

Chapter 6 EARLY CHILDHOOD EDUCATION

Pre-kindergarten and kindergarten have evolved from programs focused primarily on social/emotional growth to include an increased focus on academics, especially literacy and math. These new expectations underscore the significance of young children’s experiences starting in infancy in relationship to readiness for, and success in, school, as well as the important role that early childhood education can play in narrowing the achievement gap.

The Word Gap

Among poor children, there is a significantly lower exposure to language by being spoken or read to, according to researchers. This language, or word, gap presents a serious challenge to closing the achievement gap, since exposure to oral language contributes to literacy development.

As referenced earlier in this report, by the age of 3, poor children hear 30 million fewer words than do middle income or affluent children.

Betty Hart and Todd R. Risley, “The Early Catastrophe: The 30 Million Word Gap by Age 3,” *American Educator*, American Federation of Teachers, (Washington, DC, Spring 2003). Accessed December 30, 2016 at <https://www.aft.org/sites/default/files/periodicals/TheEarlyCatastrophe.pdf>.

“Children in welfare families hear, on average, only 600 words per hour; those from highly educated families hear over 2,000 words per hour,” states a 2013 article posted by The Brookings Institution.

Darshak Sanghavi. “How to Make Toddlers Smarter: Talk to Them,” *Social Mobility Memos*, The Brookings Institution, (Washington, DC, October 2013). Accessed December 30, 2016 at <https://www.brookings.edu/blog/social-mobility-memos/2013/10/25/how-to-make-toddlers-smarter-talk-to-them/>.

Economically Disadvantaged: A Majority

In 2013, America’s public schools passed a threshold when, for the first time, the majority of students came from low-income families. An analysis of the National Center for Education Statistics (NCES) Common Core Data by the Southern Education Foundation determined that 51% of the nation’s public school students were eligible for free or reduced-price lunch nationwide in 2013. Two years earlier, a similar analysis placed the percentage of the nation’s public school students from families living below the poverty line at 48%.

Southern Education Foundation, *A New Majority: Low Income Students Now a Majority in the Nation’s Public Schools*, (Atlanta, GA, January 2015). Accessed December 30, 2016 at <http://www.southerneducation.org/getattachment/4ac62e27-5260-47a5-9d02-14896ec3a531/A-New-Majority-2015-Update-Low-Income-Students-Now.aspx>.

For New Jersey, the percentage of low-income public school students is lower (37% in 2013) than the nationwide total (51%), according to the report. However, from 2011 to 2013, the

growth in the percentage of New Jersey low-income students (12.1%) was more rapid than that of the nation as a whole (6.3%).

Southern Education Foundation, *A New Majority: Low Income Students in the South and Nation*, (Atlanta, GA, October 2013). Accessed December 30, 2016 at <http://www.southerneducation.org/getattachment/817a35f1-abb9-4d6a-8c2e-5514d4a6d7d9/Test-Publication-4.aspx>.

Economic Trends

These trends, along with the following economic factors contribute to the importance of early childhood education in addressing academic achievement gaps.

1. Growing income inequality

“In every state, the average income of the top 5 percent of households is at least ten times that of the bottom 20 percent, according to 2015 American Community Survey data,” states a 2016 report by two Washington, DC-based foundations. “The ten states with the largest disparities are New York, California, Connecticut, Louisiana, Massachusetts, Illinois, New Jersey, Florida, Georgia, and Texas.”

McNichol, Elizabeth. *How State Tax Policies Can Stop Increasing Inequality and Start Reducing It*. Washington, DC: The Center on Budget and Policy Priorities and the Economic Policy Institute, December 15, 2016. Accessed January 10, 2017 at <http://www.cbpp.org/sites/default/files/atoms/files/12-15-16sfp.pdf>.

The 2015 American Community Survey data, issued by the U.S. Census Bureau, also show that “[i]ncome inequality increased in eight states (Florida, Illinois, Indiana, Kentucky, Michigan, Nebraska, Nevada and New Jersey)...”

