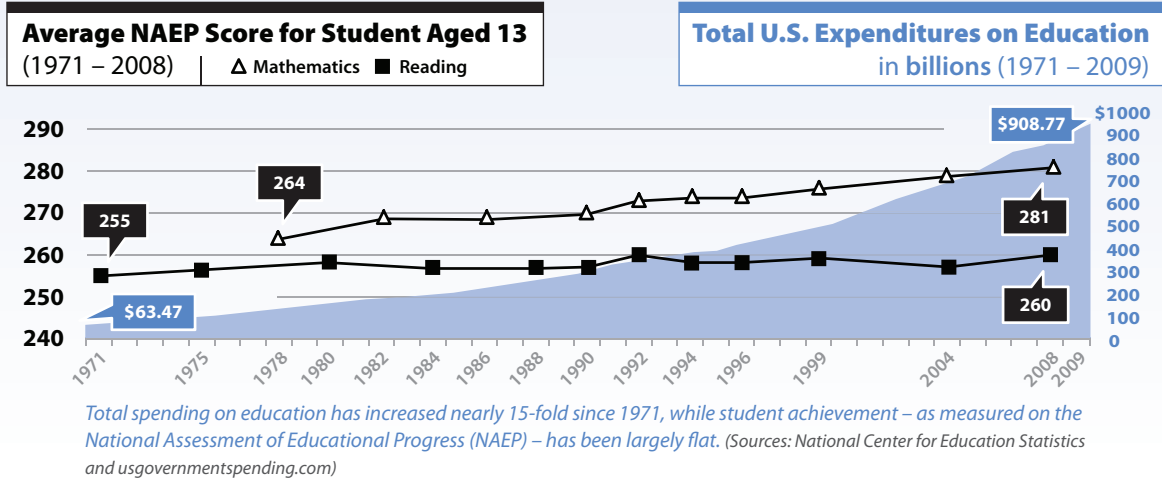


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Edited by **Richard Lee Colvin** and **Justin Snider**

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Education is Everybody's Business

PRE-K ISSUES STEP TO THE FRONT OF THE CLASSROOM.

By **Joel Dresang** and **Linda Jacobson**

Imagine a preschool classroom in Des Moines, where 4-year-olds are getting ready for story time. Then, cross the globe to an office in Bangalore, capital of India's burgeoning high-tech industry, where engineers are designing a

gas turbine system. These two sites are literally half a world apart, but a growing number of American business leaders think there's a direct connection. And that link is an important story for business journalists to pursue.

Global competition from India and elsewhere, advancing technologies and changing demographics are convincing more and more employers, business associations and corporate philanthropies to invest in America's classrooms and advocate for improvements in performance – starting with the littlest learners. The return on that effort, as business leaders see it, is developing the workforce they need and maintaining America's edge on innovation.

Michael Mandel, the *Business Week* economist and blogger, has said that early childhood education is like the foundation of a house. And a strong house cannot be built on a weak foundation.

"Boosting early childhood investment is absolutely key for rebuilding the foundation for future growth," he told a gathering of business

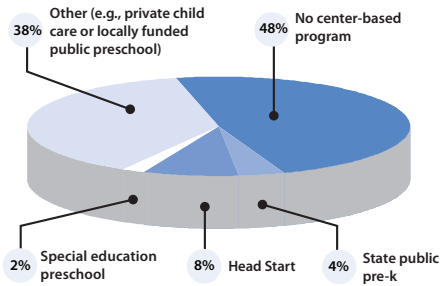
leaders at the third annual conference of the Partnership for America's Economic Success in September 2009. "If we don't fix early childhood investment, we will have a failed economy. The foundation will collapse. I hate to say this, but the media has for the most part not made the connection between the [economic] crisis and the deeper human capital problems. Looking for quick fixes, like restricting bank pay, does nothing to fix the real problems."

Sara Watson, the director of the partnership, which is managed by the Pew Center on the States, said "business reporters have the context and sources to best explain how early childhood education shapes a community's economic fortunes." (The Pew Center on the States and its campaign Pre-K Now, as well as the National Institute for Early Education Research (NIEER), are efforts of the Pew Charitable Trusts, the nonprofit organization that underwrote the cost of this publication.)

Some of the country's most successful

entrepreneurs have been putting their philanthropic support behind school reform

Preschool Attendance of 3-Year-Olds*

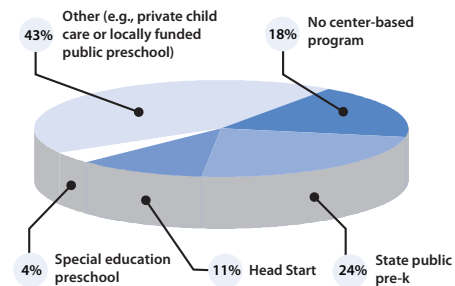


initiatives for more than 25 years, dating back at least to the 1983 *Nation at Risk* report that warned of a “rising tide of mediocrity” threatening the nation’s economic health. The Business

Roundtable, an association of CEOs from leading U.S. companies, has long advocated for both education standards and accountability for results as ways to raise achievement and improve the competitiveness of the workforce. State-level business-backed organizations also have been involved in pushing for improved public-school performance.

Preschool is the newest addition to this mix. A key reason is that the Pew Charitable Trusts and other philanthropies have drawn on economic research to fuel a successful state-by-state advocacy campaign designed to rally business and political leaders to the cause of early education. A

Preschool Attendance of 4-Year-Olds*



powerful tool in that campaign has been to emphasize that the social and economic “returns on investment” (ROI) are large. How large depends on the assumptions that are made and the population served.

(To see how ROI claims are typically calculated, see the story on page 10.) In making their case, advocates have been aided by leading economists, including Federal Reserve Bank chair Ben

Bernanke and Nobel laureate James Heckman.

“There are many projects out there but few have the rate of return of early childhood investments, so, in that sense, this should be a favored investment by anybody, Republican, Democratic, or any other party line,” said Heckman, specifying that the greatest returns come from interventions for the most disadvantaged children. Such investments “promote schooling, raise the quality of the workforce, enhance the productivity of schools and reduce crime, teenage pregnancy and welfare dependency,” Heckman told a forum in December 2004 sponsored by Pew, PNC Financial Services Group Inc., and the Committee for Economic Development, an organization of business leaders and university presidents. “They raise earnings and promote social attainment.”

Until relatively recently, preschool was the stepchild of education – largely ignored by policymakers and researchers. That has changed dramatically in the last decade, thanks to the convergence of new findings in neuroscience, child development and economics. Scientists now know that the early years are critical, with the human brain reaching 80 percent of its adult size by age 3 and 90 percent by age 5. Children who don’t receive adequate intellectual and emotional stimulation during this period are likely to fall further and further behind.

At the same time, social scientists have documented impressive gains by children who are enrolled in high-quality preschools: They have larger vocabularies, better social skills and higher achievement levels than children who don’t get that extra boost.

Early childhood education “rose from nowhere to be on the agenda of policymakers nationally and internationally,” says Sharon Lynn Kagan of Teachers College, Columbia University.

A major reason is that business leaders and advocates have made the case to policymakers. Between 2006 and 2008, states more than

doubled their spending on preschool to \$4.6 billion, increasing enrollment from about 700,000 students to more than 1.1 million in 38 states. The Obama administration has emphasized its commitment to early childhood education by pushing Congress for increased federal funding for pre-k and giving bonus points to states that include preschool initiatives in their applications for grants from the Department of Education’s \$4.35 billion “Race to the Top” fund. The president’s education budget proposal called for a 7.6 percent increase in education spending and \$9.3 billion over 10 years to improve early childhood education programs.

Though Obama has also advocated for a Presidential Early Learning Council that would push federal, state and local leaders to create high-quality “Zero to Five” programs, his historic remaking of the country’s health-care system and the related measure overhauling student loans in March 2010 ultimately didn’t include money for the president’s proposed Early Learning Challenge Fund.

