned to experimental conditions across public preschools operating in the District of Columbia. The short-term results showed that child-initiated and academically directed classrooms were more effective in advancing children's language and communication skills, social competence, physical (motor) skills, and early writing skills, compared with children attending middle-of-the-road classrooms. Children in the child-initiated program outperformed those attending middle-of-the-road programs in early understanding of numbers and math concepts. After tracking children through sixth grade, Marcon found that children attending the child-initiated programs displayed higher grade point averages than children from the other two conditions.

What motivates children to learn? Deborah Stipek and colleagues have studied how these contrasting classroom strategies may or may not spark children's motivation—a crucial mediator that can enhance or inhibit youngsters' cognitive and social development.[96] Their findings show that children attending child-centered classrooms saw themselves as having higher abilities and stronger expectations of succeeding on classroom tasks. Children attending a didactic program displayed higher levels of stress than youngsters in the child-centered program.

The Stipek team also found that the *consistency* of experience under the same kind of instructional model is important. For example, children who moved from a child-centered philosophy in preschool to a didactic program in kindergarten performed less well on academic tasks than those who continued in programs with the same philosophy. Students who attended a child-centered program for two years displayed higher verbal fluency and conceptual skills,

while children attending a didactic program performed better on letter recognition and pre-reading tasks, but showed less motivation for engaging in these tasks.

Language of Instruction

A related question is whether the earlier assessment of children, along with the rise of formalized classrooms and curricular packages, will conspire to immerse California's diverse children more exclusively in English.

More than one-fourth of California's five-year-olds enter kindergarten without fluency in English.[97] In order to achieve the goals of UPK and build an effective preschool system, the needs of young English learners must be addressed. As a response to the growing numbers of English learners in the district and accountability pressures, the L.A. Unified School District has involved local preschools in the task of raising children's test scores, including more intense English-based instruction, starting at age three. Other urban school districts around the state are following suit—prompting several questions:

- *How do parents view a faster transition to English* for their children—when they enroll their child in preschool? How might this alter the nature of child rearing, parents' authority over their children's development, and the integrity of their communities?
- Will English-dominant preschools introduce *socialization practices and values* that inadvertently dampen demand for preschool among Latino parents?
- Would the *simultaneous development of Spanish literacy,* or another language, advance linguistic growth in English?
- Is it institutionally feasible to create *multicultural preschools* that are inviting for parents and effective in advancing children's school readiness?

Responses to these questions tend to be ideologically driven, as with the controversy over bilingualism in the public schools. Yet careful research is unfolding that attempts to inform these questions with evidence.

Patton Tabors and her colleagues at Harvard University have followed 329 children, two-thirds of whom come from Spanish-speaking homes, into English-dominant Head Start preschools located in Maryland and Massachusetts.[98] This team is just beginning to publish their results. Thus far they find that children's pre-literacy skills in Spanish—including vocabulary, letter and word recognition scores—contribute to their pre-literacy skills in English. The researchers have not detected a trade-off between the acquisition of skills in two languages.

Similar results have been reported by two other research teams, each studying modest samples of Latino children who attended Head Start or state-funded preschools.[99] Both teams found that children's phonological knowledge of one language is related to phonemic awareness and pre-literacy skills in the second language at age four. One of the research groups followed 100 children attending Head Start preschools, discovering that oral fluency in the home language did not contribute to the speed with which English is acquired. Knowledge of phonemes and other pieces of oral language, however, appears to advance structural understanding of the second language.

A fourth team, following Latino kindergartners into third grade, found that children who acquired richer vocabularies, were better able to memorize sentences, and became more familiar with print materials—first in Spanish—more rapidly acquired parallel understandings in English.[100]

Little work has focused on how parents feel as their children shift away from their home language—at age three or four. Lilly Wong Fillmore led a survey of 1,001 parents whose children attended preschool.[101] The parents whose children attended English-only or bilingual preschools reported a shift away from, then eventual loss of, their home language at higher rates than parents whose children attended preschool where their home language was the medium of instruction.

Wong Fillmore then examined how changes in family language patterns altered parents' ability to advance their socialization goals, family customs, and preferred moral behavior for their young children, along with parents' reported authority over their children. In addition to the direct effect of a change in family language patterns on a lack of parents' advancing their socialization goals, parents reported a mediating factor of alienation between them and their children. Many parents feared that by ignoring the development of their child's home language, preschool impeded the acquisition of English and longer-term academic success. Tabors and her colleagues also delve into how parents' worries over their children's loss of the home language may hamper the children's eventual literacy in English.[102]

More research is sorely needed to understand the intersection of how the language of instruction alters the child's development, the vitality of parents' own authority, and overall family cohesion. In this light, the preschool institution is not an intervention that only affects young children—it touches the ability of parents to strengthen or surrender the social norms of their community.

Summary — What We Know, What We Don't Know

Overall, the research literature remains sparse on how classrooms should be structured to advance the development of differing kinds of children in California's diverse communities. California school districts are investing more in their preschool efforts, purchasing a variety of curricular packages. Parents—through expensive preschool fees—also spend substantial sums on instructional programs for their young children. Sacramento is investing millions of dollars in assessing children's development—via the Desired Results testing program—and advancing curricular standards down into kindergarten and preschool. Curriculum publishers boldly claim strong benefits will be experienced by a wide range of children. Beyond such hype, we know quite little about which classroom strategies work for what types of children—and whether the current workforce is sufficiently skilled to implement these new packages and classroom innovations.

Recent research has informed debates over the language and literacy development of English learners. However, many empirical questions await careful study. First, new work is needed on the longitudinal impact of different instructional practices and language of instruction on the development of English learners. Second, we need to better understand the home literacy

experiences of all children, and how the preschool can complement these practices. At the same time, effective methods of involving parents in language and developmental activities at home could be explored. Federal efforts emphasize this aim through Early Head Start and Even Start programs. Meaningful involvement of parents could be eclipsed by the institution building—raise-the-test-score—agenda of some UPK advocates. And, research has just begun to identify how monolingual and bilingual preschool classrooms advance various domains of child development.

