

Funding Early Education
in Tough Times

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Financing Pre-K: Why Finding a Better Way Is Critical To Our Future

We devote part of this issue to examining various aspects of financing of early childhood education. On page 3, we look at the various funding streams going into early childhood programs and discuss ways in which they tend to work against building a cohesive system of preschool education. And, we describe ways to correct this problem that would lead to better access for more children to higher quality programs. However, we must recognize that even if the system were reformed tomorrow, current funding would fall far short of the need for affordable pre-K for middle-income families.

The Wall Street Journal

reports that wages for a broad swath of the labor force have taken a “sharp and swift” fall to an extent rarely seen since the Great Depression. Between 2007 and 2009 more than half of workers who lost jobs and then found new ones reported wage declines—more than a third at 20 percent or more. Experts say it will be years, if ever, before their wages return to pre-recession levels.

This—and the fact that real unemployment in the United States continues above 10 percent—should be setting off alarm bells for anyone worried about the nation’s future. Research shows that children whose parents lose jobs and eventually find new

ones at lower wages suffer from lower wages themselves. The Panel Study of Income Dynamics (PSID) tracked the progress of people who, as children, lived through the post-war recessions that began in 1973 and 1980. Kids whose parents suffered layoffs end up with lower earnings when they became adults. The impact was concentrated in children from lower-income families, presumably because parental unemployment posed a larger threat to family sustenance. It was especially pronounced for children who were the youngest during the recessions. The researchers conclude that:

“... children who fall into poverty during a recession will fare far worse along a range of variables than will their peers who did not fall into poverty. They will live in households with lower incomes, they will earn less themselves and they have a greater chance at living in or near poverty as adults. They will achieve lower levels of education, and they will be less likely to be gainfully employed. Children who experience recession-induced poverty will even have poorer health than their peers who stayed out of poverty ...”

We already know that poverty has been rising in the United States for decades. Confronting this threat to the nation’s future well-being with investments in high-

quality early childhood education would help secure those children’s future. Yet early education is not a high priority among the policy solutions put forth to address our long-term rise in poverty. Instead the current fashion for budget cutting seems to have driven good ideas from the policy agenda as effectively as bad money drives out good from the market. A number of states have undertaken or are debating large cuts to child care and pre-K. State leaders need to pursue the opposite path, and the federal government should provide competitive grants to the states for high-quality early education.

Children are not able to vote and households with children are a declining percentage of American households. Yet they represent 100 percent of the nation’s future well-being. As we view our policy solutions, we should apply the cold calculus any successful business uses in making economic decisions. If we do that—and take even a rudimentary look at the returns to be had by investing in early childhood education—it should rise to the top of the policy priority list. ■

W. Steven Barnett
Co-Director, NIEER

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Funding Pre-K in Tough Times: More Focus on Data-Driven Decision Making Policy Alignment

The Obama Administration is Calling for Federal Programs to Use More and Better Data to Drive Funding Decisions and to Effect Long-Stalled Reform

The sheer number and variety of public early childhood programs in existence today are testimony to the fact that early education means different things to different people. That's all well and good as long as programs are effective and children are learning what they need to know. But a look at the track record of early childhood programs funded by the federal government casts doubt on the effectiveness and efficiency of many. That's why the Obama administration and leading early childhood scholars are calling on public early childhood programs to base funding decisions on more hard data relating to performance and for pro-



Researchers say that pre-K could narrow the achievement gap by 30 to 50 percent if quality improvement focused on teacher development.

“Head Start, child care programs, and early intervention programs ought to be freed up to create more coherent systems.”
– Steve Barnett

grams at federal, state, and local levels to do a better job of coordinating their efforts so programs perform better and taxpayer dollars are spent more efficiently.

Most notable is Head Start, the federal program begun in 1965 that has been the recipient of the largest funding increases by the Obama administration of any early childhood program. The large government-mandated randomized study that followed Head Start children as they progressed to first grade found the kids who attended made virtually no overall cognitive, social, or emotional gains over kids who had not attended. Other less rigorous studies have found some gains for Head Start children but the body of research indicates the program is not living up to its promise.

That's not to say all Head

Start programs are falling short. In Tulsa, Oklahoma, where Head Start is part of the state's universal pre-K program, research shows children making substantial gains in both reading and math. One likely reason for the difference is Head Start teachers in Tulsa have bachelor's degrees and are paid on par with public school teachers because Head Start participates in state pre-K.