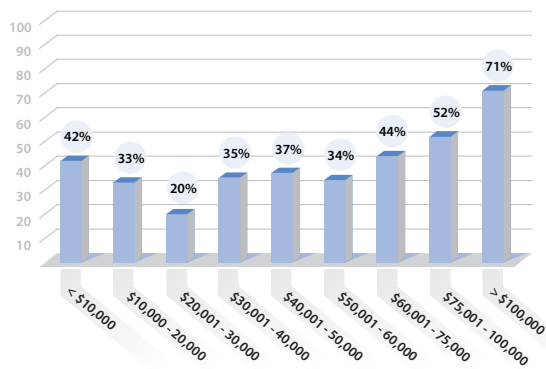
State preschool programs are only part of the picture. Today, two-thirds of all 4-year-olds and almost half of all 3-year-olds are cared for outside the home before they start kindergarten. Children from low-income families are eligible for the federal Head Start program, which serves almost 970,000 preschoolers and their families.

Dennis P. Lockhart, the head of the Federal Reserve Bank of Atlanta, told an audience in Miami last October that early education would continue to be delivered by a public-private partnership for some time in most cities. Lockhart co-chairs a commission that’s exploring increasing investments in early education in Atlanta. “The private side of this partnership will include for-profit, not-for-profit, faith-based, and secular providers. Bringing common and rising quality standards to this diverse community of providers and injecting market mechanisms to ensure there

are incentives to improve quality are central challenges.” Those challenges represent potential stories for journalists.

In an ideal world, all of these programs would have an enormous positive impact on how well children do in school. Unfortunately, the actual impact is less clear. The strongest evidence comes from studies of high-quality programs, but many preschools only remotely resemble models like the High/Scope Perry Preschool, the Chicago Parent-Child Centers or the Carolina

Preschool Attendance of 3-Year-Olds by Family Income¹



Abecedarian Project – which are the programs that produced the impressive results often cited by early childhood advocates.

“Very, very few” current programs are of high quality, says Kagan, who consults around the world on issues of standards and quality in early education. The models were well-funded, often experimental programs with well-trained staff, a thoughtful curriculum, and constant supervision and support from experts.

The reality on the ground is often very different. Teachers may be poorly trained or not trained at all. Only 27 states require the lead teacher in every classroom to have a bachelor’s degree and only two states, Alabama and North Carolina, meet all 10 benchmarks of quality monitored by the National Institute for Early

Education Research (NIEER) at Rutgers University in New Jersey. Curricula are frequently ill-conceived and facilities may be inappropriate for young children. Often, there is little communication between preschools and elementary schools, which means that many preschools are probably not giving kids what they need to be successful later. “Early education is experiencing huge expectations based on the research that are impossible to meet given the gaps in quality, investment, access and infrastructure,” says Kagan.

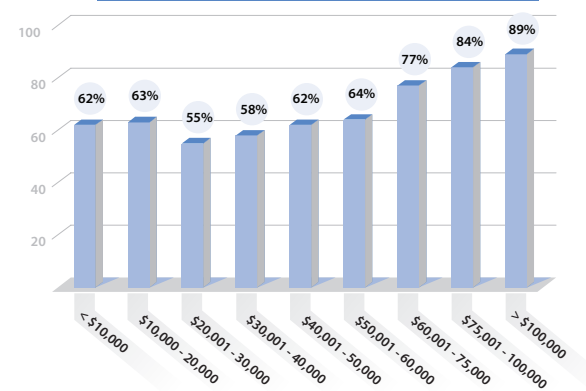
These gaps in quality – in the public as well as the private sector – are an important story for business and education reporters to examine.

The current economic downturn is also having huge effects on pre-k programs, both public and private. Legislatures in 10 states – including New York, Massachusetts and Illinois – decreased pre-k investments in 2010. Six states maintained funding levels for pre-k, while 15 states actually increased spending. Alaska and Rhode Island even began funding preschool for the first time this year. Still, many worry that state-funded pre-k remains vulnerable to budget cuts, especially if the economy doesn’t bounce back quickly.

Head Start, however, got what many proponents consider a long overdue infusion of funds. The February 2009 economic stimulus package gave an additional \$1 billion to the original Head Start program and \$1.1 billion to Early Head Start, which serves families with infants and toddlers. (Together, these programs received about \$7 billion in Fiscal Year 2008.)

Preschool programs will benefit from the stimulus package in other ways as well, says Cornelia Grumman, executive director of the First Five Years Fund, whose goal is to expand high-quality early learning services to children from birth to age 5. She says journalists should look for new and developing partnerships between K-12 systems and early childhood care providers. This could also spur the development

Preschool Attendance of 4-Year-Olds by Family Income¹



of a new education economy, with for-profit providers seeking public money – another important story for business journalists to follow.

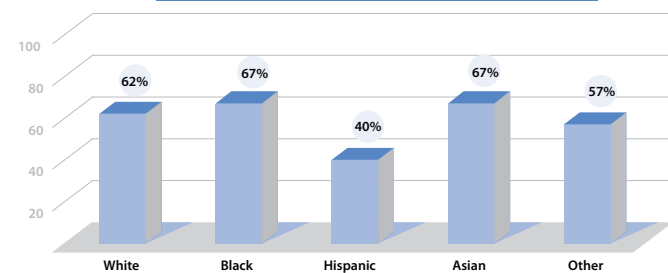
In this brief, we have included lists of experts on early childhood from various perspectives as well as seminal reports and studies; additionally, we give examples of stories about the intersection of the business world and early childhood education. All are intended to help reporters find their own stories on this increasingly important topic. ■

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¹Source: National Household Education Survey, 2005

⁵Source: National Household Education Survey, 2007

Preschool Participation by Ethnicity⁵



Pre-K Programs, Private and Public, Run the Gamut

THE RAPIDLY GROWING CATEGORY OF STATE-FUNDED PRESCHOOLS JOINS AN ALREADY DIVERSE COLLECTION.

By Linda Jacobson

The rapid growth of state-funded pre-kindergarten programs over the last five years has occurred on an already well-developed but fractured landscape. Thinking about how these elements overlap, interact and, in some cases, conflict will yield important context and interesting stories.



STATE PRE-KINDERGARTEN

Thirty-eight states now appropriate about \$5.2 billion for preschool annually, more than double the amount spent in 2002. The number of children served exceeds 1.1 million, more than the number who attend Head Start programs nationally. States spend an average of \$4,609 per child, including money from local and federal sources, but the range of both spending and program quality is wide. Among the best known and most-studied programs are those in Georgia, Oklahoma and New Jersey. The programs in 27 states target low-income children.¹ State constitutions make provisions for K-12 public

schools, so they are assured of funding. Pre-k programs are more vulnerable because, in most cases, states can decide annually whether to fund them for the coming year. State preschools are not limited to public school settings; they can also be located in child care centers, religious facilities, and Head Start programs – among other places – as long as those sites meet state standards.

HEAD START

Created in 1965 as part of President Johnson’s War on Poverty and Great Society programs, Head Start is the oldest and best-known publicly funded preschool program. Head Start, with a budget of more than \$7 billion, serves more than 900,000 children aged 3 to 5 from primarily low-income families. The 2009 American Recovery and Reinvestment Act (the stimulus package) added

\$1 billion in new funding. Head Start’s hallmarks are its comprehensive services and its institutional emphasis on parent involvement. In addition to education, children receive health services and nutritious meals during school hours; their parents also receive a range of supportive social services to empower families. The federal government contracts with nonprofit agencies, churches, community centers and public schools to operate Head Start programs, whose educational quality varies widely.

A recently released national study showed that Head Start classrooms were of higher quality than classrooms in other center-based programs.²

Other studies have found that Head Start decreased criminal activity,³ child mortality rates,⁴ the need for special education,⁵ and the need for children to repeat grades later on in school,⁶ while also increasing test scores,⁷ high school graduation rates,⁸ and immunization rates.⁹ Moreover, a 2009 econometric study found that Head Start had significant favorable impacts on the long-term outcomes of adults 19 years or older who had attended Head Start.¹⁰

Current law requires that each Head Start classroom have a teacher with a Child Development Associate (CDA) credential or an associate, baccalaureate or advanced degree in early childhood education. By September 2013, at least half of all Head Start teachers nationwide in center-based programs must hold baccalaureate or advanced degrees in early childhood education.