Finally, we must remember that children scaffold their learning from what they are learning at home. This is shaped in part by parents' daily activities and socialization goals, including the kinds of behavior, talk, and ideas that their children express in their home contexts. Developmental psychologists and early educators readily advance *their* philosophies of how and what young children should learn in their preschool years. Less visible in the eyes of the experts are the diverse practices and socialization goals expressed by *parents*.

SECTION 6

Conclusions — Less Faith, More Evidence

Eager advocates of new social programs must build political will through crisp messages delivered with great certainty. Proponents of universal preschool are no exception: widening access to preschool will close achievement gaps; requiring BA degrees will boost children's developmental outcomes; standardized pre-K curricular packages will best advance early literacy skills in English. The policy platform is clear.

Building Policy Options from Evidence

The certainty of such claims would be reassuring if each was backed by empirical evidence—but they are not. Two sizeable risks stem from building narrow policies on inconsistent evidence, rather than entertaining a wider set of policy options. Policy makers may come to believe the claims of advocates and allocate scarce public funds to ineffectively designed programs. For example, as Los Angeles County proceeds to reimburse at a higher rate those preschools that employ teachers with BA degrees, what if it turns out that teachers with AA degrees and child development training are just as effective in classrooms? Millions of public dollars may be wasted by failing to first experiment with alternative policies.

The second risk of building an advocacy strategy on inconsistent evidence is that the movement comes to be seen as expendable during tough fiscal times. Legislators and governors fund plenty of programs and organizations that have not demonstrated much effectiveness, or for which the results fail to be commensurate with the costs. In the preschool arena, the evidence is quite clear that quality programs yield significant cognitive benefits for low-income children. But it may weaken the UPK movement to think uncritically about the conditions under which middle-class children benefit, or about the drift into English immersion for Spanish-speaking three-year-olds. More candor and discussion of what we do not know empirically would strengthen the legitimacy of the UPK movement.

The inconsistency of the evidence on key questions—pertaining to *how* we expand and improve preschooling—suggests that different policy options and program designs should be systematically tested. This is common practice in other domains of public policy. Think, for instance, about how the federal government tests new drugs or food additives, or the experimental testing of the Early Head Start program, welfare reform models, and school voucher initiatives. Such policy experiments do not ensure that long-term policies are perfect, but do provide data on which policy options and program designs yield stronger benefits for children and families.

Keeping History in Mind

The new advocates of UPK rarely talk about consolidating or improving the current $3.0 billion in ECE programs currently supported by Sacramento. Is it sound public policy to spend hundreds of millions of additional dollars if UPK in California simply becomes yet another categorical program? It would not be easy to reach consensus among the interest groups on how to simplify family eligibility criteria, quality regulations, and funding or reimbursement levels. But ECE options will remain confusing to parents inside communities, and the preschool infrastructure will remain fragile until the panoply of funding streams is consolidated, perhaps into one center-based and one voucher program.

Teacher skilling is but one slice of strengthening the economy and cohesion of a local community.

UPK advocates might also study more seriously the history of early care and education organizations. The nonprofit sector, not public schools, led this movement as far back as the settlement houses in the late nineteenth century. The creation of Head Start occurred in the 1960's, embedded in the community action movement. Its policy theory continues to be that parents and communities can be empowered by the neighborhood agencies that also aid young children. Advancing pre-literacy skills of youngsters to boost their test scores is an important aim in this historical context. Yet skilling alone is but one slice of strengthening the economy, cohesion, and identity of a local community. And in California, the nonprofit sector is the dominant provider of child care and preschooling in many poor and affluent communities alike.

Return to Table of Contents

Designing UPK Evaluations to Inform Pivotal Questions

Sacramento and county governments fund precious few evaluation studies to assess which ECE strategies pay-off for children and their caregivers. The foundation community tries to help fill this void, notably the Packard Foundation and the Haas family funds. Federal studies occasionally yield evidence from within California. As state and local governments invest about $800 million new dollars in preschool expansion, sound evaluation designs could inform pressing empirical questions. The revised ballot measure will ask voters to spend another $2.7 billion a year on preschool expansion despite these holes in our understanding of which program designs work best in the California context.

First 5 California has shown leadership in this regard, funding long-term evaluations of experimental training projects, child-care retention-incentive efforts, and local school-readiness programs. In addition, the Los Angeles First 5 Commission's planning for UPK has considered evaluation options, even the lottery selection of UPK sites which could support an experimental study of alternative program designs. These are encouraging developments for a state that rarely assesses the results of its $3.0 billion annual investment in early care and education.

Informative evaluation designs could emerge from tighter cooperation among counties that are moving toward universal access. Comparable findings would help strengthen the case for public investment in quality preschool. Appendix 1 delineates specific questions that county and state agencies might consider as they attempt to assess the effects of their preschool initiatives.

APPENDIX

Preschool For All in San Francisco

How to Assess Progress Over Time?

Overview

As San Francisco begins to broaden family access to pre-K programs, the planning team might begin to design an ongoing monitoring and evaluation effort. This could aid operational implementation and offer a sound mechanism for learning about what's working and where corrections are warranted.

Alternative frames. The evaluation can be framed in different ways. For example, data on which preschool providers and families are participating, along with spending information, could be routinely collected as part of the *monitoring* process. In addition, a deeper *evaluation* of child- family- and organization-level benefits would help build long term support for universal preschool.

Another framing issue is the extent to which the evaluation team provides rich *formative* data—to advance program improvements in the initial years. Once the core planning team and stakeholders reach consensus on intended outcomes, more *summative* evaluation data might be emphasized, as well.

UPK compared to what? San Francisco already has a strong child-care infrastructure *and* a variety of family support programs, often operated by the same CBOs that may participate in UPK. This offers at least two comparison groups, relative to children served through UPK dollars.