U.S. Census Bureau, “New American Community Survey Statistics for Income, Poverty and Health Insurance Available for States and Local Areas,” Release Number: CB 16-159. Accessed January 10, 2017 at <https://www.census.gov/newsroom/press-releases/2016/cb16-159.html>.

2. Stagnation of upward income mobility

Research also shows that economic mobility—either by rising to higher income levels or earning a salary greater than one’s parents—has dissipated.

“A child born to parents in the bottom fifth of the income distribution has a 7.5% chance of reaching the top fifth of the income distribution in the U.S., far lower than peer developed countries,” states an introduction to the Equality of Opportunity Project, a multi-year venture led by economists from Stanford University and Harvard University.

Americans today are also less likely to earn more than their parents.

Children’s prospects of achieving the ‘American Dream’ of earning more than their parents have fallen from 90% to 50% over the past half century. This decline has occurred throughout the parental income distribution, for children from both low and high income families...

Chetty, Raj and Nathaniel Hendren, “How can we improve economic opportunities for our children?” *The Equality of Opportunity Project*, 2016, Stanford Institute of Economic Policy Research. Accessed January 10, 2017 at <http://www.equality-of-opportunity.org/>.

3. Job loss in certain occupations

According to CareerBuilder, the online job recruitment service, positions with salaries ranging from \$29,000 to \$44,000 will grow the least. The data were recently reported by *CBS MoneyWatch*.

Through 2021, three-fifths of the 173 occupations that are projected to lose jobs are within this category, according to the report. It emphasizes the importance of post-secondary education and training.

“That impact is already being felt by many Americans, given the labor dynamics of the post-recession years,” states the *CBS MoneyWatch* report. “College graduates are benefiting most during the recovery, grabbing the largest share of the nearly 12 million jobs that have been created following the downturn, while less educated Americans are finding themselves pushed into lower-paying, lower-skilled jobs.”

Picchi, Aimee, “5 middle-class careers that are growing, and 5 that are shrinking,” *CBS Money Watch*, August 5, 2016. Accessed January 10, 2017 at <http://www.cbsnews.com/media/which-middle-class-careers-are-changing-the-most/>.

4. Disparity in family support of children’s academic success

Research shows that families with higher incomes are far better able to spend money on, and dedicate time to, child development.

In 2013, high-income families were already spending approximately seven times as much on their children’s educational development as low-income families. By comparison, in 1972 the ratio was only four times as much.

Ashby, Steven K. and Robert Bruno, *A Fight for the Soul of Public Education*, © 2016 by Cornell University. (Ithaca, NY: Cornell University Press, 2016).

A recent White House report on early childhood education cites research showing the disparity in the ability to spend on enrichment activities for children.

An obvious advantage of higher family income is that it provides more resources to buy books, computers, high-quality child care, summer camps, private schooling, and other enrichments. ...spending on child-enrichment goods and services jumped for families in the top quintiles to a far greater extent than for those in the bottom income quintiles, as reflected in four large consumer expenditure surveys conducted between the early 1970s and 2005 to 2006.