EARLY HEAD START

The Early Head Start program, which began in 1996, provides health, education and parenting support services to low-income pregnant women and families with children under 3 years old. In FY 2008, Early Head Start – which is often operated by Head Start programs – served more than 60,000 children at a cost of nearly \$10,500

“Head Start’s hallmarks are its comprehensive services and its institutional emphasis on parent involvement. In addition to education, children receive health services and nutritious meals during school hours; their parents also receive a range of supportive social services to empower families.”

per child; the economic stimulus bill included \$1.1 billion in new funding for Early Head Start. A 2006 evaluation found that Early Head Start improves children’s cognitive and language development. The study found that Early Head Start’s work with parents improves the quality of their interactions with their children, causes mothers to have fewer children, and results in employment gains.¹¹

CHILD CARE

Many Head Start agencies also provide subsidized child care for low-income families. Some of these programs look similar to a Head Start or pre-k program in that they emphasize school readiness, but child care is distinct from pre-k. Child care also is offered through other agencies. The major source of funding for child-care subsidies for poor children comes from the federal Child Care and Development Fund, a \$4.9 billion program that serves about 1.7 million children. States often supplement these funds to serve more families and may also tap into public assistance funds – called Temporary Assistance to Needy Families (TANF) – and Social Services Block Grants to provide child care to working parents or guardians. The stimulus package allocated an additional \$2 billion for the Child Care and Development Block Grant, including \$255 million specifically for improving program quality.

The quality of child care in the United States is uneven. Research has shown that much center-based care is inadequate. Analysts – such as Yale professor emeritus Edward Zigler – have even argued that some programs are of such low quality that children would be better off without them.

FAMILY CHILD CARE

Family child-care centers are independent and home-based. They usually offer flexible hours and small groups, and can be cheaper than

“The quality of child care in the United States is uneven. Research has shown that much center-based care is inadequate. Analysts have even argued that some programs are of such low quality that children would be better off without them.”

private preschools. Licensing standards tend to be minimal; there have been efforts by resource and referral agencies, foundations and state governments to enrich the quality of these settings. In some states, including California, low-income parents can use federal vouchers to pay for care by family members or other in-home care.

RELIGIOUS SCHOOLS

Many religious institutions run preschools; some include a religious component to the curriculum. While churches in some states may be eligible for state grants to support their programs – as they are in Georgia and Florida – they must use secular curricula during the hours covered by state dollars.

PRIVATE PRESCHOOLS

There is a wide range of private preschools, some for profit and some nonprofit. They go by different names: child care center, day care, nursery school, preschool. Families sometimes spend \$20,000 or more for their children to attend exclusive preschools – although most charge far less. Even if they only cost a few thousand dollars a year, these programs are often one of the largest expenses in a family budget.¹² Some are of very high quality; others are not. For-profit pre-

schools may be part of large national chains or small mom-and-pop operations. Although some operators of private preschools strongly support state-funded pre-kindergarten programs, many are vocal opponents of the concept of universally available, free, publicly funded, voluntary preschool. ■■

¹ Data from the [National Institute for Early Education Research and Pre-K Now](#).

² U.S. Department of Health and Human Services. (2010). “Head Start Impact Study, Final Report; U.S. Department of Health and Human Services.” (2005). “Head Start Impact Study First Year Findings.”

³ Garces, E., Thomas, D. and Currie, J. (2002, September). “Longer-Term Effects of Head Start.” *American Economic Review*, 92 (4): 999-1012.

⁴ Ludwig, J. and Miller, D. (2007). “Does Head Start Improve Children’s Life Chances? Evidence from a Regression Discontinuity Design.” *The Quarterly Journal of Economics*, 122 (1): 159-208.

⁵ Barnett, W. (2002, September 13). “The Battle Over Head Start: What the Research Shows. Presentation at a Science and Public Policy Briefing Sponsored by the Federation of Behavioral, Psychological, and Cognitive Sciences”; Garces, E., Thomas, D. and Currie, J. (2002, September). “Longer-Term Effects of Head Start.” *American Economic Review*, 92 (4): 999-1012.

⁶ *Ibid.*

⁷ *Ibid.*

⁸ Ludwig, J. and Miller, D. (2007). “Does Head Start Improve Children’s Life Chances? Evidence from a Regression Discontinuity Design.” *The Quarterly Journal of Economics*, 122 (1): 159-208.

⁹ Currie, J. and Thomas, D. (1995, June). “Does Head Start Make a Difference?” *The American Economic Review*, 85 (3): 360.

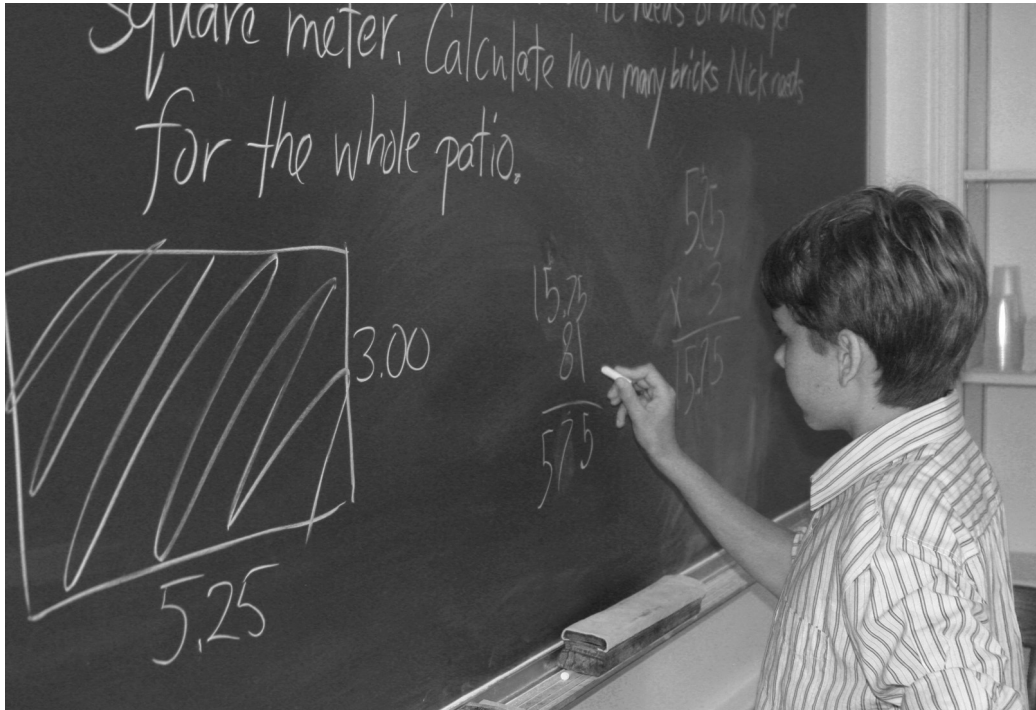
¹⁰ Deming, D. (2009, July). “Early Childhood Intervention and Life-Cycle Skill Development: Evidence from Head Start.” *American Economic Journal: Applied Economics*, 1 (3): 111-134.

¹¹ U.S. Department of Health and Human Services, Administration for Children and Families (2006, April). “[Early Head Start Benefits Children and Families: Research to Practice Brief.](#)”

¹² Wat, Albert. (2008). “[The Pre-K Pinch: Early Childhood Education and the Middle Class.](#)” *Pre-K Now*: Washington, D.C..

Have U.S. Students Been Left Behind in Math and Science?

POLICYMAKERS AND BUSINESS LEADERS ARE INCREASINGLY CONCERNED ABOUT THE COMPETITIVENESS OF U.S. STUDENTS.



By David McKay Wilson

Preschool is far from the only area where businesses interested in improving education are focusing their efforts. Journalists on the business beat often hear the nation's corporate leaders urging improvements in the teaching of so-called STEM-related fields – Science, Technology, Engineering and Mathematics. These business leaders say it's essential to rethink education programs in these areas to improve America's competitiveness in the global economy at a time when advanced knowledge is widespread, low-cost labor is readily available, and American advantages in science and technology have eroded. American students, meanwhile, haven't

been flocking to the sciences, and international tests in the STEM disciplines show they are lagging behind their counterparts overseas.