One evaluation design could track three sets of children: those moving through centers with (child group 1), and those without, UPK funding (group 2), and children and families moving through First 5 and foundation-supported family support efforts (group 3, with or without center-based experience). This leads to another framing question: What's the best balance between assessing child, family, and organizational (infrastructure) outcomes over time? This necessitates clear thinking on intended outcomes.

Fundamental empirical issues. At the end of the day, the evaluation must inform key questions—

1. Has UPK increased family access and advanced child- family- and organization-level outcomes?
2. For which preschool providers and which types of children are benefits large or small?
3. Through what program elements and forms of quality improvement do children and families experience benefits?
4. At what cost are benefits achieved, perhaps compared to allied child care and family support initiatives currently operating across the City?

Planners and Stakeholders at the Table

To ensure that any evaluation's method and findings are seen as credible and solid, core program planners and stakeholders must be intimately involved in shaping the evaluation design. Several starting issues must be candidly discussed by key actors—

A. **What are the key objectives of the SF-UPK program?** This involves *child-level* objectives, such as advancing youngsters' cognitive, linguistic, and social development, including school readiness. Program objectives will presumably include *organization-level* aims, such as increasing child slots and boosting quality.

   Family support efforts have grown in recent years which focus on *family-level* outcomes, for example, improving home practices that mediate gains in child well-being. Certainly efforts to make UPK sites culturally and linguistically responsive suggest that parents will be heavily involved.

Return to Table of Contents

Early discussion of the evaluation design helps to make explicit each stakeholder's objectives, and how the planning group are prioritizing these goals. Another facet pertains to the range of child development goals that the program aims to impact, from social development, to linguistic and cultural skills, to school readiness skills directly linked to kindergarten.

B. **What are the organizational sectors in which program effects are expected?** Ideally, center and family child care (FCCH) sectors – city wide – will feel stronger incentives to expand access and strengthen quality as the UPK effort gets underway. Perhaps the evaluation should initially focus only on centers and FCCHs directly participating. Or, maybe key planners want to focus just on center-based gains in the initial years. Here too, being explicit about intended beneficiaries helps to focus the intervention and build stakeholder consensus, and sharpen the aims of the evaluation.

   Since San Francisco's initiative will build from the existing infrastructure, the meshing of parallel subsidy streams and activities of the City and SFUSD might be tracked as well. Many will be asking, "What's the valued added of UPK dollars in the context of already existing programs?" The relative balance for the evaluator is tracking change inside UPK sites and trying to observe spill-over benefits in raising the quality of other programs.

C. **Which elements of the program are intended to be most influential in advancing which outcomes?** UPK can be a complicated intervention with various moving parts. Some elements, for instance, creating new child slots imply quick benefits. In contrast, improving provider wage rates and teacher credential levels will take more time to yield results. Delineating each program element and thinking through the time frame of when benefits will likely be observed is crucial—to ensure that the evaluator is not looking for certain results prematurely.[104]

D. **Roles and responsibilities for the monitoring progress.** As providers are selected into the UPK initiative, one should be clear about their responsibility for collecting basic monitoring data. This could include simple data about the families they serve, attributes of their staff, or the mix of children served (half or full day, age breakdowns) and fee levels.

Existing Data and Measurement Priorities

The design process should take stock of existing child- family- and organization-level data. This could include SFUSD child assessment data, gathered in kindergarten. Identifying possible measures for the three levels of impact—child, family, and organization—is an important task, as well. To the extent the planning team emphasizes cultural and linguistic responsiveness, development of new measures (such as, parent involvement and home practices) may need to be devised and field-tested.

Considering Evaluation Options

It's important to discuss evaluation options as the planning team designs the program. This can ensure a more sound evaluation strategy. Los Angeles Universal Preschool (LA-UP), for example, accepted program applications from providers, then picked qualified applicants through a structured "lottery," still ensuring that each major region of the county will receive UPK funding. A sample of children in programs not selected—but equally qualified relative to the lottery "winners"—can then be followed as a "control group." This allows for strong attribution of any differences in child outcomes to participation in the LA-UP program. And programmatically it reduces concern that the first round of programs selected emerged from a political process.

Another example: if core planners want to impact the accessibility and quality of FCCHs, then we need to ensure that a sufficient number are involved in the program, yielding a sufficient sample size, allowing the planning team to make stronger claims of benefits.

Special Considerations within the San Francisco Context

Different evaluation options might be tailored to the San Francisco context.

i. **The City's center-based sector.** Earlier research shows that San Francisco has a comparatively rich supply of center-based programs, and many centers display moderate to high quality.[105] This holds implications for which programs are selected in UPK and the likelihood of detecting certain effects.

If a subset of UPK providers already possess high quality, then additional gains will be harder to observe.

ii. **The FCCH sector.** On the other hand, the quality of FCCHs is quite variable, both in terms of vacancy rates and observed quality levels. It may be that this sector offers important opportunities to raise access (either for core, half-day preschool programs or wrap-around options) and show real gains in quality.

iii. **Cultural and linguistic diversity.** We know that many Asian American and Latino families have shied away from center-based programs, or simply face scarce availability within their neighborhoods. At the same time, how UPK conceives of "quality improvement" overlaps with the question of what's culturally and linguistically appropriate for different children and families across the City. Will new programs appear inviting through the eyes of diverse parents?

iv. **Historical concern with quality improvement.** Child-care advocates have succeeded in advancing provider quality via efforts by First 5 California, the Children's Council, Department of Human Services, and the Office of Children, Youth, and Families. The state education department is also pushing forward on their *Desired Results* initiative, and Head Start is conducting child assessments. One evaluation question is how the UPK effort provides value added, ideally complementing these current efforts.

v. **Going to scale and the shifting state context.** The City's UPK initiative will be launched within a changing state and federal context. First 5 California is boosting their support for UPK. Another state ballot initiative has emerged. Welfare reform and the federal child-care block grant are again up for reauthorization. The evaluation group should be sensitive to these evolving elements of the policy context.

Note: This brief was drafted by PACE researchers at the request of a local foundation. No government agency or foundation has endorsed these ideas. It's reproduced to stimulate discussion around key evaluation issues.

