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The School Readiness Gap

Prekindergarten—not just preschool—may be the key to narrowing disparities in achievement by race, ethnicity, and income

by Michael Sadowski

For decades now, educators, researchers, and policymakers have puzzled over so-called achievement gaps—the disparities in academic performance by race and ethnicity that consistently show up on standardized tests, grade-point averages, and a host of other measures. The No Child Left Behind Act seeks to narrow these gaps by mandating standards-based tests in elementary, middle, and high school, and holding schools accountable for raising scores not just overall, but among racial and ethnic subgroups. A growing body of research, however, suggests that any serious effort to eliminate disparities at the primary and secondary school levels must also address what some researchers call the school readiness gap—the variations in academic performance and certain social skills among children entering kindergarten and first grade.

Recent studies document specific dimensions of this gap:

- On average, black, Hispanic, and American Indian students demonstrate significantly lower reading, math, and vocabulary skills at school entry than white and Asian American children.
- According to a seminal 1995 study by Betty Hart and Todd Risley, 3-year-olds whose parents are professionals have vocabularies that are 50 percent larger than those of children from working-class families, and twice as large as children whose families receive welfare.
- Using data from the U.S. Department of Education's Early Childhood Longitudinal Study (ECLS), University of California researchers have shown that fewer than 20 percent of California kindergartners from non-English speaking backgrounds score above the 50th percentile on reading and mathematics tests, a finding echoed in other states.

Many researchers today still cite an analysis in the 1998 Brookings Institution book *The Black-White Test Score Gap*, in which researchers Meredith Phillips, James Crouse, and John Ralph estimate that about half of the black-white test score gap at twelfth grade is attributable to gaps that exist at first grade. Researchers have since made similar claims about gaps existing among other ethnic groups. Analyzing eight national studies of racial differences in school performance, Phillips, Crouse, and Ralph pose a bold challenge: "We could eliminate at least half, and probably more, of the black-white test score gap at the end of twelfth grade by eliminating the differences that exist before children enter first grade."

Most researchers agree that socioeconomic status—closely associated with race and ethnicity—is one of the strongest predictors of low skills at school entry. In a 2002 study, Valerie E. Lee and David T. Burkam of the University of Michigan found that at kindergarten entry, cognitive scores of children in the highest socioeconomic group were 60 percent higher than those of the lowest group.

"Most if not all early gaps are due to economic disadvantage," says Katherine Magnuson, an assistant professor of social work at the University of Wisconsin–Madison who has extensively studied the issue.

Editor's Note

This article is part of an ongoing series on the education of children from preK through grade 3, made possible through the support of the Foundation for Child Development. For additional information, visit the series Web site at www.hel-earlyed.org.

Magnuson and others have argued for broad-based policies addressing parental poverty and education levels. But she and her colleagues also believe that improving all children's access to high-quality prekindergarten programs could do a great deal to narrow early learning disparities.

Preschool vs. Prekindergarten

Predictably, the likelihood that a child will attend some kind of preschool is largely tied to socioeconomic status, according to data from the National Institute for Early Education Research (NIEER) at Rutgers University. A 2004 NIEER analysis found that while 78 percent of 3- and 4-year-olds from families with incomes over \$100,000 attend preschool, less than half of children from families with incomes below \$50,000 do.

When looking at preschool attendance differences by race and ethnicity, the picture is more complicated. Among Hispanics, only 23 percent of 3-year-olds and 50 percent of 4-year-olds attend preschool, according to national enrollment data. But thanks in large part to Head Start and similar state-funded programs, African American children now attend preschool in roughly the same percentages as their white peers (about 45 percent of 3-year-olds and 70 percent of 4-year-olds).

Still, attending preschool is no guarantee that a child will receive adequate preparation for kindergarten and the elementary grades, notes Jane Waldfogel, an economist at Columbia University's School of Social Work and author of the 2006 book *What Children Need*. Waldfogel draws a clear distinction between preschool—a term she uses

to include everything from private day care centers to Head Start—and prekindergarten (preK) programs, which are usually connected with school districts and are specifically intended to provide a bridge to school for young children.