When it comes to gauging effectiveness, other areas of federal early childhood funding provide even less to go on. The Child Care and Development Fund (CCDF) and related programs, including Temporary Assistance for Needy Families (TANF), pro-

vide subsidies to disadvantaged families for child care. (See Table 1.) Aside from requiring states to dedicate up to 7 percent of funds for quality improvement, they do not require measures of educational effectiveness. Writing in *Investing in Children*, a review of federal early childhood policy recently released by NIEER and The Brookings Institution, NIEER Co-Director Steve Barnett and Brookings Senior Fellow Ron Haskins conclude the quality of care supported by these programs is “mediocre or worse.” They say children attending the average center funded by these programs may gain only a small boost

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in cognitive growth.

Other researchers agree. Robert C. Pianta, University of Virginia, Margaret Burchinal, University of North Carolina, and Kathy R. Thornburg, University of Missouri, say preschool in the U.S. narrows the achievement gap by as little as 5 percent—largely due to the prevalence of low-quality programs. Their review, reported recently in *Psychological Science in the Public Interest*, says pre-K could be narrowing the gap by 30 to 50 percent if a quality improvement agenda that focuses on teacher development were pursued.

This is not lost on the Obama administration, which has called for reforms of Head Start and the formation of councils that would spearhead a drive for higher quality and better coordination of programs at the state level. In September, the Department of Health and Human Services acted on the recommendations of a panel of experts, proposing a system aimed at improving or shutting down Head Start programs that don't make the grade. It calls for the Department of Health and Human Services to review all 1,600 Head Start programs over the next three years. Seven criteria are to be used to measure program performance, operations, and fiscal integrity. Classrooms would be observed by professionals and rated according to a widely used scale that gauges teachers' ability to provide support and instruction to pupils.

At least 25 percent of the grantees evaluated in any given year—the lowest performing ones—would be required to “re-compete” for their grants with other

Table 1. Funding for Major Federal Programs for Children Under Age 5

| INITIATIVE | 2008 | 2010 | FY11 FEDERAL BUDGET |
|---|----------------|----------------|--|
| Head Start (excluding Early Head Start) | \$6.2 billion | \$6.7 billion* | \$7.2 billion |
| Early Head Start | \$688 million | \$1.0 billion* | \$1.7 billion |
| Child Care Subsidies (CCDF) | \$5.2 billion | \$5.7 billion* | \$6.5 billion |
| Child Care Food Program | \$1.3 billion | \$1.4 billion | \$1.5 billion |
| Tax Credits (CTCDC and DCAP) | \$2.2 billion | \$2.2 billion | Expected increase since Obama proposal raises CTCDC eligibility limits |
| Dept. of Defense Child Care | \$300 million | \$750 million | \$800 million |
| Title I Preschool | \$400 million | \$500 million | \$550 million |
| Preschool Special Education (IDEA Part B, Sect. 619) | \$374 million | \$574 million* | \$374 million |
| Early Intervention for infants and toddlers with disabilities (IDEA Part C) | \$436 million | \$632 million* | \$649 million |
| Home Visiting | \$0 | \$100 million | \$250 million |
| Total** | \$17.1 billion | \$19.5 billion | \$21.7 billion*** |
| State funding for preschool special education | \$5 billion | \$5 billion | \$5 billion |
| State Early Intervention | \$2-3 billion | \$2-3 billion | \$2-3 billion |
| State Child Care Subsidies | \$2.4 billion | \$2.2 billion | \$2.2 billion |

* Includes additional American Recovery and Reinvestment Act Funds for FY2010

** A significant portion of the increases from 2008 is due to American Recovery and Reinvestment Act Funding, which accounts for \$1.4 billion of 2010 funding and \$1.6 billion of 2011 funding.

*** Total assumes tax credits continuing at 2010 levels.

providers in the community. Programs shown to be performing above a certain threshold are to be funded on a five-year cycle. Haskins, at Brookings, and Barnett hailed the proposals, saying they will lead to the poor programs being shut down and replaced by energetic programs.

Addressing Dysfunction

We teach preschoolers to play well with others but when it comes to early education funding streams feeding into those programs, that rule doesn't seem to apply. It has long been noted by policy experts that the diverse funding streams feeding into early education at the federal,

state and local levels have the combined effect of preventing system-building and quality improvement. Jason Hustedt, a NIEER research fellow at the University of Delaware, says this dysfunction is due largely to the fact that each funding stream exists in its own separate sphere or “silo”—with its own constituency and set of requirements. This is so despite the fact that at the local level they serve the same communities.