Return to Table of Contents

ACKNOWLEDGMENTS

We thank Miriam Calderon and Gary Resnick for their thoughtful and critical reviews of early drafts of the report. Any errors or misinterpretations are our responsibility, not the fault of the reviewers. PACE is generously supported by the William and Flora Hewlett Foundation. Special thanks to Joanne Klein for her artful design work. Comments are most welcome (pace123@berkeley.edu).

ENDNOTES

[1] Bridges, Fuller, Rumberger, & Tran (2004). The reference list includes detailed citations.

[2] We use the term *preschool* to include center-based early care and education programs, independent of quality levels or the extent to which classroom practices or curricula are structured. Below we discuss inclusion of licensed family child care homes within a network of preschool programs, a policy option being pursued by Los Angeles and San Francisco counties.

[3] U.S. Census Bureau (2002) http://www.census.gov/population/socdemo/school/tabA-2.pdf.

[4] Estimate based on the representative sample of California children, collected in 1998-99 by the National Center of Educational Statistics (ECLS-K sample), as reported in Bridges et al. (2004). The California Research Bureau earlier reported a 47 percent enrollment rate for three and four year-olds, including this wider denominator, based on a single question appearing in the 2000 census long form (Lopez & de Cos, 2004).

[5] Fuller, Waters Boots, Castilla, & Hirshberg (2002).

[6] Hirshberg (2002).

[7] Bridges et al. (2004).

[8] Fuller & Huang (2003).

[9] Fuller & Strath (2001), Fuller, Loeb, Strath, Carrol (2004).

[10] The study by Fuller & Huang (2003) includes zip-code level maps for L.A. County that illustrate this finding. Also, mapping work by Leo Estrada at UCLA for Karen Hill Scott, Inc. brings this fact to life. Personal communication, 2005).

[11] Malaske-Samu, with Muranaka, (2000).

[12] Jacobson, Hirshberg, Malaske-Samu, Cuthbertson, & Burr (2001).

[13] For more information on Title 5 and Title 22 quality standards please refer to the California Department of Education's website. http://www.cde.ca.gov/sp/cd/lr/.

[14] Fuller, Holloway, Bozzi, Burr, Cohen, & Suzuki (2003).

[15] Phillips, Voran, Kisker, Howes, & Whitebook (1994).

[16] Fuller, Raudenbush, Wei, & Holloway (1993).

[17] Loeb, Fuller, Kagan, & Carrol (2004).

[18] Helburn (1995).

[19] Phillips et al. (1994), Fuller, Loeb, Strath, & Carrol (2004).

[20] David Blau (2000) has done the most research on this topic.

[21] For research reviews, see Barnett (1995), Currie (2001).

[22] Berrueta-Clement et al. (1982). Schweinhart (2004).

[23] Burchinal (1999), Vandell & Wolfe (2000), Loeb et al. (2004).

[24] These disappointing results for this largely middle-class sample are carefully detailed in NICHD Early Child Care Research Network and Duncan (2003).

[25] This study was conducted by researchers at PACE and the University of California's Linguistic Minority Research Institute (LMRI). Bridges et al. (2004). The full national study, conducted by the National Center for Education Statistics, is detailed on the web: http://nces.ed.gov/surveys/SurveyGroups.asp?Group=3.

[26] At least one other multi-state study found that higher quality centers yielded modest gains, not decrements, to social development. See Votruba-Drzal, Levine Coley, & Chase-Lansdale (2004).

[27] Bradley, Corwyn, Burchinal, Pipes, McAdoo, & García Coll (2001).

[28] Loeb et al. (2004).

[29] Currie (2003), Bridges et al. (2004).

[30] In New Jersey, the estimate of age-eligibility children includes some three-year-olds since some districts in the state include three-year-olds. Data for Georgia, New Jersey, New York, Oklahoma taken from the GAO Report: Four Selected States Expanded Access by Relying on Schools and Existing Providers of Early Education and Care to Provide Services (2005). Data for California taken from Fight Crime: Invest

in Kids California (2005), CA Head Start Association (2005), and Nancy Remley of the California Department of Education (personal communication, 2005).

[31] The state preschool program qualifies children from families at or below 75 percent of the state median income as eligible for services. The estimate of the number of eligible 4-year-olds was taken from a report from Fight Crime: Invest in Kids California. The report estimated that 569,795 3-5 year-olds are currently eligible for public preschool. In order to estimate the number of eligible 4-year-olds, the 3-5 estimate was divided by three. Fight Crime: Invest in Kids California (2005). The estimate for future eligibility was derived from subtracting the estimate of four-year-olds eligible for subsidized programs from the total number of four-year-olds in CA in 2000 as reported by the U.S. Census Bureau.

[32] Please refer to footnote number four for an explanation of the ECLS-K data set estimates. To estimate the number of preschool center enrollment .62 (the estimated percent) was multiplied by the total number of four-year-olds 523,425.

[33] Schemacher. Ewen, & Hart (2005).

[34] Little is known regarding the amount of preschool revenue raised through parental fees. We do know that the publicly subsidized subsector represents not more than one quarter of all enrollment slots for preschool-age children.

[35] The ballot initiative submitted to the Attorney General in fall 2003 ("The Improving Classroom Education Act") required that participating preschools offer a formal instructional program. See the Attorney General's website: http://caag.state.ca.us/initatives/inactiveindex.html.

[36] Barnett, Brown, & Shore (2004).

[37] Bohrnstedt & Stecher (2002).

[38] California Budget Project (2002).

[39] U.S. Census Bureau (2002).

[40] When Georgia's UPK program began in 1992, funding was targeted on communities with highest share of "at risk children." But three years later the program shifted to moving new dollars to communities with the lowest preschool enrollment rates. Georgia Profile: Standard Based Accountability System State Profile Pre-kindergarten with K-12 Comparisons found at http://www.ihdi.uky.edu/sparc/states/GA.pdf.

[41] Barnett et al. (2004).