The call for action comes from high-tech luminaries such as Microsoft Chairman Bill Gates and former Intel Chairman Craig Barrett as well as influential organizations such as the Business Roundtable, the Task Force on the Future of American Innovation and the Business Higher Education Forum. Manufacturers are also echoing the

call, saying that today's jobs require math, technology and problem-solving skills that many high school graduates lack. The Business Roundtable, an association of 160 chief executives of leading U.S. companies, wants what it calls a "high-performing and talented workforce" and thinks that community colleges can help with that training. Affiliated groups in a number of states also are pushing STEM-related initiatives.

Corporations such as ExxonMobil are funding their own initiatives, such as the ExxonMobil Bernard Harris Summer Science Camp, which provides STEM-based educational programs for middle-school students. Universities are entering the STEM debate as well. At Northeastern Uni-

versity in Boston, the Center for STEM Education has funding from the National Science Foundation to prepare urban high school students for calculus, provide fellowships to graduate students in STEM disciplines, and support community college students seeking to advance in STEM careers.

There's also action on the state and federal levels following several major studies on STEM education policy, dating back to 2005 with the publication of [Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future](#). This report, commissioned by Congress, called on the federal government to enact recommendations for creating high-quality jobs in science-related fields, especially in the field of clean energy.

The National Governors Association has called on states to move quickly to boost STEM education in public elementary, middle and high schools. In Minnesota, for example, Gov. Tim Pawlenty convened business, education and technical leaders to come up with a plan to double the number of STEM majors by 2015. Other states have increased high-school graduation requirements in math and science, created online instruction in STEM fields, and backed initiatives in career and technical education.

The message has also resonated in Washington, D.C., where Congress in 2007 passed the America Competes Act, which doubled the authorization for science research. But as often happens in Congress, the allocation – the amount that actually gets out to researchers – has fallen short of the authorization. That means your local representatives may be championing for more funding. They may also be questioning whether the \$3.2 billion in federal funding for STEM

“When business leaders talk about a shortage of scientists, there’s a tendency to paint the entire field with a broad brush. Journalists need to hone in on where the shortages actually exist.”

education is doing any good. A study by the Academic Competitive Council found that few of the programs had been rigorously evaluated.

There are other reasons to be skeptical. While business leaders have called for reform and increased funding for training and research to address purported shortages, academics have questioned whether the U.S. is in as bad of shape as corporate giants claim. Vivek Wadhwa, of Duke University, has found that the gap between the number of engineers and related technology specialists in the U.S. and overseas is much smaller than previously reported, and that the U.S. remains a leading source of high-quality engineering talent. In fact, Wadhwa argues that the quality of graduates, not the quantity, may be the

key to success. Highly qualified graduates typically have the biggest impact on innovation and entrepreneurship. In addition, strict immigration rules make it difficult for foreign-born scientists and engineers educated at American universities to obtain work permits in the U.S., which also restricts the pool of workers.

When business leaders talk about a shortage of scientists, there’s a tendency to paint the entire field with a broad brush. Journalists need to hone in on where the shortages actually exist. The shortages may come in fields like engineering or physics, but other fields – such as the biological sciences – are flush with educated graduates competing for work in research labs across the country. **H**



Resources for reporting on STEM education:

American Institute of Physics – a summary of federal and state recommendations on STEM education

<http://www.aip.org/fyi/2007/056.html>

The Carnegie Corporation of New York and Institute for Advanced Study Commission on Mathematics and Science Education – “The Opportunity Equation: Transforming Mathematics and Science Education for Citizenship and the Global Economy” (2009)

<http://www.opportunityequation.org/report/executive-summary/>

National Governors Association – “Building a Science, Technology, Engineering and Math Agenda” (February 2007)

<http://www.nga.org/Files/pdf/0702INNOVATIONSTEM.PDF>

National Math and Science Initiative

<http://www.nationalmathandscience.org/>

National Science Foundation – STEM Education Action Plan

<http://www.nsf.gov/nsb/stem/>

STEM Education Coalition

<http://www.stemedcoalition.org/>

U.S. Department of Education – “Report of the Academic Competitiveness Council” (May 2007)

<http://www2.ed.gov/about/inits/ed/competitiveness/acc-mathscience/index.html>

David McKay Wilson is a New York-based journalist who writes regularly for The Harvard Education Letter and university magazines around the country.

Be Skeptical When Reporting on Pre-K Research

EXAMINE METHODOLOGY, CHECK OUT SWEEPING CLAIMS AND BECOME FAMILIAR WITH LANDMARK STUDIES.

By [Linda Jacobson](#)

Much of the research on the effects of pre-kindergarten says that these programs – whether private or state-run – provide some benefit to children, particularly youngsters from poor families. But these studies vary widely in methodology and the samples of children involved. Reporters should be very careful not to accept sweeping conclusions from a single study – even though that may be exactly what some of the advocates or opponents do.

The High/Scope Perry Preschool study, launched in 1962 in Ypsilanti, Mich., is most often used to argue in favor of preschool for disadvantaged children – and sometimes all young children. For five years, 123 poor African-American 3- and 4-year-olds were randomly assigned to attend the demonstration program or to receive no services. The program, which cost more than \$15,000 per child in 2000 dollars, used the High/Scope curriculum, in which teachers supported children planning their activities, carrying them out, and then reviewing and reflecting on what they had done. Program teachers were certified public school teachers with at least bachelor's degrees and training in early childhood development and special education, and there was one teacher for every five or six children. The program made home visits with mothers and children in the program a priority.

At age 40, students from the experimental group were making more money, were more likely to be employed, less likely to commit crimes, and more likely to have graduated from high school than their peers in the control group. A cost-benefit analysis showed that for every \$1 spent on the program, there was a \$16 return. Advocates, researchers, and policymakers there-

fore have consistently maintained that spending money on preschool programs will save society more money in the future in the form of lower crime and unemployment rates, higher graduation rates, and lower social service costs.

Experts caution that because most of the savings to society came from a reduction in crime rates, similar results are unlikely from a program open to all families since children from middle-class households are less likely to commit crimes.

James Heckman, a Nobel Prize-winning economist at the University of Chicago, believes that the Perry Preschool program also developed valuable non-cognitive skills in its participants. In the [2009 story “Early Lessons” by Emily Hanford](#) of American RadioWorks, Heckman explained: “There are traits that seem to be somewhat different from just the raw ability to solve a problem. ...Perseverance, self-control, things like openness, agreeableness, extroversion ...What we’re coming to learn is that traits of young children like openness to experience, lack of shyness, some agreeableness even, will make the child much more ready to explore the environment. The act of exploration builds skills; it creates mental capacities, it gives you facts.”

Like Perry Preschool, the subjects of the other two longitudinal studies showing high returns on investment – the Chicago Child-Parent Centers and the Carolina Abecedarian Project – were extremely poor children. Obviously, universal pre-kindergarten raises questions about impact when you have children from many different economic backgrounds. When economists take into account that there will be a lesser impact on middle-class children, pre-kindergarten for all still has a positive return.

Another important factor to keep in mind is

that the early-childhood landscape is changing. Contemporary studies are more likely to compare a certain preschool program or model to other types of services in the community than to no program at all. This will affect how large the benefits are for the participants in the program being studied. Assuming that some service is better than none, this means that large, significant effects – like the ones found in the three studies mentioned above – will be harder to come by.

Reporters should also pay attention to methodology used. A randomized trial – with treatment and control groups – is preferable because its results are considered the most reliable.

Here are several other studies with which reporters should be familiar:

[STUDIES THAT SHOW LONG-TERM BENEFITS FOR CHILDREN](#)

The Chicago Child-Parent Centers (CPC): The CPC program still operates in Chicago’s poorest neighborhoods, and includes part-day preschool as well as ongoing services for children and their parents into the primary grades. Classes are led by public school teachers, with a ratio of 17 students to two teachers. The comprehensive program also includes home visits, health and nutrition services, and lots of opportunities for parent participation.

The Chicago Longitudinal Study of the CPC, which began in 1986 and is now conducted by Arthur Reynolds and Judy Temple of the University of Minnesota, has shown that program participants have higher reading and math achievement, are less likely to need special education or to repeat a grade, and are less likely to be arrested as juveniles. Stronger outcomes were found among children who participated in the program for two years. Many experts say the

study's strength is that it shows that public schools can operate a high-quality preschool program with lasting benefits. Follow-up studies show that the pattern of positive outcomes continues. But critics dispute the study's validity because they say it is not randomized.