Classrooms serving kids in state-funded pre-K may be just blocks from a Head Start program serving children the same age, while down the road preschool-age kids attend an extended-hours child care

center. Teachers in these classrooms may pass each other on the street but they seldom interact professionally or share resources such as professional development.

This problem extends to the administrative side as well. Preschool providers increasingly find they must use or “braid” funds from multiple funding streams in order to serve the needs of kids in a single classroom. (See Table 2.) However, because of the separate silos, administrators must dedicate an inordinate amount of time and effort to complying with the rules and regulations associated with each funding source.

Hustedt, who has co-

authored a NIEER policy brief on funding issues, says states should be provided with regulatory relief to facilitate coordination and collaboration across programs receiving federal and state funds. The Obama administration took steps in that direction by making funds available in the form of stimulus grants to support state-level early learning councils. Intended to bring policymakers and stakeholders together to align policies in order to form a better-functioning early education system, these councils have been in existence in a number of states but many fell victim to changes in political leadership, weak representation, and lack of funding. Illinois, however,

succeeded in developing a council with enough authority to begin aligning policy to develop something resembling a pre-K system, serving as a model for other states.

Christina Satkowski, who tracks the councils at the New America Foundation, says they should make a bigger difference this time around—not least because the administration requires they be established at the gubernatorial level, have high-level representation from federal, state and local programs, and develop a comprehensive system-building plan. She provides a state-by-state breakdown of the effort in her policy brief titled *The Next Step in Systems-Building: Early Childhood Advisory Councils*

and *Federal Efforts to Promote Policy Alignment in Early Childhood*.

Rewarding Innovation

The Obama administration has dedicated more resources to early care and education than any administration in modern times. They not only proposed substantial increases in program funding but also brought forth initiatives aimed at effecting genuine reform. One critical component, advanced in policy guidance from NIEER and others, was establishment of a well-funded early childhood challenge fund that would award competitive grants to states with the most promising plans for innovation and reform.

Proposed at a funding level of \$8 billion, the challenge fund aimed to improve the quality of early care and education programs by promoting the integration of more stringent program and early learning standards than are typically found in child care centers. Grantees would have been required to outline their plans for professional development and technical assistance to support their efforts.

Early childhood policy experts considered this the most promising aspect of the president's early childhood initiative. Yet it failed to become law when it fell victim to last-minute legislative bargaining over health care reform. In NIEER's new policy brief *Financing More and Better Early Education*, Hustedt and Barnett call for a federal early learning challenge fund to be established that awards substantial federal-to-state grants for initiatives that support innovation and reform.

Barnett says regardless of whether such a fund ever becomes law other measures should be taken to shake things up. In October, when he and Haskins released the *Investing in Children* report, they called for the federal government to offer major regulatory relief for Head Start and other programs to foster innovation and more effective program delivery—and to conduct randomized trials on programs operating with the waivers needed for innovation. “We need to conduct randomized trials,” Barnett said, adding that “Head Start, child care programs, and early intervention programs ought to be freed up to create more coherent systems.” ■

Table 2. Features of Federal, State, and Local Funding Silos

| INITIATIVE | FUNDING SOURCE | ADMINISTRATIVE AGENCY | PRIMARY SERVICE | ELIGIBILITY REQUIREMENTS |
|--|---|--|--|---|
| Head Start | Federal funds distributed to local grantees | U.S. Department of Health and Human Services | Comprehensive child development program for children and their low-income families | Available to families with incomes up to 100% FPL or 130% if all in 100% level are served, children ages 3-5 (Head Start) or 0-3 (Early Head Start) |
| Child Subsidies (Includes CCDF and TANF) | Federal funds with required state matches | U.S. Department of Health and Human Services | Child care assistance for low-income working families | Available to working families with incomes up to 85% SMI (CCDF) or who are needy as defined by the state (TANF), children ages 0-13. State rules vary. |
| Tax Credits | Federal credits against income taxes | U.S. Department of the Treasury | Reduction of families' child care expenses | Available to any family with qualifying child care expenses up to age 13, but CDCTC credit amounts are based on income levels |
| Title I Preschool | Federal funds | U.S. Department of Education | Education services for disadvantaged children | Available to all children in schools where 40% of children are in poverty, or to academically at-risk children in schools with lower percentages of children in poverty |
| Early Childhood Special Education | Federal and state funds | U.S. Department of Education | Special education services for children | Available to all preschool-age children with identified disabilities, or, at states' discretion, developmental delays |
| State Pre-K | State funds, sometimes supplemented with local or federal funds | State Departments of Education, most typically | Education programs for qualifying children, sometimes with additional comprehensive services | Most programs target at-risk children using factors such as family income, foster care and parental substance abuse. States seeking universal provision of services may target at-risk children during program ramp-up. |
| Local Programs | Determined at the local level | School districts or other local agencies | Education programs for qualifying children | Determined at the local level |

Note: FPL is federal poverty level and SMI is state median income.