[42] Hirshberg et al. (2002).

[43] Hirschberg, Huang, & Fuller (in press).

[44] A thorough analysis of these cultural and linguistic questions appear in: Naughton, Dukakis, and Grossman-Swenson (2004).

[45] Less than two percent reported just a high school diploma or less.

[46] Gilliam & Zigler (2000) review the primitive state of state preschool evaluations.

[47] Henry, Henderson, Ponder, Gordon, Mashburn, & Rickman (2003).

[48] Children attending independent centers also display higher proficiencies at entry, compared to children in Georgia pre-K and Head Start programs (e.g., directly assessed PPVT, Woodcock-Johnson Letter-Word Recognition, and the story and print concepts scale).

[49] Resnick, Hubbell-McKey, & Klayman (2001), Resnick, Sorongon, Klayman, Hubbell-McKey, & DeWolfe (2002).

[50] Barnett, Tarr, Esposito Lamy, & Frede (2002).

[51] Initial results appear in Gormley, Jr. & Phillips (2003).

[52] Smith (2002).

[53] For review, see Fuller, Kagan, Loeb, & Change (2004).

[54] For review of this research literature, see Howes & Brown (2000)., Hamre & Bridges (2004).

[55] Researchers working in the K-12 arena have made progress in estimating the magnitude of teacher effects and what classroom practices raise student achievement. For one recent review, see Nye, Konstantopoulos, & Hedges (2004).

[56] Whitebook (2003).

[57] Helburn (1995)., Resnick & Zill (2002).

[58] Gilliam & Ripple (2004).

[59] Hamre (2004).

[60] Barnett (2003:10). Seven studies are cited, but one (Howes & Brown, 2000) is actually a review brief, not an original empirical paper.

[61] Arnett (1989).

[62] Berk (1985).

[63] Dunn (1993).

[64] Whitebook, Howes, & Phillips (1990).

[65] Whitebook, Howes, & Phillips (1990: summary p. 9; technical report, pp.42-45).

[66] The empirical report is Howes (1997). Barnett cites the more comprehensive review which includes the original work (Howes & Brown, 2000).

[67] The final study cited by Barnett also draws from the CQO study, an investigation of how preschool and kindergarten teachers assess the quality of interactions with different children and youngsters' evolving level of social adjustment. While an index of quality was constructed, it did not include teacher training levels as a component. It is not clear why Barnett includes this study to bolster his case.

[68] Henry et al. (2004).

[69] Resnick et al. (2002; personal communication, 2005).

[70] Gormley & Phillips (2003).

Return to Table of Contents

[71] NICHD Early Child Care Research Network (1999).

[72] NICHD Early Child Care Research Network (2002).

[73] Loeb et al. (2004).

[74] Fuller, Kagan, Loeb, & Chang (2004).

[75] This study, also drawing on the CQO study data, found that teachers with BAs had organized classrooms with more stimulating and better structured tasks for children, compared to teachers with lower credential levels (Burchinal, Cryer, Clifford, & Howes (2002). Yet levels of child development were similar between those in classrooms with BA teachers and those with teachers who had attended specialized in-service workshops. Also, the only student control variables entered in multivariate analyses were ethnicity and maternal education; no prior controls on teacher attributes were included.

[76] O'Brien, Hamre, Bridges, Burr, & Pai (2003).

[77] Hamre, Grove, O'Brien, Lu, Bridges, & Pai (2004). For more information refer to: http://pace.berkeley.edu/pace_eval_matching_funds.html.

[78] Consult the technical report for details (Hamre et al., 2004). Costing details were gathered by the American Institutes for Research. Summary cost data appear in, "CRI Bay Area and Matching Funds Cost Findings," available from PACE-Berkeley. Special thanks to Deborah Montgomery and her team for this analysis.

[79] Blau (2000).

[80] Whitebook, Phillips, Bellm, Crowell, Almarez, & Jo (2004).

[81] Howes (2004).

[82] For research reviews on parents' varying socialization goals, advanced by cross-cultural psychologists and sociologists, see Holloway et al. (1997), Schweder et al. (1998), Chaudry (2004).

[83] For review, see Piotrkowski et al. (2001).

[84] Scott-Little, Kagan, & Freelow (2003).

[85] Census data analyzed by Naughton et al. (2004).

[86] Parent involvement task group (2004).

[87] Naughton et al. (2004).

[88] For more information: http://www.lausd.k12.ca.us/lausd/offices/cdd/ecedir.html.

[89] Yelton, Driscoll, Logue, & Miller (2003).

[90] A second evaluation, allegedly conducted independently of the company, attempts to compare program effectiveness between High Reach and other preschool programs. The researchers admit to the study's design limitations, such as collecting a non-random sample of preschool programs and having a disproportionate number of students in the control group. No thorough statistical analyses are provided instead the researchers provide only descriptive statistics for the sample.

[91] Schweinhart & Weikart (1997).

[92] This analysis drew from a modest sample of classrooms and children, limited the generalizability of the findings. The federal government recently commissioned seven longitudinal studies of preschool curricular packages, which should soon begin to yield empirical results.

[93] DISTAR (Direct Instructional System for the Teaching of Arithmetic and Reading) was the second iteration of Direct Instruction. DARCEE was a preschool program created by researchers at the Demonstration and Research Center for Early Education at Vanderbilt University. Miller & Bizzell (1983).

[94] Karnes, Shwedel, & Williams (1983).

[95] Marcon (2003).

[96] Stipek et al. (1999)., Stipek, Feiler, Daniels, & Milburn (1995).

[97] The EdSource website: http://www.edsource.org/pdf/DemogrfcsEdFact_Final.pdf.

[98] Tabors, Paez, & Lopez (2003).

[99] Lopez & Greenfield (2004). Dickinson, McCabe, Clark-Chiarelli, & Wolf (2004).

[100] Lindsey, Manis, & Bailey (2003).

[101] Fillmore (1991).

