

MINDS M a t t e r

Early childhood education meets economic development BY BETTY JOYCE NASH

Kurt Callahan is in third grade but reads at a sixth-grade level.

“He likes Harry Potter books; he likes mystery books; he likes ghost books,” says his mom, Maria Callahan.

When Kurt was born, Callahan heard through a neighbor about the Montgomery County, N.C., Partnership for Children. It’s the local group, one of 82 throughout North Carolina, that works with very young children through a program called Smart Start, begun in 1993. Callahan

needed help because Kurt was *normal*. Kurt’s two brothers, both dead now, had been born with severe disabilities.

“I have no clue how to deal with a normal child,” she recalls telling the teacher that first day. “I think Kurt was 3 months old. She told us about [the program] Parents As Teachers.” The program helps mothers and fathers stimulate children’s minds.

The Smart Start teacher read to Kurt even at 3 months, and with encouragement, Callahan read too. She had hesitated because she’d been in special-education classes as a child and can’t read very well. Her husband, who has a hearing problem, did not finish high school. He works

end of each session, Callahan and the teacher discussed how to cultivate Kurt’s natural curiosity. The service was free for the Callahans.

Early education has moved to the front page in the United States as policymakers focus on the economics of nurturing the minds of the very young. Investments in poor children seem especially effective. At least two early projects with high-quality research design — the Perry Preschool Study and the Carolina Abecedarian Project — show enhanced language and social skills in underprivileged kids who have participated in early education programs.

Educational gains have paid off for participants later in life and for society, too, studies suggest. Participants committed fewer crimes, received less welfare, and made more money. Investing in children’s developing brains is easier and cheaper in the long run than job training programs for older adults. This is big news because the economy depends more than ever on workers who can think for a living, says former North Carolina Gov. Jim Hunt, Smart Start’s chief architect. Good-wage, low-skilled jobs are fast becoming relics.

Earlier Is Better

When Hunt ran for governor in 1991, he had a small, invisible constituency: North Carolina’s preschoolers. Hunt

One of Smart Start’s innovations is “Parents As Teachers.” Blesha Carroll, left, helped teach Maria Callahan, right, how to make the most of Kurt’s earliest years. The Callahans live in Lexington, N.C.



as an attendant in the hospital in Lexington, N.C., where the family lives.

The Smart Start teacher showed up weekly with a basket of books and toys. As Kurt grew, he met her on the porch and opened the basket, eager for what came next. At the

had already served two terms as a governor in the late 1970s and early 1980s, with education a priority. Still, gains weren't what he'd hoped.

"I was at a loss as to why," Hunt recalls. During his eight-year hiatus between governorships, he played with his grandchildren and they taught him well. He became fascinated with brain development and put two and two together. "I was trying to figure out how to get a highly skilled work force that would make us highly competitive. I just stumbled on this research. I read it carefully article after article and it became clear: We're starting too late. You can't wait until they get to school at age 5."

There's a timely lesson. The number of low-skilled workers in the United States is on the rise, as high school completion rates fall. (Rates vary among states, with the 2000 rate in the District of Columbia, for example, among the lowest at about 48 percent, according to a 2005 report by the Educational Testing Service.) Nobel Prize-winning economist James Heckman of the University of Chicago points out in a paper: "In the face of declining real wages for low-skilled persons and rising real returns to college graduation, the United States is now producing a greater fraction of low skill, drop-out youth than it was 30 years ago."

Early investment spurs children's learning and is especially useful to poor children who may be living with poorly educated family members, perhaps in a single-parent household. Children who develop age-appropriate skills early seem to learn more easily over a lifetime. But family background plays a big role in producing the skills necessary for learning, and "fewer children are living with two parents who are married, and, until very recently, births to unmarried women have risen," notes Heckman in a working paper for the Invest in Kids Working Group. Just as early advantages accumulate, so do early disadvantages. A poor home environment, which can include few resources, uneducated family members, and

widespread community unemployment, is a liability that is expensive to remediate in later years.

Poor children or those with disabilities benefit enormously from high-quality preschool education, says Dick Clifford, who helped launch Smart Start. Clifford is senior scientist at the Frank Porter Graham Child Development Institute at the University of North Carolina at Chapel Hill. (The nation's Head Start program, begun in 1965 for poor preschoolers, serves about 19,000 of 94,600 poor children under age 5 in North Carolina. See sidebar.)