Retired Air Force General Norman R. Seip: Expanding High-Quality Pre-K is a Matter of National Security

Over the years, the ranks of those advocating for expanding public pre-K have grown as economists and business leaders made the case that providing all kids with a high-quality early education is essential to America's future competitiveness. Now a growing list of the nation's top military leaders say doing so is also a matter of national security. Having served as a Lieutenant General in the Air Force, including a command of 46,000 airmen assigned to 12th Air Force, General Norman R. Seip is intimately acquainted with what it takes to organize, train, and equip our armed forces so they can defend against threats to our nation. He is also a leader of Mission: Readiness, which advocates for improving the quality of and access to preschool education. He answered these questions from *Preschool Matters*:

Q: Why did you and fellow retired military leaders decide to form Mission: Readiness?

A. While our military remains strong and prepared, we are concerned about the downward trajectory of readiness among our young people. There is a growing deficit of skills and fitness among our young people that threatens our military readiness, as well as our country's ability to compete on other levels in the private sector as well. In fact, as we've reported



in a series of research reports, 75 percent of 17- to 24-year-olds are ineligible for service in the Armed Forces. Those of us who have had the privilege of leading our military feel we have identified a serious problem, and we want to affirmatively address it in a serious way.

We have the experience to understand the problem and analyze solutions, and we believe that we can help forge a policy solution. So we have formed Mission: Readiness to bring our experience to bear on this trou-

bling set of issues. "Readiness" refers both to our military's capacity as well as the need for us to get the upcoming generations ready for our challenging world. In order to elevate this set of issues among policymakers and the public, we need organizational capacity and staff to help us, and we are building our organization with the help from staff and important seed money from The Pew Charitable Trusts, the W.K. Kellogg Foundation, and the Birth to Five Policy Alliance.

Q: How many of the young people who seek to enlist in the military have to be rejected because they aren't adequately educated?

A. In terms of rejection rates, lack of education or basic academic skills is a major factor. As I said, approximately one out of four young Americans can't join because he or she lacks a high school diploma. Even among those who have graduated or received their GED, 30 percent are disqualified because they fail the military entrance exam on math and reading skills.

Q: What can pre-K do to help solve the problem?

A. We have now done a substantial amount of research and have published reports at the national level and in several states about the problems facing the military. (You can see these on our Web site: www.missionreadiness.org.) Early education, and pre-kindergarten in particular, should be a central strategy for addressing the readiness issue. Pre-K helps in two ways: first, the evidence that high-quality pre-K can aid school success and increase graduation rates is pretty impressive. Second, the long-term benefits of pre-K, in terms of the social development part of early education, are really important to military commanders because this is where we get

the ability of our enlisted personnel to be good team players and have the ability to interact constructively with others and control emotions and behaviors. Additionally, the evidence that pre-K reduces crime over time is a great benefit for us also. Currently about 10 percent of our recruitment rejections are related to young people who have a felony or serious misdemeanor on their record.

Q: Have the armed services ever had to lower their standards to obtain enough recruits?

A. I am very proud of the talent and commitment of the young men and women in uniform. I witnessed countless acts of bravery and courage during my time in the Air Force. Our standards are high because we clearly cannot have people in our command who are not up to the job. Too many lives depend on it. That said, especially when the economy is strong and recruitment more challenging, we issue a greater number of waivers for things like GEDs or criminal misdemeanors if an individual seems like an especially good candidate. There are also times that we make exceptions to give some recruits on the margin the chance to prove themselves, especially in the area of physical fitness, which is a big problem for us since so many young people are just so out of shape.

Q: Judging from the footage of the Iraq and Afghanistan wars, it looks as if our troops are being asked to perform more complex tasks than in the past. Is that true and if so, what does that say about our recruiting standards?