Based on studies she conducted using the Department of Education's ECLS data and other sources, Waldfogel theorizes that one of the reasons why white and black children have different levels of school readiness despite similar preschool attendance rates is that they do not attend the same kinds of programs. While she acknowledges the benefits of Head Start, she says there is evidence that it does not foster the same level of school readiness as school-based preK or the best-quality private programs, which serve predominantly white children.

Patrick Galatowitsch, principal of Rolling Hills Elementary School in Orlando, Fla., which serves predominantly African American students, says he sees a real difference between students entering kindergarten from preK programs, in which goals and expectations are closely aligned with the district's elementary schools, and those who come from less structured settings.

"We see lots of incoming students with very poor social, academic, and listening skills," Galatowitsch says. "Many of these children spend their prekindergarten years ... in settings which lack structure and tend to be more play than learning environments. Thus the children learn that school is play. This makes a difficult adjustment to the more structured and academically focused kindergarten experience." (See "Are Schools Ready for Children?")

Are Schools Ready for Children?

For Further Information



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While much of the research on school readiness has focused on children, a group of researchers in North Carolina is looking at the issue from the opposite perspective: Are schools ready for the diversity of young children who walk through their doors?

Richard Clifford, a senior scientist at the University of North Carolina (UNC) at Chapel Hill's FPG Child Development Institute, says that closing early learning gaps depends in large part on addressing the mismatch between what today's children need and what schools currently provide.

A U.S. Census report released in May 2006 found that nearly half of all children under 5 in the United States are from racial or ethnic minority groups. The fastest-growing segment is Hispanic children, many of whom are from families where Spanish is spoken at home.

"We have very large numbers of children coming to school from backgrounds that are associated with their being at risk for school failure," Clifford says. "Yet schools are struggling to have staff that have facility in a language other than English or are reflective of the population of children who are here."

The FPG Child Development Institute, which conducts research and helps schools around the country design effective programs for children in preK through grade 3, has formed a committee at the institute that will specifically examine how prekindergarten through early elementary schools can support diverse learners in four areas:

- practices that address the specific learning needs of English-language learners
- "early intervening" to address the needs of young children who may be eligible for special services
- "culturally responsive practices" that take into account the diversity of children's ethnic and racial backgrounds
- early childhood inclusion programs to support more widespread education of young children with special needs in mainstream classrooms

"These are the areas where teachers are really struggling," says committee cochair Virginia Buysse, also a senior scientist at UNC's FPG Child Development Institute. "Most teachers just don't have the training or experience to meet the needs of these children." ■

School District Meets the Gap Head On

Six years ago, the Montgomery County (Md.) School District began its Early Success Performance Plan to address racial and ethnic gaps officials observed among their youngest students. Components of the plan include:

- an aligned approach to education from preK through third grade
- special focus on reading, writing, and mathematics
- diagnostic assessments three times per year
- professional development for teachers
- smaller class sizes
- outreach to parents and families
- preK or Head Start and full-day kindergarten for students from low-income homes or with limited English proficiency

Based on assessments developed within the school system, reading score gaps based on race and ethnicity have narrowed, and proficiency rates for all groups have risen significantly. In 2002, just 49 percent of African American first-graders achieved benchmark scores on the district's reading tests; that number jumped to 70 percent by 2005. Benchmark-passing rates for Hispanic first-graders went from 38 percent to 61 percent in the same period.

Janine Bacquie, the district's director of early childhood programs and services, notes, "As the school system has grown in diversity, we have seen a reduction in the gap between the highest- and lowest-performing subgroups." ■

Galatowitsch adds that children who enter kindergarten directly from at-home care often need extensive remediation. "We really see the benefit of a high quality preK experience," he says.

PreK and the Gap: Long-Lasting Effects

A 2004 study conducted by Magnuson, Waldfogel, and Christopher Ruhm of the University of North Carolina, Greensboro, paints a complex picture of the overall effects of prekindergarten on school readiness. Like a host of researchers before them, Magnuson, Ruhm, and Waldfogel found preK participation to be associated with significantly higher reading and math skills at school entry, narrowing gaps if not fully closing them. They also found, however, that these advantages were long-lasting for children from low-income homes, many of whom were African American, Latino, or from immigrant families.