"Programs that focus on at-risk children are going to provide a higher return," says Rob Grunewald, regional economic analyst at the Federal Reserve Bank of Minneapolis. Rather than using financial incentives to lure companies or expensive projects such as government subsidized ball parks, the Minneapolis Fed has pushed early childhood development as a state economic development tool. "The future productivity of the economy is going to depend on experiences young children have today," notes Grunewald.

The business community is already in the early education loop. Rob Dugger, a partner with The Tudor Group, an investment firm, chairs the Invest in Kids working group of the Committee for Economic Development, devoted to researching business issues. "States that cut education or acquire the perception that they don't have priority on the life of kids in that state eventually are not attractive to talented parents and to business, and they will not in future years have a competitive labor force," he says.

Early intervention has always made sense to Steven Barnett, professor of education and economic policy and director of the National Institute for

Early Education Research at Rutgers University. "If I really think about this as a capital model, then given the

way compound interest works, I shouldn't be shocked that relatively small investments in young children have big impacts on their adult skills," he says.

Children who develop age-appropriate skills early seem to learn more easily over a lifetime.

Reason to Believe

Current thoughts on early education are influenced by the Perry Preschool Study in Michigan (1960s) and the Carolina Abecedarian Project (1970s).

The Perry program assigned 158 poor black children randomly either to the Perry Preschool program (58 children) or to none. They have been tracked to age 40. The same children were studied every year from ages 3 to 11 and again at ages 14, 15, 19, 27, and 40. Those who participated in the preschool program have generally fared better in life than those in the control group. Some of the latest results, published earlier this year, include:

- 65 percent vs. 45 percent high school graduates
- 8 percent vs. 36 percent treated for mental impairment
- Scored higher on various tests between ages 9 and 14 and on literacy tests at ages 19 and 27
- 76 percent vs. 62 percent employed at age 40
- 76 percent vs. 50 percent had savings accounts
- Median annual earnings of \$20,800 vs. \$15,300
- Fewer arrests: 32 percent vs. 48 percent violent crimes; 36 percent vs. 58 percent property crimes; 14 percent vs. 34 percent drug crimes.

The Perry program highlights social benefits. Take crime. "Crime is hugely expensive, a big drag on the economy, and so making the same kinds of gains in social/emotional [development] as cognitive has a much

bigger payoff,” Barnett says. “The social costs for poor social skills are higher than for poor cognitive skills.”

The Abecedarian project in Chapel Hill, N.C., placed 57 poor infants randomly in full-time, high-quality child care, with 54 in a control group. Results included significantly higher mental test scores through age 21 than the control group, better language skills, higher math scores, and more children attending college — 35 percent compared with 14 percent in the

control group. Social behavior included child bearing at age 19 compared with age 17 in the control group. Employment rates were 65 percent for the treated group compared with 50 percent for the control group.

Markets and Child Care

Economists suggest market failures play a part in the absence of investment in early childhood. Janet Currie, an economist who has studied the nation’s Head Start program, includes liquidity

constraints, information failures, and externalities. For example, poor people don’t have money to invest in their children. And, it’s hard for parents to evaluate the quality of child care centers because of information gaps. If you’re an uneducated parent, how would you know the quality of one preschool over another? It can even be hard for higher income people to navigate preschool options. Evidence suggests some parents pay for such low-quality care that it may actually harm their children, Currie notes. Finally, parents often don’t realize consequences (or externalities) of parenting decisions on society.

Barnett notes that market signals in early childhood education belie economic reality. “My study of the Perry Preschool program finds the externalities are huge,” he notes, referring to the costs involved with crime, school failure, and poor productivity in the labor force.

And people often aren’t good at making decisions about investments whose consequences are far in the future, he says. For example, many young people don’t adequately plan for their retirement. “Investing in human capital in your young child is the same problem. You’re looking at consequences 20 to 30 years away.”

Smart Start

Some of these economic issues are addressed, one way or another by Smart Start and by another early childhood program, More at Four. (More at Four, begun in 2002, targets at-risk 4-year-olds, 90 percent from families that qualify for free or reduced lunches in school.)

A rating system, resource and referral libraries, and direct subsidies for high-quality child care are a few ways that Smart Start attempts to correct information asymmetries, for example, and money problems. Parent education projects such as the one that helped Kurt Callahan gain an edge help parents make decisions about early education that influence a child’s future positively. Smart Start, in some cases, targets at-risk populations.

Before Smart Start, Head Start

Head Start is a federally funded program that targets poor 3- and 4-year-olds. It differs from Smart Start, which is paid for with state and private money. Head Start funds preschool classes; Smart Start aims to improve the entire system, with funds distributed throughout the community. For example, a child could attend a Head Start class in the morning and a child care center that’s received Smart Start grants in the afternoon. Or a staff position at the local health department might be partly funded by Smart Start, to make sure preschoolers receive immunizations on time.