A. There is no question that our troops are dealing with a more complex set of tasks and tools than ever before, and that trend will continue. Fortunately, many of our recruits also come with new talents from working with information technology, so our training is aided by that. But clearly, the academic preparedness of recruits will remain an essential ingredient of our qualifications. And my sense is that as we move forward, a high school degree in itself will not suffice—recruits need the actual knowledge and skills to do the job.

Q: Some worry that the younger generation of Americans, whether well-educated or not, may be insufficiently resilient to cope with hardships such as those encountered in military training. Is that something you see?

A. That has not been my experience. In my command overall, as well as my service in support of operations in Iraq, the troops I saw were completely up to the task, both physically and in terms of their ability to deal with the stress and complexity of the mission.

Q: How are the armed services doing at the moment in terms of filling their recruiting quotas?

A. We are doing fine at present. We are making our goals but do have to really push to achieve that because we're only drawing from 25 percent of the rising generation's members, and we are using a lot of incentives to make that happen. Frankly, we are aided by the high unemployment in the private market, which makes military service seem more attractive. But a weak economy is no formula for filling the ranks of a strong military. As I said in the beginning of this interview, the warning flags are out about what the future holds in terms of finding enough of the right men and women to keep our military ready for the many challenges that I am sure we are going to face.

Q: What if we ever had to re-institute the draft?

A. That is a decision for the civilian leadership to make in consultation with the Department of Defense. Personally, I prefer a volunteer military because it ensures that we are drawing on young people who have a bias for personal discipline, action, and service to others. Additionally, if we provide the right environment for talented young people to pursue their goals, we'll attract the talent we need to lead and serve in our military and protect our nation. But, getting back to basics, if we don't develop the foundation

for our young people—especially those at risk of failing—so they get the right start in life, then it won't just be our military that pays the price, our nation will suffer also.

One thing I would like to add, is a personal reflection about this whole issue of recruitment and qualification. Clearly, the military is not for everyone. But for my fellow members of Mission: Readiness and me, serving our country was a wonderful experience of learning, friendship, challenge, and satisfaction of a job well done. It just pains me to think that there are so many young people out there, for whom the job and the service would mean so much—for whom it's a ticket to the middle class and the American dream—who do not have the skills or the training to qualify. There will always be people who will not be able to compete or have the skills that we need, but we are clearly making a big mistake if we skimp on the investment in the upcoming generations—not just in terms of the needs of the military, but for our country that needs the contribution of all our citizens. ■

New Focus on Early-Grade Absenteeism

The pattern of absenteeism that contributes to kids doing poorly in school begins early, according to research from the National Center for Children in Poverty (NCCP) at Columbia University. A recent study showed that the greater the number of absences a child has in kindergarten the greater the chances that child will exhibit chronic absenteeism in first grade. Children who are less mature from a socio-emotional standpoint have higher absenteeism rates as do children who say they don't like school. The center's analysis shows, on average, children missing 10 percent or more of the kindergarten school year scored lower on reading and math than kids who missed 3 percent or less



of the year. NCCP has published its analysis in a brief titled "A National Portrait of Chronic Absenteeism in the Early Grades," available online at http://www.nccp.org/publications/pub_771.html.

Alarmed by these facts, New York City is taking measures to reduce chronic

absenteeism. An analysis conducted at the behest of the Center for New York City Affairs recently showed more than 25 percent of school children in 12 of New York City's 32 school districts were chronically absent, missing more than a month of school per year. In five of those dis-

tricts, 30 percent of students in kindergarten through fifth grade were absent more than 10 percent of the time.

Chronic absenteeism is disproportionately a problem in elementary schools that serve mostly poor black and Latino children. After its study, the center issued five recommendations that call for, among other things, making absenteeism one of the measures by which schools are judged in the city's school progress reports, assigning absenteeism teachers to tighter geographic areas, and providing teachers and other staff with more training in absenteeism issues. The report is available at http://www.nytimes.com/packages/pdf/nyregion/20081021_ATTEND.pdf ■

New Mexico PreK Succeeded Right from the Beginning



It's not uncommon for researchers to wait and study new pre-K initiatives until they have been operating a year or more. The New Mexico PreK initiative was an exception. NIEER began studying the program in its first year of operation and continued to do so until 2010. The multi-year study concluded that children who attended the program gained important skills in areas such as addition and subtraction, telling time, knowledge of letters, and familiarity with words and book concepts. The vocabulary test is predictive of reading success and general cognitive abilities. "Kids who attend New Mexico PreK are better prepared to enter kindergarten than those who do not," said NIEER Senior Research Fellow Jason Hustedt.