"All children certainly seem to benefit from attending prekindergarten, but these are the kids who seem to benefit even more," Waldfogel says. "Expanding access to preK looks like a really promising way to go [to narrow school readiness gaps]."

Waldfogel's assessment was backed up this spring by a NIEER study of children who attended full-day preK programs in New Jersey. The study, which included 339 children randomly assigned to either full-day or half-day preK

programs, found that the children who had attended full-day preK outperformed the others on literacy and math assessments, and that these gains held through at least the end of first grade. Moreover, the full-day preK programs were found to narrow skill gaps between children from upper- and lower-income homes.

Prekindergarten has enjoyed slow but steady growth in recent years as more states and municipalities recognize the benefits of free and equal access to early schooling. According to the latest NIEER data, the number of U.S. children currently served in state-funded prekindergarten now tops 800,000, about 17 percent of the nation's 4-year-olds and significantly more than the number of 4-year-olds attending Head Start. All but a dozen states now offer some form of state-funded prekindergarten, and eight states—Arkansas, Connecticut, Louisiana, Massachusetts, New Jersey, Ohio, Oregon, and Tennessee—fund preK on a par with K–12 schooling (based on spending per child enrolled), according to NIEER statistics. Still, only one state, Oklahoma, offers universal preK for all 4-year-olds, and quality varies widely from state to state and from program to program, NIEER researchers say. (For a comparison of state kindergarten policies, see "Kindergarten: A Patchwork of Policies Reinforces Inequity.")

A few school districts have begun to examine specifically how prekindergarten can be integrated with children's other early learning experiences (see "School District Meets the Gap Head On"). Orlando's Rolling Hills Elementary, for example, is one of a growing number of schools to incorporate preK education with the early elementary grades as part of a preK–3 continuum model, which aligns both academic and social development goals under a common structure for children in pre-school through grade 3. Such alignment, some research has shown, is associated with less "fade out" of children's skills from year to year and fewer behavior problems as children move between systems with different goals and structures.

Magnuson, Ruhm, and Waldfogel, for example, found that children who attended preschool (broadly defined) had more behavior problems on average than those who didn't,

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For Further Information



W.S. Barnett, J.T. Hustedt, K.B. Robin, and K.L. Schulman. *The State of Preschool: 2005 State Preschool Yearbook*. New Brunswick, NJ: National Institute for Early Education Research, 2005. Available online at nieer.org/yearbook

G.J. Duncan and K.A. Magnuson. "Can Family Socioeconomic Resources Account for Racial and Ethnic Test Score Gaps?" and Princeton University and The Brookings Institution. "School Readiness: Closing Racial and Ethnic Gaps." *The Future of Children*, 15, no. 1 (Spring 2005): 35-54. Available online at www.futureofchildren.org/pubs-info2825/pubs-info_show.htm?doc_id=255946

V.E. Lee and D.T. Burkam. *Inequality at the Starting Gate: Social Background Differences in Achievement as Children Begin School*. Washington, DC: Economic Policy Institute, 2002.

K.A. Magnuson, C. Ruhm, and J. Waldfogel. "Does Prekindergarten Improve School Preparation and Performance?" National Bureau of Economic Research (NBER) Working Paper #10452. Cambridge, MA: NBER, April 2004. Available online at www.nber.org/papers/w10452

J. Waldfogel. *What Children Need*. Cambridge, MA: Harvard University Press, 2006.

but this pattern did not hold true among the children who attended preK programs in the same schools where they attended kindergarten.

"We thought that was an important finding in terms of alignment and continuity," Waldfogel says. "[School-based] prekindergarten gets them ready not just in reading and math, but in the important component of behavior."

The Individual Child

Considering issues of both access and continuity seems essential if districts are going to undertake any serious effort to close later achievement gaps. But it is also important to remember that subgroup differences are merely

averages, and that there are high- and low-scoring students within all racial, ethnic, and socioeconomic groups, cautions the University of Wisconsin's Magnuson.

False assumptions about minority children based on skin color "or their last name," Magnuson adds, can lead to low expectations, which in turn can lead to tracking, only serving to widen the very gaps educators are working to narrow.