[102] Tabors et al. (2003). The two other studies of bilingual preschools showed that children maintain oral proficiency in Spanish while acquiring English proficiency. Winsler, Diaz, Espinoza, & Rodriguez (1999)., Rodriguez, Diaz, Duran, & Espinosa (1995).

[103] A related question: *over what period of time should effects be sustained*? The planning team would presumably like to see child-level effects persist into elementary school. We also want quality gains in centers (or FCCHs) to be sustained over time. But over what range of time should children and providers be followed to establish sufficient benefits of the program?

[104] Fuller, Suzuki et al. (2001)., Loeb, Fuller et al. (2004).

Return to Table of Contents

REFERENCES

Arnett, J. (1989). Caregivers in day-care centers: Does training matter? *Journal of Applied Developmental Psychology, 10*(4), 541-552.

Barnett, W. S. (1995). Long-term effects of early childhood programs on cognitive and school outcomes. *Future of Children, 5*(3), 25-50.

Barnett, W. S. (2003). *Better teachers, better preschools: Student achievement linked to teacher qualifications.* NIEER preschool policy matters, issue 2. U.S.; New Jersey: National Institute for Early Education Research (NIEER).

Barnett, W. S., Brown, K., & Shore, R. (2004). *The universal vs. targeted debate: Should the united states have preschool for all?* NIEER preschool policy matters, issue 6. U.S.; New Jersey: National Institute for Early Education Research (NIEER).

Barnett, W.S., Tarr, J.E., Lamy, C.E., & Frede, E.C. (2002). *Fragile lives, shattered dreams: A report on Implementation of preschool education in New Jersey's Abbott districts.* New Brunswick, NJ: National Institute for Early Education Research.

Berk, L. E. (1985). Relationship of caregiver education to child-oriented attitudes, job satisfaction, and behaviors toward children. *Child Care Quarterly, 14*(2), 103-129.

Blau, D. M. (2000). The production of quality in child-care centers: Another look. *Applied Developmental Science. Special The effects of quality care on child development, 4*(3), 136-148.

Bohrnstedt, G.W., & Stecher, B.M. (Eds.) (2002). What We Learned about Class Size Reduction in California. Capstone Report. Sacramento, CA: California Department of Education.

Bradley, R. H., Corwyn, R. F., McAdoo, H. P., & Coll, C. G. (2001). The home environments of children in the united states part I: Variations by age, ethnicity, and poverty status. *Child development, 72*(6), 1844-1867.

Bridges, M., Fuller, B., Rumberger, R., & Tran, L. (2004). *Preschool for California's children: Promising benefits, unequal access.* PACE Policy Brief No. 04-3. Berkeley, California: Policy Analysis for California Education (PACE).

Burchinal, M. R. (1999). Statistical methods for describing developmental patterns. *Early Education & Development.Special Unresolved issues in early childhood programming, 10*(1), 83-99.

Burchinal, M. R., Cryer, D., Clifford, R. M., & Howes, C. (2002). Caregiver training and classroom quality in child care centers. *Applied Developmental Science, 6*(1), 2-11.

California Budget Project (2002). Who pays taxes in California? April 15 policy brief, Sacramento.

California Department of Education. Data Quest at http://data1.cde.ca.gov/dataquest/.

California Department of Education. Desired Results at http://www.cde.ca.gov/sp/cd/ci/desiredresults.asp.

California State Attorney General Office website: http://caag.state.ca.us/initiatives/inactiveindex.htm.

Chaudry, A. (2004). *Putting Children First: How Low-wage Working Mothers Manage Child Care*. New York: Russell Sage Foundation.

Currie, J. (2001). Early childhood education programs. *Journal of economic perspectives, 15*(2), 213-238.

Currie, J. (2003). When do we really know what we think we know? Determining causality. Los Angeles: UCLA Department of Economics (manuscript).

Dickinson, D. K., McCabe, A., Clark-Chiarelli, N., & Wolf, A. (2004). Cross-language transfer of phonological awareness in low-income Spanish and English bilingual preschool children. *Applied Psycholinguistics, 25*(3), 323-347.

Duncan, G. J., & National Institute of Child Health and Human Development Early Child Care, Rockville, MD (US). (2003). Modeling the impacts of child care quality on children's preschool cognitive development. *Child development, 74*(5), 1454-1475.

Dunn, L. (1993). Proximal and distal features of day care quality and children's development. *Early Childhood Research Quarterly, 8*(2), 167-192.

Fillmore, L. W. (1991). When learning a second language means losing the first. *Early Childhood Research Quarterly, 6*(3), 323-347.

Fuller, B., Holloway, S. D., Bozzi, L., Burr, E., Cohen, N., & Suzuki, S. (2003). Explaining local variability in child care quality: State funding and regulation in California. *Early Education and Development, 14*(1), 47-66.

Fuller, B., & Huang, D., (2003). *Targeting investments for universal preschool: Which families to serve first? Who will respond?* PACE Working Paper Series No. 03-1. Berkeley, California: Policy Analysis for California Education (PACE).

Fuller, B., Kagan, S.L., Loeb, S., & Chang, Y. (2004). Child care quality: Centers and home settings that serve poor families. *Early Childhood Research Quarterly*, 19, 505-527.

Fuller, B., Loeb, S., Strath, A., & Carrol, B., (2004). State formation of the child care sector: Family demand and policy action. *Sociology of Education*, 77, 337-358.

Fuller, B., Raudenbush, S.W., Wei, L., & Holloway, S.D. (1993). Can government raise child-care quality? The influence of family demand, poverty, and policy. *Educational Evaluation and Policy Analysis, 15*(3), 255-278.

Fuller, B., & Strath, A. (2001). The child-care and preschool workforce: Demographics, earnings, and

Return to Table of Contents

unequal distribution. *Educational Evaluation and Policy Analysis, 23*(1), 37-55.

Fuller, B., Water Boots, S., Castilla, E., & Hirshberg, D. (2002) *A stark plateau: California families see little growth in child care centers*. PACE Policy Brief No. 02-2. Berkeley, California: Policy Analysis for California Education (PACE).