The program expanded quickly when it began in 2005, serving upwards of 5,000 children within five years. However, a revenue shortfall in the state cast doubt on the prospects for the program's continued expansion. The state appropriation decreased for the 2010-2011 school year, resulting in a decline in enrollment of more than 10 percent. Hustedt says the program needs to be expanded so more of the state's children can enter kindergarten ready to learn "New Mexico showed it knows how to launch a good program and expand it with high-quality standards," he said. ■

Florida's "Milk Party" Puts Early Education First

In this era of Tea Party discontent, a group of Floridians held a series of Milk Parties to register their determination to elevate children on the



state's list of investment priorities. The new group, called The Children's Movement of Florida is led by children's advocate and retired *Miami Herald* publisher David Lawrence, Jr., and Roberto Martinez, Florida board of education member and former U.S. attorney for South Florida.

Lawrence is steeped in early childhood issues. He's president of The Early Childhood Initiative Foundation, founding chair of The Children's Trust, and University Scholar for early childhood development and readiness at the University of Florida. He told *Preschool Matters* the new organization is "a citizen-led, non-partisan movement to educate political, business and civic leaders—and all parents of the state—about the urgent need to significantly improve the way we care for our children. Our goal is to encourage the people and leaders of Florida to make the well-being and education of our children the state's highest priority."

Launched in September 2010 with a series of 15 "Milk Party" events around the state, the organization is developing a grass-roots presence with local branches around the state. Lawrence says citizens of these branches will be attending regional legislative delegation meetings, helping The Children's Movement of Florida make the case for Florida's children directly to elected officials. Highest priority on the new group's agenda is addressing these issues:

- Hundreds of thousands of Florida children are not covered by health insurance.
- The state's prekindergarten program does not meet most national standards.
- Early screening and treatment programs for children with special needs are poorly coordinated, difficult to access, and of inconsistent quality.
- A quarter of Florida's public high school students do not graduate.
- Florida's businesses and community organizations are not committed to strengthening child mentoring and parent skill-building programs.

More information about the "Milk Party" can be found at www.childrensmovementflorida.org. ■

Home Visiting Program Inventory Complete

One component of the Obama administration's early childhood initiative is investing in programs that involve trained personnel visiting the homes of parents with young children to teach skills that can lead to better health and development. Experts say more research is needed to ensure any new investments made are money well-spent.

A critical first step in that process was completed recently when The Pew Home Visiting Campaign released its inventory of the many home visiting programs around the country. Among the findings are these:

- The U.S. has 117 home visiting programs across 46 states and the District of Columbia.
- Thirty-three states support more than one program within and across their health, education, and human services agencies.
- Twenty states administer three or more programs.
- Alaska, Idaho, Nevada, and Mississippi administer none.
- State health departments are the most common agency overseeing home visiting.

Read the full report at http://www.pewcenteronthe states.org/initiatives_detail.aspx?initiativeID=52756. ■



Related Reading

Is Preschool Too Early for Science? For Curious Young Minds Eager to Understand Their World, This Age Is Just Right

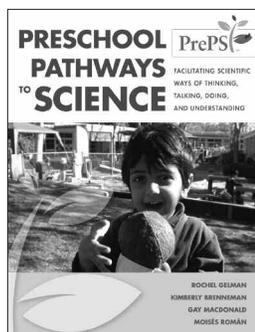
Preschool Pathways to Science (PrePS): Facilitating Scientific Ways of Thinking, Talking, Doing, and Understanding

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Until recently, science has been the ignored academic stepchild of language and math. Mandated state testing as part of No Child Left Behind initially focused on language, expanded to math, and now includes science. Concern over U.S. students' poor science scores has brought science teaching to the forefront and a 2007 National Research Council (NRC) report, *Taking Science to School*, calls for broad sweeping changes in how science should be taught and organized. States are now revising science standards to be less fragmented, fewer in number, and organized around “big ideas.”

As was the case with its academic siblings, where the preschool years became a focus for providing critical foundations for language, emergent literacy and math, educators are now asking whether science should be introduced in preschool. Science is not “new” to preschool since many states include science as part of their “cognition and general knowledge” school readiness domain and Head Start includes “nature and science” as one of eight designated readiness domains.

However, a recent analysis of Head Start school readiness data in one state finds that, on average, children leave the Head Start program for kindergarten with science readiness scores significantly lower than scores on the other seven school readiness domains. Follow-up focus groups with Head Start teachers pinpoint lack of time and not feeling prepared or comfortable teaching science as two possible reasons why this mandated readiness domain receives short shrift. Is preschool too early for introducing science? A “strict” interpretation of Piaget would suggest so.