Carolina Abecedarian Program: Between 1972 and 1977, 112 children in Chapel Hill, N.C., born at risk of serious intellectual and social delays, were randomly assigned to participate or not participate in a year-round, full-day comprehensive child-care and development program from infancy to age 5. At age 21, those who had been in the program had higher reading and math scores, were less likely to have repeated a grade, and were more likely to go to college. Participants were also less likely to smoke and to be on welfare. One drawback to the Abecedarian study is that it did not provide information on future earnings. The program cost \$63,000 per child over the five years, so the benefit-cost ratio of 2.5-to-1 was smaller because of the relatively high cost.

STUDIES OF CURRENT STATE OR FEDERALLY FUNDED PRESCHOOL PROGRAMS

Oklahoma Pre-Kindergarten Study: Conducted by Georgetown University researchers William Gormley and Deborah Phillips, the study focuses on Tulsa's state-funded pre-k program. The study shows that, overall, children participating in the one-year program had a 52 percent gain in letter and word recognition, a 27 percent gain in spelling, and a 21 percent gain in applied problems. Findings show that Hispanic children benefit most from the program, as do children from low-income families. The main reason that many advocates use this study is that it's one of the few that includes an economically diverse sample and shows that middle-class children also derive significant benefits.

Five-State Pre-Kindergarten Study: Conducted by the National Institute for Early

Education Research (NIEER), this study uses a design that is similar to the Oklahoma study, but also includes data on Michigan, New Jersey, South Carolina, and West Virginia. Across the five states, gains on the "print awareness" measure were large, while gains in math and vocabulary were smaller.

The APPLES BLOSSOM: Abbott Preschool Program Longitudinal Effects Study (APPLES) Preliminary Results through 2nd Grade: Also conducted by NIEER, this project tracks the progress of New Jersey's court-ordered preschool program for children in poor urban districts. Recent findings from 2009 show that classroom quality continues to improve and that there are positive effects on children's learning in language, literacy and math skills that last through the end of second grade. Also, two years of program participation roughly double gains at second grade on most measures.

Multi-State Study of Pre-Kindergarten: This mostly descriptive study conducted by the National Center on Early Development and Learning includes a random sample of 900 children in centers or schools in six states: Georgia, Illinois, Kentucky, Ohio, California, and New York. Findings released in 2005 showed that children were making small but meaningful gains in literacy and early math. But investigators found infrequent interactions between teachers and children, and a reliance on whole-group instruction. They also found children spending a lot of time waiting for the next activity.

National Pre-Kindergarten Study: Conducted by Walter Gilliam, the director of the Edward Zigler Center in Child Development and Social Policy at Yale University, this sample contains data on 52 different pre-k programs in 40 states. Findings released in 2005 from the project so far include evidence that many pre-k teachers don't have the credentials required by their states. Another paper focused on expulsion rates of preschoolers in state-funded pre-k programs.

Head Start National Impact Study:

Launched in 2002, this nationally representative study focused on approximately 5,000 3- and 4-year-olds across the country and involved 84 Head Start grantees. The study found small but significant positive effects for 3- and 4-year-old children on pre-reading, pre-writing, and vocabulary skills. Positive effects were not found in oral comprehension, phonological awareness, or early math skills for either age group. Three-year-olds showed some improvements in social skills, but not 4-year-olds. Experts say the study shows Head Start is contributing to children's learning, but that it might not be enough to completely close the gap between disadvantaged children and their peers from higher-income families.

OTHER LARGE-SCALE PRESCHOOL STUDIES

The Cost, Quality and Outcomes Study:

Released in 1995, this study was conducted by researchers at four universities and documented the mediocre quality of most child-care centers. A follow-up showed that children who experienced higher-quality care as preschoolers were performing better in elementary school.

The Study of Early Child Care and Youth

Development: This ongoing longitudinal study by the National Institute of Child Health and Human Development enrolled more than 1,300 children at birth in 1991 and has been used to research the effects of different types of child-care arrangements, including center-based family child-care and care by mothers.

The Early Childhood Longitudinal Study:

Conducted by the U.S. Department of Education's Institute for Education Sciences, the ECLS-Kindergarten Cohort began in 1998 with more than 21,000 kindergartners in 1,000 schools. A second project sample, the ECLS-Birth Cohort, began in 2001 with a nationally representative sample of 14,000 children. ■■

Why “Return On Investment” Claims Merit Scrutiny

RESEARCH REVEALS THE ECONOMIC BENEFITS OF HIGH-QUALITY PRE-K, BUT REPORTED RATIOS VARY WIDELY.

By Justin Snider

President Barack Obama and Education Secretary Arne Duncan have frequently claimed that pre-k’s return on investment (ROI) is 10-to-1. Both advocates and opponents of publicly funded pre-k often cite such figures, which can range from lows of about 1.5-to-1 to highs in the upper teens. Estimates for returns on investment vary dramatically, of course, depending on the assumptions researchers make. Reporters who cover the claims people make about the investment value of pre-k must pay close attention to the costs and benefits included in a given analysis. Costs vary with location and whether the program is full or half-day and targeted or universal. Teacher quality, student characteristics and teacher-student ratios also affect overall cost. High-quality programs – which include home visits, parent meetings and college-educated teachers – almost always cost more than programs without such components.

Benefits are even more difficult to calculate than costs because many aren’t measurable until decades later. These include long-term savings to the criminal justice system or greater earnings (and associated tax revenues) among adults

who attended pre-k compared to those who did not. Immediate and near-term benefits include savings to parents for child care as well as lower retention and remediation rates among those who attend pre-k. Benefits accrue to individuals (such as increased lifetime earnings), the general public (less crime, for example) and the government (through results like lower welfare costs).

Reporters should always ask how far into the future a given analysis projects and how conservative the estimates are. Does the analysis include, for instance, savings to victims of crime, both tangible (property damage, health costs) and intangible (pain and suffering)? Analyses that include these benefits yield impressive numbers. One example is the High/Scope Perry Preschool Program, which claims a return-on-investment ratio of 17-to-1. This figure is often quoted, but the actual source is rarely cited. (A [November 2009 study by Nobel Prize-winning economist James Heckman](#) and colleagues revised the figure downward to between \$7 and \$10 for every dollar spent.) In general, more conservative analyses tend, predictably, to include fewer projected benefits.

States that move from targeted to universal pre-k will likely see their ROI ratios drop, which at first might seem like a paradox: Why would extending pre-k to all students reduce the investment’s value? The reason is simply that those who receive targeted pre-k now are more likely to show greater benefits in the future (in terms of reduced criminal activity, better health and higher lifetime earnings) than their more affluent peers who do not qualify for targeted pre-k.

The 10-to-1 ratio that Obama and Duncan continually cite comes from a 2008 study of the Chicago Child-Parent Centers (CPC) by Arthur Reynolds and Judy Temple of the University of Minnesota. It includes both tangible and intangible crime savings, as well as increased tax revenues and lifetime earnings. When intangible crime savings are omitted from the analysis, the ratio is reduced to 7-to-1. While this makes for a less impressive sound bite, it still leads to the same conclusion: High-quality pre-k appears to be a solid investment. As Albert Wat has written in [“Dollars and Sense,”](#) his 2007 analysis of pre-k studies, “The bottom line is that while the ratios may differ, researchers have consistently found that the economic benefits of pre-k exceed its costs, often by large margins.”

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¹ Lynch, R. “Enriching Children, Enriching the Nation: Public Investment in High-Quality Prekindergarten” (Washington, DC: Economic Policy Institute, 2007).

² Karoly, L. A., & Bigelow, J.H. “The Economics of Investing in Universal Preschool Education in California” (Santa Monica, CA: The RAND Corporation, 2005).

Name of Program	Estimated Benefit-Cost Ratio	% of Returns to General Public	Includes intangible crime savings?
High/Scope Perry Preschool Program	17.1-to-1	75%	Yes
Chicago Child-Parent Centers	10.15-to-1	68%	Yes
Carolina Abecedarian Project	2.5-to-1	6%	No
Pre-K for All ¹ (projected)	8-to-1	20%	Yes
Targeted Pre-K ¹ (projected)	12-to-1	24%	Yes
Pre-K for All in California ² (projected)	3.15-to-1	10%	No

Finding the Business Angle in Education Stories

THE FEDERAL GOVERNMENT'S INVESTMENT IN K-12 EDUCATION, UPWARDS OF \$50 BILLION A YEAR, MERITS EVERYONE'S ATTENTION.