"There's so much variation within all of these groups," she says. "It's critical that we treat each child as an individual." ■

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Kindergarten: A Patchwork of Policies Reinforces Inequity

For Further Information

Education Commission of the States Online Interactive Kindergarten Database. Includes state-by-state profiles and comparisons. Available online at www.ecs.org/ecsmain.asp?page=/html/publications/home_publications.asp

K. Kauerz. *Full-Day Kindergarten: A Study of State Policies in the United States*. Denver, CO: Education Commission of the States, July 2005. Available online at <http://www.ecs.org/html/Document.asp?chouseid=6241>

K. Kauerz. "State Kindergarten Policies: Straddling Early Learning and Early Elementary School." *Beyond the Journal: Young Children on the Web* (March 2005). Available online at www.journal.naeyc.org/btj/200503/01Kauerz.asp

While participation in high-quality prekindergarten (preK) programs varies widely among racial and socioeconomic groups, kindergarten attendance in the United States is virtually universal. Some 98 percent of children attend some form of kindergarten before entering first grade, according to data from the Education Commission of the States (ECS). Yet a look beyond these initially encouraging attendance figures reveals stark inconsistencies in hours spent in school, program focus and quality, and alignment with prior and subsequent schooling.

The most obvious disparities in kindergarten attendance across the country involve the length of the school day for kindergartners, according to the 2005 ECS report *Full-Day Kindergarten: A Study of State Policies in the United States*. Overall, the percentage of children who are enrolled in full-day kindergarten programs has been steadily rising, from about 25 percent in 1984 to more than 60 percent today. But only nine states, all of them in the South (Alabama, Arkansas, Georgia, Louisiana, Mississippi, North Carolina, South Carolina, and West Virginia), currently have policies requiring that districts provide full-day kindergarten. By contrast, eight states (Alaska, Colorado, Idaho, New Hampshire, New Jersey, New York, North Dakota, and Pennsylvania) do not require districts to offer kindergarten programs at all.

What's more, terms like "full-day kindergarten" and "half-day kindergarten" mean very different things in different places, according to a 2005 online article from the journal *Young Children*. Whereas full-day kindergarten is defined as 1,050 hours per academic year in Wisconsin, it is about a third shorter, 720 hours per year, in Florida. And the number of hours defining half-day kindergarten range even more widely, from 165 hours per year in North Dakota to 577 hours per year in Missouri. So while virtually all U.S. children attend kindergarten, kindergarten can last for six hours a day in one school and just two hours in another.

"Kindergarten, especially full-day kindergarten, is not an integral part of K-12 instruction in this country the way people assume that it is," says Kristie Kauerz, former program director for early learning at the ECS and author of both the

ECS report and the *Young Children* article.

Another area of inconsistency is in program quality. A collaborative group of early childhood experts from educational advocacy groups, including the American Federation of Teachers, the ECS, the National Association for the Education of Young Children, and the National Education Association, recently formed to promote consistency and equitable access to high quality kindergarten programs. Among the basic principles the group has agreed on as indicators of high-quality kindergarten are:

- class sizes that are small enough to "facilitate high-quality teaching"
- rich, research-based curriculum that can support the learning of children from a variety of backgrounds
- staffing by degreed, certified teachers with specialized training in early childhood education
- collaborations that facilitate transition from early childhood learning experiences and to the later elementary grades.

Both class sizes and learning standards for kindergarten vary widely from state to state and from district to district. Most state policies on kindergarten do not even include specific provisions regarding class size, despite evidence that smaller classes are associated with learning gains for young children, Kauerz notes.

"I have colleagues in New York City who are teaching 32 kindergartners at a time," she says.

On the issue of teacher qualifications, only three states (Massachusetts, Mississippi, and Oklahoma) specifically require by statute that kindergarten teachers be certified in early childhood education, according to Kauerz. In states where preK teachers are certified one way (or not at all) and kindergarten teachers have a standard K-6 elementary certification, it can be difficult to provide children with a continuum of learning experiences from preK to kindergarten to the elementary grades.

"We need an early childhood education credential for all kindergarten teachers," Kauerz adds. "Kindergartners learn very differently from sixth graders." ■