However, more recent research on children’s thinking clearly shows that despite much of young children’s thinking being tied to the perceptual here and now, young children can think and talk about many science-related topics. The 2007 NRC report reviews this research and argues for the importance and timeliness of introducing science to young children. This urgency has important relevance beyond its direct impact on science readiness, since part of learning science involves important domain-general

skills that are relevant in other areas of learning.

Preschool Pathways to Science (PrePS) is a new publication that arrives on this scene as a mature program whose initial development began 20 years ago in preschool programs serving families at an Air Force base near Los Angeles. The development of *PrePS* has also benefited from its use at UCLA and in New Jersey, including programs serving ethnically diverse and economically disadvantaged preschool populations. A central premise of *PrePS* is that young children are “scientists-in-waiting ... naturally curious and actively involved in exploring the world around them.” (p. 2)

A goal of *PrePS* is to foster these predispositions in the “privileged domain” of science where children have a natural proclivity to learn, experiment and explore. Teachers also play a critical role in *PrePS*, guiding children in organized investigations of their everyday world, building on existing knowledge, and connecting this knowledge into deeper levels of understanding. As one *PrePS* teacher reflects, “It is not about what, as a teacher, do I want the children to be doing, but what I want the children to be thinking about...Then (I ask myself), what should they be doing to better understand the concept?” (p. 18)

PrePS acknowledges that preschool teachers often feel uncomfortable and ill-prepared for science, and provides a beginning structure for building the key science practices reviewed in Chapter 3. Detailed examples of how to introduce observation, prediction, science tools, recording, books, simple experimentation, math, and science vocabulary are included. Teacher aids such as webs of experience, weekly activities planning sheets, and science practice planning grids are also provided. *PrePS* is not about teaching specific science content knowledge, but rather “central concepts” through “related learning experiences” using areas of “inquiry focus.” (p. 18)

In summary, *PrePS* provides foundational support for introducing science in flexible, child-centered ways, as a free-standing program, or as a supplement to an existing curricular approach. Other readiness domains including early literacy and language skills, social development, and early math, are easily incorporated into a science program and *PrePS* provides guidance on how to do this. Critical problem-solving skills are also emphasized. If you are an early childhood administrator or educator curious about the emerging excitement around preschool science or a preschool teacher looking to expand science in your classroom, *PrePS* is an easy read and a great place to start! ■

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How Stable Is Funding for State Pre-K?

Lingering Recession, Budget Cuts Test State Pre-K Funding Models

First Things First, the Arizona early childhood development program had a near-death experience when last year's Proposition 302 threatened to repeal the program and put its \$324 million into the state's cash-poor general fund. All future money from the cigarette tax that funded First Things First would have gone to the general fund and the Arizona Department of Economic Security (DES). Early education advocates breathed a sigh of relief when voters sent 302 down to defeat.

Arizona's experience is but the latest indication that funding sources developed for state pre-K during prosperous times may not hold up when the economic going gets tough. In 2009, California Proposition 1D, which would have authorized a one-time reallocation of tobacco tax revenue dedicated to the First Five early childhood program to help balance the state budget, was defeated.

NIEER Senior Research Fellow Jason Hustedt, University of Delaware, says states vary a great deal in how they fund pre-K programs and some are more successful than others in providing stability and avoiding the "yo-yo effect" that is so harmful to long-term planning. He and NIEER Co-Director Steve Barnett provide a break-out of state funding models and their advantages and disadvantages in their new brief *Financing More and Better Early Education*. Here are the highlights:

School Funding Formula: Including pre-K initiatives in the statewide school funding formula for K–12 education is a particularly effective way of providing consistently adequate funding. Because it ties funding to enrollment, budgets are less subject to the cuts that state leaders may impose when state tax revenue declines. As enrollment increases, so does funding. Among the states using their school funding formula for pre-K are Oklahoma, West Virginia, and Wisconsin. Pre-K enrollment and funding has grown in all three states.

Even though school funding formulas rely on general revenues rather than dedicated sources such as lotteries or sin taxes, they provide greater protection from large cuts. The number of children to be served is not up for reconsideration each year, and any cuts proposed are cuts to public education as a whole—a constituency that is well-represented at the ballot box.