By Joel Dresang

Business and education journalists are teaming up to cover preschool in ways that complement their skills. At the *Milwaukee Journal Sentinel*, I collaborated with Sarah Carr, an education reporter, on a three-part series in 2006 that looked at the movement to expand preschool and the key role played by business. My colleagues Avrum D. Lank, a business reporter, and Amy Hetzner, who covers education, [investigated](#) in 2008 the use of complex, risky investments by some school districts to help pay for employee retirement benefits.


There are many reasons to follow executives from the boardroom to the classroom, including:

- ▶ **The money.** On top of what taxpayers, parents and students shell out for schooling, business groups and philanthropies are spending hundreds of millions on experiments and reforms. In some cases, private and non-profit organizations are competing for public investments.
- ▶ **The issues.** Workforce development, accountability, and return on investment are frequently used terms in education policy discussions – and terms within the bailiwick of business journalists.
- ▶ **The interest.** Executives say education makes a difference in the global competitiveness of their workforce. But as parents and the employers of parents, they are also interested in child care and schools, which can be reflected in business coverage of education.

- ▶ **The mix.** Education reporting can extend coverage beyond the expectations of regular business news consumers, serving as a reminder that business journalism can be multifaceted.
- ▶ **Multimedia.** As opposed to many corporate and financial stories, education offers fresh possibilities for story color, video and photography. Visits to classrooms can help illustrate how schools and preschool centers are functioning. Interactive online exams can let readers test their own knowledge against what's expected of students.
- ▶ **Proximity.** Your business community's involvement in education is not something you can get from wire services. Much of what matters in education remains local.

Once you have a compelling story idea, the next hurdle is to convince editors that it is a story worthy of your time and of running in the business section. One way to do so is to remind editors of the huge sums of money spent on K-12 education in this country – close to \$50 billion from the federal government alone in FY 2009. The federal stimulus added an additional \$100 billion over two years, including infusions of \$1 billion to the original Head Start program and \$1.1 billion to Early Head Start. The numbers are impressive and worthy of everyone's attention.

Journalists have taken a number of different approaches to exploring some of the business angles in education issues. Here are some examples:

- ▶ NPR's Larry Abrahamson [reported](#) on the economic impact of local school funding, including how some energy-producing states are plowing money back into schools and workforce training. (July 11, 2008)
- ▶ Also on NPR, Rachel Jones [discussed](#) how governors are strategizing with business leaders to improve high school education. (Feb. 27, 2005)
- ▶ Emily Hanford of American RadioWorks [spoke with](#) Nobel Prize-winning economist James Heckman and other experts about the cognitive and non-cognitive benefits of pre-k in an in-depth look at the Perry Preschool. (Oct. 29, 2009)
- ▶ In *The Wall Street Journal*, Deborah Solomon [reported](#) on how businesses are promoting preschool at the state level as a way to reduce poverty. (Aug. 9, 2007)
- ▶ Business columnist Neal St. Anthony of the *Star Tribune* in Minneapolis [showed](#) how local business leaders are learning about the benefits of helping children get ready to succeed in kindergarten. (Nov. 25, 2005)
- ▶ Kerry A. Dolan of *Forbes* magazine told the [story](#) of how financial backing from businesses and philanthropists helped a charter school succeed in New Orleans after Hurricane Katrina. (Aug. 13, 2007)
- ▶ A special [series](#) on PBS's "Nightly Business Report" explored business opportunities to sell products and services in the educational market, including a look at whether charter schools are "solid businesses" that meet stated academic and budgetary goals. (Feb. 18, 2008) 

Story Ideas for Business Journalists

FOLLOW THE MONEY AND ASK TOUGH QUESTIONS—BUT ALSO VISIT PRE-K CENTERS AND SCHOOLS.

1. Business leaders and pre-kindergarten: How real and substantial will the role of business leaders be in supporting early childhood education? Business leaders have been lining up to say we must invest in early childhood education, in part because President Barack Obama has pushed for a better-educated workforce and touted high-quality early education as a way to reduce crime and expenditures on welfare and health care. Examples of big boosters include billionaire [George Kaiser](#) in Tulsa, Okla., and hedge-fund manager [Rob Dugger](#), as well as business leaders from [Mississippi](#) to [Vermont](#). Are they merely grabbing headlines with sweeping, short-term investments, or are they in it for the long haul? Reporters should follow up and find out if business leaders are asking for results and evidence and, if so, whether they're satisfied. Have the roles of business leaders expanded as states find themselves struggling to pay for promised pre-k expansions with diminished resources?

2. Return on investment: Reporters may often wonder what is meant by the term “return on investment” when it comes to pre-kindergarten. It's a phrase [President Obama](#) and others have used in claiming that [there's a \\$10 payoff in the future for every dollar invested in pre-k education now](#). Questions must be asked, though, about how far into the future a given analysis projects. How conservative are these estimates? Do they include intangible savings to victims of crime (pain and suffering, property damage and healthcare costs)? It's worth probing a bit before simply repeating these figures and finding out more precisely what the long-term benefits of a solid pre-kindergarten education might be.


Here are some story ideas for business reporters to pursue:

3. For-profit providers: For-profit providers are an emerging trend in the early childhood landscape. These range from small, independent companies to large national chains such as [Knowledge Universe](#), founded by former junk bond king Michael Milken, his brother Lowell, and Oracle chief Larry Ellison. How is the recession affecting such businesses? As state spending on pre-k slows or declines, do such businesses benefit? Or are consumers pulling their kids out of for-profits and seeking cheaper, public alternatives? Do for-profits receive state funding to offer preschool services? How do they see the market evolving? How do they measure their outcomes? How do they think about teaching, learning, academics, preparation for school and play-time? What does enrollment look like at a time of high unemployment, when many out-of-work parents don't qualify for childcare subsidies? Can for-profits compete with public pre-k programs in areas that have both?

4. Business connections: Many early childhood centers have business leaders on their boards. Are those leaders aware of what's happening in the centers to which they're lending their names and support? Reporters should tour a center and ask educators there to point out what's going on to support businesses' expectations. Ask to see inspection reports, and follow up on any issues that have

been identified. Are business leaders aware of problems when they're uncovered?

5. Head Start and new alternatives: New questions are being raised about just how effective federally funded Head Start programs are for the country's 3- and 4-year-olds, especially after a Department of Health and Human Services evaluation showed that children who attended did no better than similar children who didn't. If President Obama has his way, failing programs will be shut down, and at least 25 percent of all Head Start programs will actively compete for federal money. The [new accountability push](#) should give reporters an opportunity to visit Head Start centers, observe the quality of programs and ask questions about outcomes. What do similar private programs offer? When programs are forced to perform (or shut down and be replaced), what are they doing to improve?

6. E-learning for the littlest learners: The market for online tools aimed at improving learning, from pre-k to college, is experiencing explosive growth. But what is the quality of the new games, tools and programs? Can they really help prepare the nation's littlest learners for the classroom? What companies are the big leaders? What do education experts think of the new programs and products? Are they research-based? What do analysts say about the performance of the publicly traded companies and the products they're offering? Reporters might field-test some of the new technology with preschoolers to see what happens. Who is measuring outcomes and what connections can be made between digital tools and learning, especially as schools attempt to follow new common standards and assessments? 

Major Players in Attempts to Influence Education Policy

LEADERS ACROSS THE COUNTRY ARE INFLUENCING EDUCATION THROUGH COALITIONS, PROGRAMS AND CHARITABLE FOUNDATIONS.

Here are some examples of organizations and individuals involved in these efforts:

ASSOCIATIONS

[Achieve Inc.](#), Washington, D.C. Formed by CEOs and governors, funded by corporate foundations. Aimed at helping states with academic standards, assessments and accountability to prepare high school students for postsecondary education and work.