Gilliam, W.S., & Ripple, C.H. (2004). What can be learned from state-funded prekindergarten initiatives? A data-based approach to the Head Start Devolution Debate. In E. Zigler & S.J. Styfco (Eds.), The Head Start Debates (friendly and otherwise). Baltimore, MD: Brooks Publishing Company.

Gilliam, W. S., & Zigler, E. F. (2000). A critical meta-analysis of all evaluations of state-funded preschool from 1977 to 1998: Implications for policy, service delivery and program evaluation. *Early Childhood Research Quarterly, 15*(4), 441-473.

Gormley, W.T., & Phillips, D. (2003). The effects of universal pre-K in Oklahoma: Research highlights and policy implications. Crocus Working Paper No. 2.

Government Accounting Office, GAO *(2004). Four Selected States Expanded Access by Relying on Schools and Existing Providers of Early Education and Care to Provide Services*. GAO-04-852. Washington, D.C.: September 2004.

Hamre, B. (2004). Spotlight on diversity in the early care and education workforce. Berkeley: Policy Analysis for California Education (PACE evaluation bulletin).

Hamre, B.K., & Bridges, M. (2004). *Early care and education staff preparation, quality, and child development: A review of the literature.* Berkeley: Policy Analysis for California Education (manuscript).

Hamre, B., Grove, R., O'Brien, B., Lu, F., Bridges, M., & Pai, S. In collaboration with Parrish, D., Phillips, G., & Wang, H. (2004). Program evaluation: Matching funds for retention incentives for early care and education staff (Final Report). Berkeley, CA: Policy Analysis for California Education.

Helburn, S. W. E. (1995). *Cost, quality and child outcomes in child care centers. Technical report, public report, and executive summary*. U.S.; Colorado: Cost.

Henry, G. T., Henderson, L. W., Ponder, B. D., Gordon, C. S., Mashburn, A. J., & Rickman, D. K. (2003). *Report of the findings from the early childhood study: 2001-02*. U.S.; Georgia: Georgia State University.

Hirschberg, D. (2002) *CDSS-PACE Child care planning project—final report*. Berkeley: University of California, Policy Analysis for California Education (PACE).

Hirshberg, D., Derbin, L., & Robinson, G. (2002). *CDSS-PACE child care planning project: Descriptive findings from the child care subsidy interviews. PACE Working Paper Series No. 02-1*. Berkeley, California: Policy Analysis for California Education (PACE).

Holloway, S., Fuller, B., Rambaud, M. & Eggers-Piérola, C. (1997). *Through My Own Eyes: Single Mothers and the Cultures of Poverty*. Cambridge, MA: Harvard University Press.

Howes, C. (1997). Children's experiences in center-based child care as a function of teacher background and adult:Child ratio. *Merrill-Palmer Quarterly, 43*(3), 404-425.

Howes, C., & Brown, J. (2000). *Improving child care quality: A guide for proposition 10 commissions*. Los Angeles, CA: UCLA Center for Healthier Children, Families, and Communities.

Jacobson, L., Hirshberg, D., Malaske-Samu, K., Cuthbertson, B.B., & Burr, E. (2001). *Understanding child care demand and supply issues: New lessons from Los Angeles*. PACE Policy Brief No. 01-2. Berkeley, California: Policy Analysis for California Education (PACE).

Karnes, M.B., Shwedel, A.M., & Williams, M.B. (1983). A comparison of five approaches for educating young children from low-income homes. In As the twig is bent: Lasting effects of preschool programs (pp.133-170). Hillsdale, NJ: Erlbaum.

Kisker, E., Hofferth, S., Phillips, D., & Farquhar, E. (1991). Profile of child care settings: Early education and care in 1990. Washington, DC: United States Department of Education.

Lindsey, K. A., Manis, F. R., & Bailey, C. E. (2003). Prediction of first-grade reading in Spanish-speaking English-language learners. *Journal of educational psychology, 95*(3), 482-494.

Loeb, S., Fuller, B., Kagan, S.L., & Carrol, B., (2004). Child care in poor communities: Early learning effects of type, quality, and stability. *Child Development, 75*(1).

Lopez, E.S, & de Cos, P. L. (2004). *Preschool and childcare enrollment in California. California Research Bureau No.* CRB99009. Sacramento, California.

Lopez, L.M., & Greenfield, D.B. (2004). The cross-language transfer of phonological skills of Hispanic Head Start children. *Bilingual Research Journal, 28*(1).

Malaske-Samu, K. with Muranaka, A. (2000). *Child Care Counts: An Analysis of the Supply and Demand for Early Care and Education Services in Los Angeles County*. Los Angeles: Child Care Planning Committee.

Marcon, R. A. (2002). Moving up the grades: Relationship between preschool model and later school success. *Early Childhood Research & Practice, 4*(1).

Miller, L.B., & Bizzell, R.P. (1983). Long-term effects of four preschool programs: Sixth, seventh, and eighth grades. *Child Development, 54*(3), 727-741.

National Center for Education Statistics. Early Childhood Longitudinal Study website. Available from: http://nces.ed.gov/surveys/SurveyGroups.asp?Group=3.

Naughton, S. with K. Dukakis and S. Grossman-Swensen (2004). The importance of family engagement: English language learners, immigrant children, and preschool for all. Oakland: Children Now (issue brief).

NICHD Early Child Care Research Network. (1999). Child outcomes when child care center classes meet recommended standards for quality, *American Journal of Public Health* , 89(7):1072-7.

NICHD Early Child Care Research Network. (2002). Child-care structure, process, outcome: Direct and indirect effects of child-care quality on young children's development. *Psychological science, 13*, 199-206.

Nye, B., Konstantopoulos, S., & Hedges, L. (2004). How large are teacher effects? *Educational Evaluation and Policy Analysis*, 26, 237-257.

O'Brien, B., Hamre, B., Bridges, M., Burr, E., & Pai, S. (2003). *Training programs evaluation: Final report: 2001-2003.* (Report completed for First 5 California). Berkeley, California: Policy Analysis for California Education.