Lotteries: Lotteries have been used as dedicated funding streams for pre-K and until recently have been relatively protected from state budget shortfalls in difficult times. They are not, however, recession-proof. Declines in revenue since 2008 have threatened both current funding and future growth of programs.

In 1993, Georgia became the first state to offer a pre-K initiative supported by lottery funds. Georgia's Pre-K

Program grew quickly and had a lottery-supported enrollment of more than 60,000 children by 1998. Even though revenues from the state lottery kept increasing, growth in pre-K funding slowed considerably starting in 2000, and enrollment increases since then have not managed to keep pace with Georgia's growing 4-year-old population. Demand has outstripped supply, and children's participation is now determined by methods such as waiting lists and enrollment lotteries.

North Carolina's More at Four (MAF) initiative started on a small scale in 2002. By 2006, 12 percent of North Carolina's 4-year-olds were enrolled. That same year, the state's lottery was approved with about half of its proceeds committed to MAF and class size reduction in grades K–3. By 2009, MAF was serving 25 percent of the state's 4-year-olds and had some of the highest program standards in the nation.

However, lottery proceeds proved to be lower than anticipated and the state has struggled to find solutions to the revenue shortfall.

Tennessee began its pre-K program as a pilot project in 1998. The program grew slowly until funds from the new state lottery became available in 2005, after which it expanded rapidly, serving 22 percent of the state's 4-year-olds as of the 2008–2009 school year. Virginia has also moved toward using lottery funds to support pre-K in recent years. Oklahoma

began a lottery in 2005 to supplement general revenues and support education from pre-K through college. Lotteries offer some stability of funding, but experiences in Georgia and North Carolina suggest there may be limits to the level of expansion supported by this type of revenue source.

No Dedicated Funding Stream: The experiences of New York and Florida illustrate the difficulties that can be encountered when states fail to develop a dedicated funding stream for pre-K. New York was one of the earliest states to make universal pre-K a statutory goal but has had considerable difficulty making consistent headway toward achieving that goal. Florida, on the other hand, rolled out a universal program in a very short time span that enrolled a relatively high proportion of 4-year-olds but had low program standards.

Sin Taxes: As previously mentioned, Arizona and California financed early education in part from taxes on cigarettes. Arkansas implemented a tax on beer and Missouri levied fees on gambling. These approaches can pose problems for pre-K expansion because sin taxes are thought to discourage the behavior that provides tax revenues in the first place. And, as in Arizona and California, these funds are not immune from raids in difficult times. ■

discoveries

SCIENCE NEWS YOU CAN USE

Study Finds Immunizing Kids for Flu Protects the Whole Community

Vaccination Trial Was Conducted in Isolated Canadian Hutterite Colonies

While vaccination policies tend to focus on immunizing those at high risk of complications from the flu, researchers on this study set out to find out whether vaccinating children and adolescents could be effective for protecting the entire population of a community.

Researchers expected influenza in community members to be reduced if 70 percent or more of healthy children and adolescents were given inactivated flu vaccine.

The cluster randomized trial was conducted in isolated Canadian Hutterite colonies, rural communities that resemble extended families, generally keeping to themselves and out of local politics and activities, with approximately 60 to 120 people in each colony. The trial included residents from eight health regions in



Alberta, Saskatchewan, and Manitoba. Five hundred children ages 3 to 15 in 22 colonies received the flu vaccine while 445 children of the same ages in 24 colonies received a hepatitis A vaccine, selected as the control for its tolerance and potential health benefits. There were 1,271 and 1,055 nonrecipients, respectively, in each group. Children between the ages of 6 months and 23 months were not offered the

study vaccine.

The researchers found that more than 10 percent of the people of all ages in the colonies receiving the placebo contracted the flu while less than 5 percent of those in treatment group colonies came down with it. Experts say the study confirms that when it comes to the flu, vaccinating children goes a long way toward conferring “herd immunity” on the entire community. It also

affirms the Centers for Disease Control and Prevention (CDC) H1N1 flu shot recommendations that called for vaccinating children.

The CDC continues to recommend a yearly flu vaccine for everyone 6 months of age and older. In 2008, New Jersey became the first state to require flu vaccination for children ages 6-59 months who attend any licensed preschool or child care center. Information about the 2010-2011 flu vaccine, which will protect against an influenza A H3N2 virus, an influenza B virus, and the 2009 H1N1 virus, can be found on the CDC web site at <http://www.cdc.gov/flu/protect/preventing.htm>. The Hutterite study can be found in the *Journal of the American Medical Association*, 303 (10). ■