[Business Coalition for Student Achievement](#), Washington, D.C. Business leaders from multiple sectors, coordinated by the Business Roundtable and the U.S. Chamber of Commerce. Wants No Child Left Behind to be strengthened as part of an effort to change education system so that all high school graduates are ready to succeed in college and at work.

[Business-Higher Education Forum](#), Washington, D.C. A group of Fortune 500 CEOs, university presidents and foundation executives. Seeks to influence public policy and advocate action in such areas as improving college preparation and enhancing capacity in STEM fields (science, technology, engineering and math).

[Business Roundtable](#), New York. Group of 160 CEOs of U.S. companies that together have \$4.5 trillion in annual sales, more than 10 million employees, and give more than \$7 billion a year through charities. Cites “improved U.S. education performance and student achievement” as among its highest priorities.

[Committee for Economic Development](#), Washington, D.C. Group of CEOs and university presidents bringing a “business voice” and perspective to issues that foster U.S. economic growth. Past causes have included the Marshall Plan and campaign finance reform, but education reform has been a more recent priority.

[National Association for the Education of Young Children](#), Washington, D.C. Founded in 1926 and dedicated to improving the well-being of all young children, with a focus on the quality of educational and developmental services for all children from birth through age 8.

[National Association of Early Childhood Specialists in State Departments of Education](#), Washington, D.C. Founded in 1972 for state education agency staff members with major responsibilities in the field of early childhood education. Promotes high-quality services to young children and their families through improvement of instruction, curriculum and administration of programs.

[National Center for the American Workforce](#), Washington, D.C. Established in 2008 by the National Association of Manufacturers to promote policies and investments that better educate and prepare manufacturing workers.

[National Governors Association, Center for Best Practices](#), Washington, D.C. Founded in 1908, its members are the governors of the 50 states, three territories and two commonwealths. Develops innovative solutions to today’s most pressing public policy challenges, and is the only research and development firm that directly serves the nation’s governors.

[Partnership for America’s Economic Success](#), Washington, D.C. A national coalition of business executives, economists, funders and civic leaders mobilizing business to improve tomorrow’s economy through smart policy investments in young children today. Funded by Robert Dugger, the George Gund Foundation, John D. and Catherine T. MacArthur Foundation, Ohio Children’s Foundation, Pew Charitable Trusts and Scholastic, Inc.

[Pre-K Now](#), Washington, D.C. A campaign of the Pew Center on the States that collaborates with advocates and policymakers to lead a movement toward high-quality, voluntary pre-kindergarten for all three- and four-year-olds.

[The Pritzker Consortium on Early Childhood Development](#), Chicago. Brings together leading experts to identify when and how child intervention programs can be most influential. Assembles and rigorously compares data from numerous studies, and then leverages the data to provide policymakers, nonprofits and the business community with more comprehensive and accurate research on the value of public investment in early childhood programs.

[U.S. Chamber of Commerce](#), Washington, D.C. Federation with more than 3 million business members and thousands of local chambers. Considers education and workforce development among its top priorities. Its affiliate, the [Institute for a Competitive Workforce](#) (ICW), works to align education standards and training systems to meet the demands of business.

PROGRAMS

[ConnectEd, California Center for College and Career](#), Berkeley, Calif. Founded by the James Irvine Foundation, supports development of California high school innovations that expand student pathways to careers and college.

[JA Worldwide](#) (Junior Achievement), Colorado Springs, Colo. Begun in 1919 by the president of AT&T, Strathmore Paper and a former U.S. senator. Uses classroom volunteers to teach middle and high school students about work, entrepreneurship and finance.

[PNC Grow Up Great](#), Pittsburgh, Pa. Ten-year, \$100 million school readiness program for children from birth to age 5 in market areas of PNC Financial Services Group Inc. Offers grants to early education development organizations, encourages employee volunteerism, and provides early education resources for employees and customers.

[Project Lead the Way](#), Clifton Park, N.Y. Nationwide program that establishes partnerships in middle and high schools, and trains teachers and counselors to attract and prepare a larger, more diverse group of students for careers in engineering and science.



STATE-LEVEL EDUCATION ADVOCACY GROUPS BACKED BY BUSINESS

[Bay Area Council](#) is a business-sponsored, public-policy advocacy organization for the nine-county Bay Area. The Council proactively advocates for a strong economy, a vital business environment and a better quality of life for Bay Area residents. More than 275 of the largest employers in the region support the council and offer their CEOs or top executives as members.

[Colorado Succeeds](#), a business voice for education, is committed to improving the caliber of Colorado's education system and the competitiveness of its students. It believes business must make a commitment to support meaningful education reform as well as provide leadership and resources.

[Employers for Education Excellence](#), Oregon. E3 is a statewide nonprofit organization, founded by the Oregon Business Council, to bring together employers and schools to improve student achievement.

[Kids Ohio](#), created in 2002 in response to community, education and business leaders who wanted an effective, data-driven, nonpartisan organization focused on improving public education in Ohio.

[Massachusetts Business Alliance for Education](#) (MBAE) is committed to a high-quality public education system that will prepare all students to engage successfully in a global economy and society. It brings together business and education leaders to promote education policies and practices based on measurable standards of achievement, accountability for performance and equitable educational opportunities for all students.

[Minnesota Early Learning Foundation](#) (MELF) is a partnership of foundation, corporate and civic leaders that was established in 2005 to address growing concerns about the lack of school readiness among many children entering kindergarten. Its mission is to recommend cost-effective strategies to prepare children for success in kindergarten.

[Oklahoma Business and Education Coalition](#) (OBEC) is a partnership of business and education leaders committed to improving the quality of Oklahoma's K-12 public education. It stresses the need for research, focus and relationship-building.

[The Partnership for Learning](#), Wash. An independent, statewide nonprofit organization established in 1994, it focuses on communicating and advocating for Washington's school improvement efforts. Its goal is to create a stronger public education system that prepares all graduates for college and the world of work.

[Texas Institute for Education Reform](#) (TIER) is a nonprofit, nonpartisan organization of community and business leaders throughout the state who raise public awareness and educate Texas opinion leadership on the current status of public education in Texas.

[Vermont Business Roundtable](#) is a nonprofit, public-interest organization comprised of 100 CEOs of Vermont's most active and committed businesses and employers. During the 20 years since its inception, the Roundtable has dedicated itself to analyses of significant public-policy issues affecting all Vermonters, ranging from education, economic health and environmental quality to health care policy and technology.

PHILANTHROPIES

[Broad Foundation](#), Los Angeles, Calif. Family fund of Eli Broad, founder of AIG Retirement Services Inc., and KB Home. Mission includes trying to improve public education through better governance, management and labor relations.

[Buffett Early Childhood Fund](#), Omaha, Neb. Funded by family of Warren E. Buffett, chairman and CEO of Berkshire Hathaway Inc. Invests in research, projects and programs focused on improving preschool development of children, especially from low-income families. Building a national network of Educare Centers for birth-to-5 learning.

[Michael & Susan Dell Foundation](#), Austin, Texas. Endowed by the family of the founder, chairman and CEO of Dell, Inc. Urban education grants focus on performance management, leadership development, charter schools, literacy and employment-oriented education.

[Doris & Donald Fisher Education Fund](#), San Francisco, Calif. Founders of Gap, Inc., have supported numerous education reforms through charitable giving and board participation. Among beneficiaries have been the Knowledge is Power Program (KIPP), Pacific Charter School Development, NewSchools Venture Fund, and Teach for America.

[Bill & Melinda Gates Foundation](#), Seattle, Wash. Established by co-founder and chairman of Microsoft Corp. and his wife. Involved in public and private partnerships to ensure all children in state of Washington are ready for school by age 5. Works with programs nationwide to improve high school graduation rates and college readiness. Provides college scholarships and sponsors education research.

[Milken Family Foundation](#), Los Angeles, Calif. Founded by financier brothers Michael and Lowell Milken. Education projects center on recruiting, recognizing and advancing teachers.

[David & Lucile Packard Foundation](#), Los Altos, Calif. Endowed by a co-founder of Hewlett-Packard Co. Supports research and advocacy for high-quality voluntary preschool for all 3- and 4-year-olds in California.

[Pew Charitable Trusts](#), Philadelphia, Pa. Beneficiary of funds from the family of Sun Oil Co. founder. Involved in educational endeavors on several fronts, including early childhood development, early education research, pre-kindergarten advocacy, measuring state K-12 standards, and raising awareness of student debt.