Parent involvement task group (2004). Blueprint for success: LA-UP parent engagement and leadership. Los Angeles: Children's Planning Council (draft).

Phillips, D. A., Voran, M., Kisker, E., Howes, C., & Whitebook, M. (1994). Child care for children in poverty: Opportunity or inequity? *Child development, 65*(2 Apr.), 472-492.

Piotrkowski, C., Botsko, M., & Matthews, E. (2001). Parents' and teachers' beliefs about children's school readiness in a high-need community. *Early Childhood Research Quarterly*, 15, 537-558.

Public safety can't wait. California's preschool shortage, A missed opportunity for crime prevention. (2005). Oakland, CA: Fight Crime: Invest in Kids California.

Resnick, G., Hubbell-McKey R., & Klayman, D. (2001). *Second year report on early childhood education programming in the 30 abbott school districts: Program implementation and children's school readiness*. Trenton, New Jersey: New Jersey Department of Human Services and New Jersey Department of Education.

Resnick, G., Sorongon, A.G., Klayman, D., Hubbell-McKey, R., & DeWolfe, J. (2002). *Second year report on early childhood education programming in the 30 abbott school districts: Program implementation and children's school readiness*. Trenton, New Jersey: New Jersey Department of Human Services and New Jersey Department of Education.

Rodriguez, J. L., Diaz, R.M., Duran, D., & Espinosa, L. (1995). The impact of bilingual preschool education on the language development of Spanish-speaking children. *Early Childhood Research Quarterly, 10*, 475-490.

Schumacher, R., Ewen, D., Hart, K., & Lombardi, J. (2005). All together now: State experiences in using community-based child care to provide pre-kindergarten. Paper prepared for The Brookings Institution & University of North Carolina Conference on "Creating a National Plan for the Education of 4-Year-Olds", Washington, D.C.

Schweinhart, L.J. (2004). The High/Scope Perry Preschool study through age 40: Summary, conclusions, and frequently asked questions. Ypsilanti, MI: High/Scope Foundation.

Schweinhart, L.J., & Weikart, D.P. (1997). The High/Scope preschool curriculum study through age 23. *Early Childhood Research Quarterly, 12*(2), 117-143.

Scott-Little, C., Kagan, S.L., & Frelow, V.S. (2003). Creating the conditions for success with early learning standards: Results from the National Study of State-level Standards for Children's Learning Prior to Kindergarten. *Early Childhood Research & Practice, 5*, at http://ecrp.uiuc.edu/v5n2/little.html.

Shweder, R., Goodnow, J., Hatano, G., LeVine, R., Markus, H., & Miller, P. (1998). The cultural psychology of development: One mind, many mentalities. Pp. 865-938 in *Handbook of Child Psychology*, edited by W. Damon and R. Lerner. New York: John Wiley & Sons.

Stipek, D. J., Feiler, R., Byler, P., Ryan, R., Milburn, S., & Salmon, J. M. (1998). Good beginnings: What difference does the program make in preparing young children for school? *Journal of Applied Developmental Psychology, 19*(1), 41-66.

Stipek, D., Feiler, R., Daniels, D., & Milburn, S. (1995). Effects of different instructional approaches on young children's achievement and motivation. *Child development, 66*(1), 209-223.

Tabors, P. O., Paez, M., & Lopez, L. M. (2003). Dual language abilities of bilingual four-year olds: Initial findings from the early childhood study of language and literacy development of spanish-speaking children. *NABE Journal of Research and Practice, 1*(1).

U.S. Census Bureau (2002). Historical income tables—Households Table H8. Washington DC, March 21.

U.S. Census Bureau. (2002). Table A-2. Percentage of the population three years old and over enrolled in school, by age, sex, race, and Hispanic origin: October 1947 to 2002. Retrieved November 27, 2004, from http://www.census.gov/population/socdemo/school/tabA-2.pdf

Whitebook, M., Phillips, D., Bellm, D., Crowell, N., Almaraz, M., & Jo, J.Y. (2004). *Two years in early care and education: A community portrait of quality and workforce stability. Executive Summary.* Berkeley, California: Center for the Study of Child Care Employment.

Whitebook, M. (2003). *Early education quality: Higher teacher qualifications for better living environments. A review of the literature*. Berkeley, California: Center for the Study of Child Care Employment.

Return to Table of Contents

Whitebook, M., Howes, C., & Phillips, D. (1990). *The national child care staffing study. Final report: Who cares? Child care teachers and the quality of care in America.* Washington DC: Center for the Child Care Workforce.

Whitebook, M., Howes, C., & Phillips, D. (1989). Who cares? Child care teachers and the quality of care in America. National Child Care Staffing Study Executive Summary. Oakland, CA: Child Care Employee Project.

Wilson, M., Mangione, P., Brown, R., Heal, H.B., & Moore, S. (2004). Theory to practice: Conceptualizing and creating developmental indicators across domains. Paper presented at the meeting of the American Education Research Association, San Diego, CA.

Winsler, A., Diaz, R. M., Espinosa, L., & Rodriguez, J. L. (1999). When learning a second language does not mean losing the first: Bilingual language development in low-income, spanish-speaking children attending bilingual preschool. *Child development, 70*(2), 349-362.

Vandell, D. L., & Wolfe, B. (2000). *Child care quality: Does it matter and does it need to be improved?* U.S.; Wisconsin. ED441941.

Votruba-Drzal, E., R. Levine Coley, & Chase-Lansdale, P.L. (2004). Child care and low-income children's development: Direct and moderated effects. *Child Development 75*(1): 296-312.

Yelton, B.T., Driscoll, L., Logue, M.E., & Miller, S.K. (2003). The effect of participation in High Reach learning pre-kindergarten curriculum on students' kindergarten assessment scores. Praxis, Inc.

Additional PACE research papers on child development and early education appear on the web: pace.berkeley.edu

Policy Analysis for California Education
University of California, Berkeley and Davis
Stanford University