Head Start began in 1965 to give poor children a leg up when they got to school. Today, it’s a \$6.7 billion program, and reached about 905,000 children in the United States and its territories in 2004. Studies have associated Head Start with short-term benefits, such as improved test scores, but critics wonder whether effects last. Academic improvements fade by around third grade, but economists have found social benefits, according to a paper by Eliana Garces, Duncan Thomas, and Janet Currie published in the *American Economic Review* in 2002.

The authors found that for white children, Head Start participation increased high school graduation rates, college attendance, and earnings by the time participants reached their early 20s. Black Head Start participants were less likely to be charged with a crime. The authors also found some evidence that black male Head Start participants were more likely than non-Head Start siblings to have finished high school. Lastly, the authors found evidence of positive effects from older siblings who attended Head Start. Fading test gains don’t mean children don’t benefit from the program, authors say. Avoiding grade repetition and special education early in life may be associated with higher schooling attainment

later. And Head Start may be associated with lasting improvements in social skills.

A Head Start Impact Study mandated by the U.S. Congress began collecting data in 2002 and will continue through 2006. Its goal is to determine the effects of Head Start on school readiness and parenting, and to assess the circumstances which bring about best results. About 5,000 children, ages 3 and 4, were assigned to either a treatment group or a control group. The control group can receive any other non-Head Start service available.

The study’s preliminary results from the first year include small to moderate positive effects for 3- and 4-year-olds on four of six cognitive measures. In social skills, the study found among 3-year-olds that the frequency and severity of problem behavior reported by parents were lower for Head Start children than non-Head Start participants. The study also reported significant benefits for children’s dental health.

In 1994 Congress authorized funding for Early Head Start, a child development program for poor families with children under age 3. Early Head Start provides health services and parent education programs too. A national evaluation conducted by Mathematica Policy Research in collaboration with Columbia University’s Center for Children and Families found that 3-year-old Early Head Start children performed significantly better on cognitive, language, and social-emotional development than a randomly assigned control group. Parents did better on home environment and parenting behavior measures. The study involved 3,000 children and families in 17 places. Half received Early Head Start services; the other half were assigned to a control group that was free to participate in other services in the community. — BETTY JOYCE NASH



A community with a high incidence of teen pregnancy, for example, might have an adolescent parenting program.

Charlie Owen, who runs a blanket manufacturing firm in Asheville (now owned by Springs Industries), has contributed to Smart Start since the beginning, in time and money. He saw child care worries written on the faces of plant employees. Then he saw those same worries eased with the five-star Swannanoa Mountain Area Child and Family Center that Smart Start funds help thrive. “If I look at our report card and our [test] scores and levels — they’ve gone up in primary schools,” Owen says.

By law, private funds (including in kind and volunteer contributions of time) must comprise 10 percent of Smart Start’s state appropriated funds. Seventy percent of the money either subsidizes early care for families or improves the quality of child care centers. And 30 percent may support the family, including home intervention and health care services. Current funding is at \$192 million. The money flows to nonprofit corporations established in partnerships throughout North Carolina’s 100 counties. Funds are woven throughout the community in a pattern that makes sense for local needs.

For example, Smart Start targets its reach differently in Cumberland County, with its young, transient military families, than in Montgomery County, which has the state’s second-highest number of children, ages 5 to 7, with Spanish as the first language. Deborah Musika of the Montgomery County Partnership for Children hired a bilingual staff member to penetrate the isolated Hispanic community. “Obviously there’s child

care going on. If we could help some of those folks become licensed, get them to join our lending library, and take advantage of our resources, that would open the door,” she says. A child who doesn’t speak English on the first day of school is “at risk” and may lag, leading to a less productive adulthood.

Likewise the Cumberland County Partnership’s Eva Hansen reports that her county, with Fayetteville’s overwhelming military presence, serves young parents and children with special needs. “We work hard to educate the child care community, so teachers and child care directors can identify children and try to get the parents connected. Sometimes parents and caregivers don’t recognize it’s a risk issue. They [parents] are very young and don’t know what to look for.”

Early on, the business supporters who spoke the loudest for Smart Start were banks and utilities, says Clifford. “[They knew] we might not see the returns tomorrow, but you have to keep your eye on the future.” BB&T contributed \$1 million to Smart Start in the beginning. Wachovia and First Union each pledged \$2 million, and the merged bank’s commitment is complete at \$4 million this year.