[Stupski Foundation](#), Mill Valley, Calif. Begun by Larry Stupski, former president of Charles Schwab Corp., and his wife Joyce, a former educator. Has offered leadership development and management assistance to superintendents of large school districts.

[Walton Family Foundation](#), Bentonville, Ark. Established by Helen and Sam Walton, co-founder of Wal-Mart Stores, Inc. Priorities include K-12 education reform, specifically through holding districts more accountable for student performance, supporting charter schools and encouraging school-choice initiatives.

ECONOMISTS, EXECUTIVES

Timothy J. Bartik, senior economist, [W.E. Upjohn Institute for Employment Research](#), Kalamazoo, Mich. Has done research suggesting that states and the nation as a whole would benefit more from universal pre-kindergarten than from comparable investments in traditional business subsidies. Contact him at bartik@upjohn.org or 269-385-0433.

Clive R. Belfield, associate professor of economics, Queens College, City University of New York, associate director of the [National Center for the Study of Privatization in Education](#). Has done economic analyses of preschool programs for a number of states. Contact him at clive.belfield@qc.cuny.edu or 718-997-5448.

Robert H. Dugger, a partner in a global hedge fund and the advisory board chairman for the [Partnership for America's Economic Success](#), which aims to research on and then communicate about how investing early in children pays off in economic growth and job creation. Contact him at rhugger@hanoverinvgroup.com or 703-739-6040.

James J. Heckman, 2000 Nobel laureate in economics, [University of Chicago professor](#), has testified on the merits of public investment in early childhood education. His research into the failings of job training programs for adults led him to trace back to disadvantages of children in low-income families even before they reach school age. Contact him at jjh.info@gmail.com, jjh@uchicago.edu or 773-702-0634.

George B. Kaiser, president and CEO of Kaiser Francis Oil Co., chairman, BOK Financial Corp., both in Tulsa, Okla. Has used [family foundation](#) to address poverty issues, including investments in early childhood programs in low-income areas.

Henry Levin, professor of economics and education at Teachers College, Columbia University and director of the [National Center for the Study of Privatization in Education](#). Has done research on the value to the economy of increasing high school graduation rates as well as other improvements in achievement. Contact him at h1361@columbia.edu or 212-678-3857.

Dennis Lockhart, president and CEO of the Federal Reserve Bank of Atlanta. Co-chairs the United Way of Metro Atlanta's Early Education Commission with Beverly Tatum, president of Spelman College. The commission's focus is to investigate the impact of early learning on the short- and long-term economic development of the metro Atlanta area. Contact him through Tim Smith at tim.r.smith@atl.frb.org or 404-498-8267.

Arthur J. Rolnick, senior vice president and director of research, [Federal Reserve Bank of Minneapolis](#), associate economist with the Federal Open Market Committee. Participates in several organizations advocating for early childhood education. His research suggests that early investment in children from disadvantaged families provides greater economic returns than subsidies offered to businesses to expand or relocate. Contact him at art.rolnick@mpls.frb.org or 612-204-5441.

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Notable Research on Pre-Kindergarten Education

SEMINAL STUDIES AND REPORTS

[The High/Scope Perry Preschool Project.](#) Compared low-income children who attended the program, beginning in 1962, with those who did not. As adults, preschool participants had higher high school graduation rates, higher monthly earnings, less use of welfare, and fewer arrests than those without the program. Also showed that preschool leads to taxpayer savings (on special education, public assistance, unemployment benefits and crime).

[The Carolina Abecedarian Project.](#) Carefully controlled scientific study of the potential benefits of early childhood education for poor children. Four cohorts of individuals, born between 1972 and 1977, were randomly assigned as infants to either the early educational intervention group or the control group.

[The Chicago Longitudinal Study](#) (1986 to present). A federally-funded investigation of the effects of an early and extensive childhood intervention in Chicago, called the Child-Parent Center (CPC) Program. The study began in 1986 to investigate the effects of government-funded kindergarten programs for 1,539 children in the Chicago Public Schools.

[“Study of Early Child Care and Youth Development.”](#) National Institute of Child Health and Human Development (1991 to present). Collects information about different non-maternal child care arrangements and determines how variations in child care are related to children’s development.

[“Starting Points: Meeting the Needs of Our Youngest Children.”](#) Carnegie Corporation of New York (1994). Focuses on the lack of quality health and education services for children from birth to age 3; spurred several state and local projects to improve programs for young children.

[“Eager to Learn: Educating Our Preschoolers.”](#) National Research Council (2000). Outlines the components of a well-planned preschool program, emphasizing that young children are more capable learners than previously thought; authors’ call for improvements among preschool teachers, such as requiring a bachelor’s degree, is still quoted among advocates.

[“Neurons to Neighborhoods: The Science of Early Childhood Development.”](#) National Research Council and the Institute of Medicine (2000). Analyzes findings from brain research and emphasizes that early-learning programs need to pay as much attention to young children’s emotional growth and development as to their acquisition of academic skills; also seeks to clarify some of the hype around “windows of opportunity” in young children’s brain development among well-intentioned policymakers.

[“The State of Preschool: State Preschool Yearbook.”](#)

National Institute for Early Education Research (2004 to present). Published annually; provides useful data on state-funded preschool programs. Used by reporters to see how their state stacks up against others.

RECENT STUDIES AND REPORTS

EARLY CHILDHOOD PROGRAM PROVIDERS

[“A Center Piece of the Pre-K Puzzle: Providing State Pre-kindergarten in Child Care Centers.”](#) National Women’s Law Center (2007). Examines the role that child-care centers play in enrolling thousands of children in state-financed pre-k programs; recommends that financing cover the “full range” of a center’s expenses, including salaries for teachers that are comparable to those paid in the public schools.

[“A Diverse System Delivers for Pre-K: Lessons Learned in New York State.”](#) Pre-K Now (2006). Illustrates the success that New York has had in using a “mixed” system of delivering pre-k in both school and child-care sites, including the ability to reach more children and ensure quality improvements across various settings.

EARLY HEAD START

[“Making a Difference in the Lives of Infants and Toddlers and Their Families: The Impacts of Early Head Start.”](#) by Mathematica Policy Research, Inc. (2002). A seven-year national evaluation of Early Head Start that shows the program promotes learning and the parenting that supports it within the first three years of life.

ECONOMIC BENEFITS

[“Dollars and Sense: A Review of Economic Analyses of Pre-K.”](#) by Albert Wat of Pre-K Now (2007). Straightforward analysis of the major studies used to make the economic argument for spending public dollars on preschool programs.

[“Does It Pay to Invest in Preschool for All? Analyzing Return-on-Investment in Three States.”](#) by Clive R. Belfield (2006). Measured the fiscal impacts of achieving universal availability. Concluded that projected benefits from expanding state-funded pre-kindergarten programs toward universality easily outweigh estimated costs in all three states (Massachusetts, Ohio and Wisconsin).

[“An Economic Analysis of Pre-K in Arkansas.”](#) by Clive R. Belfield (2006). Concludes that expanding the Arkansas Better Chance (ABC) preschool education program makes sound economic sense.

FINANCE

[“Funding the Future: States’ Approaches to Pre-K Finance.”](#) Pre-K Now (2008). Useful resource on the variety of funding strategies and mechanisms states are using to pay for preschool programs.

HEAD START

[National Head Start Impact Study and Follow-Up,](#) 2000-2009. A longitudinal study involving approximately 5,000 3- and 4-year-old preschool children. Seeks to determine how Head Start affects the school readiness of children in the program (compared to children not enrolled in Head Start), and under which conditions Head Start works best and for which children.

[“The Battle Over Head Start: What the Research Shows.”](#) by W. Steven Barnett (2002). Addresses claim that Head Start produces no lasting educational benefits. Reviews research and concludes that Head Start produces substantial long-term educational benefits.

THE MIDDLE CLASS

[“The Pre-K Pinch: Early Education and the Middle Class.”](#) by Albert Wat (2008). Shows that eligibility requirements and high costs lead middle-class families to sacrifice basic household needs to pay for early education and care for their children, or to settle for low-quality options with unproven benefits.

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