Not All Preschools Are Created Equal

When Smart Start was just an idea, North Carolina bottomed out in every category of care that could affect preschoolers, says Karen Ponder, president of the North Carolina Partnership for Children, created to administer Smart Start. Ponder has worked in child care since the 1970s.

“Only children who could afford it were in high-quality care,” she remembers. “Our goal was to make it so particularly children who qualify for subsidies would be in our best programs.” Today, 76 percent of children whose care Smart Start subsidizes are in the best programs, ones with a five-star rating. “We took it from being the poorest outcome to moving toward the best.”

Even many middle-class children, remembers Clifford, were in low-quality child care at the time. Parents often didn’t know the difference. And even 12 years ago, before the big scientific splashes about brain development, there was evidence that *good* child care made a difference. “We were finding huge variations in the quality of child care and also were finding indications that the quality of child care available to children had an impact on cognitive and social development,” he says.

Here’s one example: In the old days, child care centers could house seven infants under the care of one adult and 12 one-year-olds in the care of one adult. Today, minimum requirements are one adult for five infants and one adult for six one-year-olds. Today, 77 percent of North Carolina’s children in child care centers are enrolled in centers with a rating of three to five stars.

For the highest ratings, child care center directors must have four-year degrees, and lead teachers must have two-year degrees. Research has linked better child outcomes to teacher credentials, notes Grunewald of the Minneapolis Fed.

The rating system corrects information gaps and guides parents to an appropriate center. And that’s a

PHOTOGRAPHY COURTESY OF SMART START

market signal, Grunewald notes. "The market will move in such a way as to provide information about the centers," he says. "Parents will make decisions based on their needs, their values, and their budget." For example, Tabitha Groelle of Raleigh has had her son in day care since he was 5 months old. Groelle, who considers her family middle income, is happy with the center and its three-star rating, saying it fits her son's needs.

While lasting academic and social gains from quality early childhood care are hard to prove definitively, it is clear that more children in North Carolina are getting better care. The number of children in centers with multiple star licenses has gone from 20 percent in 1993 to 87 percent, and 82 percent of preschool teachers have a degree or at least some college training, compared to 41 percent in 1993. Teacher turnover has been almost halved, from 42 percent to 24 percent. And more than 250,000 parents have gotten some education, including home visits like the ones Kurt Callahan's family enjoyed.

A 2003 study by the Frank Porter Graham Child Development Institute indicates the quality. For example, the Early Childhood Environment Rating Scale, which Dick Clifford helped develop, is incorporated into the star rating system. That is, in itself, an innovation.

The FPG study included 110 preschool programs observed between 1994 and 1999. About 512 preschool

children were assessed on language, literacy, numbers, and social-emotional skills. The study concluded that child care quality increased between 1993 and 2002 and that participation in Smart Start funded activities was positively related to quality. The study noted that all children benefited from the improvements in the programs, not just poor children. Cause and effect, though, is hard to prove because of the seamless way in which Smart Start money flows.

Too Good To Be True?

Smart Start has its detractors, including the John Locke Foundation of Raleigh. The link between child care quality and kindergarten readiness appears strong, writes John Hood of the foundation. But quality care "likely reflects levels of parental knowledge, involvement, and commitment that are not modeled in this study (poverty and race are, and show the usual patterns)."

It is tough to provide solid evidence about the effects of early education, says Chris Ruhm, an economics professor at the University of North Carolina at Greensboro. Ruhm is following about 9,500 children from the Early Childhood Longitudinal Study Kindergarten cohort. He and his co-authors have written a paper that finds prekindergarten increases reading and math skills at school entry

but also increases behavior problems and reduces self-control. Academic effects fade by first grade. What's left, though, continues into third grade. Effects differ according to the children's family background and what kinds of schools they enter later.

While the authors have information on whether the children were in child care, they don't know the quality of that care. Research indicates that classroom environments in later years can make a difference. "We're looking at classroom environments . . . what we're finding is the kids who start out behind catch up more if they have better classroom environments such as small class sizes."

So early childhood education is important. But policymakers can't stop there. Tools acquired early in life

must be used and refined later for a cumulative process of skill building.

"At the end of the day, my belief is in [programs] like Smart Start and pre-k," Ruhm says. "There are lots of reasons to think that investments are going to be more effective at

younger than older ages. But it's hard to accurately compare the costs and benefits of any specific intervention or to know the combinations of factors that lead to successful child outcomes."

Maybe Kurt Callahan can write that book when he grows up. **RF**



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