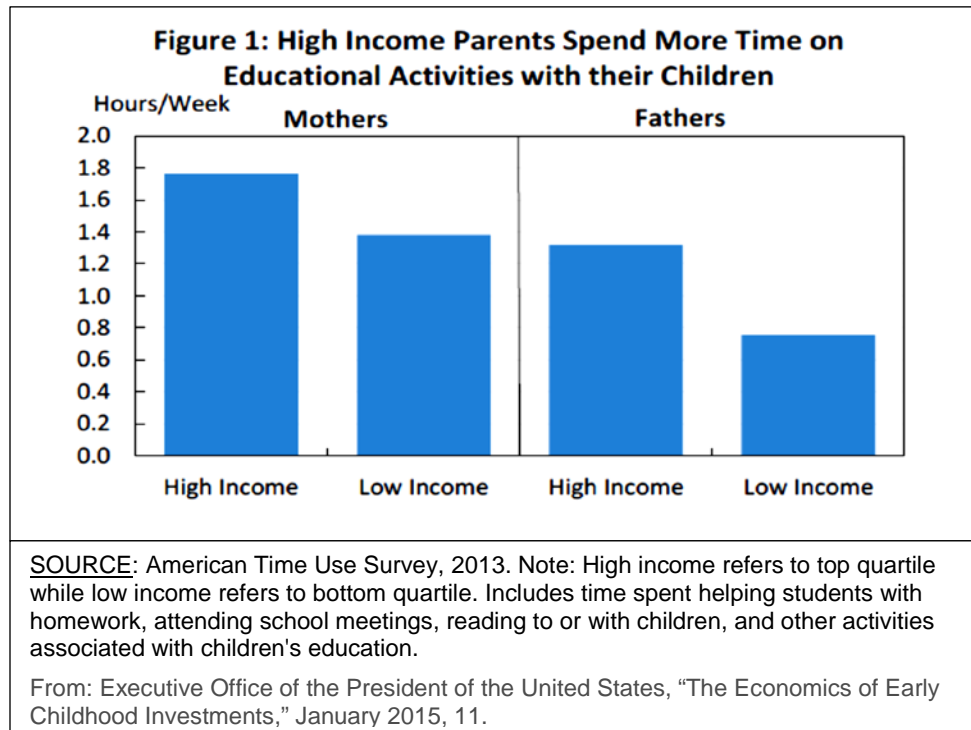
Duncan, Greg J. and Richard J. Murnane, eds., “Introduction: The American Dream: Then and Now,” *Whither Opportunity? Rising Inequality, Schools, and Children’s Life Chances* (New York: Russell Sage and Spencer Foundation, 2011), 11. Accessed January 10, 2017 at https://www.russellsage.org/sites/default/files/Duncan_Murnane_Chap1.pdf.

The 2015 Obama administration report, *The Economics of Early Childhood Investments*, states that “as income inequality has grown, so has inequality in child-related expenditures.”

“The gap is also reflected in the total time spent with children and in the types of activities on which that time is focused.”

Executive Office of the President of the United States, “The Economics of Early Childhood Investments,” January 2015. Accessed January 10, 2017 at

https://www.whitehouse.gov/sites/default/files/docs/early_childhood_report_update_final_non-embargo.pdf.



Need for High-Quality Preschool and Kindergarten

The Task Force on Student Achievement took note of the impact of these economic and societal forces on test scores, college remediation and completion rates, and students’ ability to participate in extra-curricular activities. It believes that there is no question that schools are among the most important contributors to changing our children’s destiny.

Therefore, the Task Force finds that the first step is to put needed resources into the creation of high-quality preschool and kindergarten, the levels at which achievement gaps first appear. Preschool and kindergarten are where children begin to develop thinking and social skills. They are where families learn how to provide educational support at home. And they are the points at which children develop the readiness skills that will enable them to succeed throughout their school years.

The Positive Impact of Early Child Education

The Task Force reviewed three studies on high-quality preschool programs:

- The HighScope Perry Preschool Study
- The Abecedarian Project, and
- Chicago Longitudinal Study of the Child-Parent Center Program

The Perry and Abecedarian Studies followed children who were assigned to preschool groups and non-preschool groups over a number of decades. The Chicago study followed a larger number of children enrolled in typical public preschools through the mid-1980s. The Chicago children are now in their mid-30s; the Perry Preschool students are entering their 50s; and the Abecedarian children are in their 40s.

The Perry, Abecedarian and Chicago studies show that children attending high-quality preschool had notably more success in school and in their adult lives than students who did not attend a high-quality preschool.

HighScope Perry

“[The HighScope Perry] study...examines the lives of 123 children born in poverty and at high risk of failing in school,” states a description of the study on the HighScope website. “From 1962–1967, at ages 3 and 4, the subjects were randomly divided into a program group that received a high-quality preschool program based on HighScope’s participatory learning approach and a comparison group who received no preschool program. In the study’s most recent phase, 97%

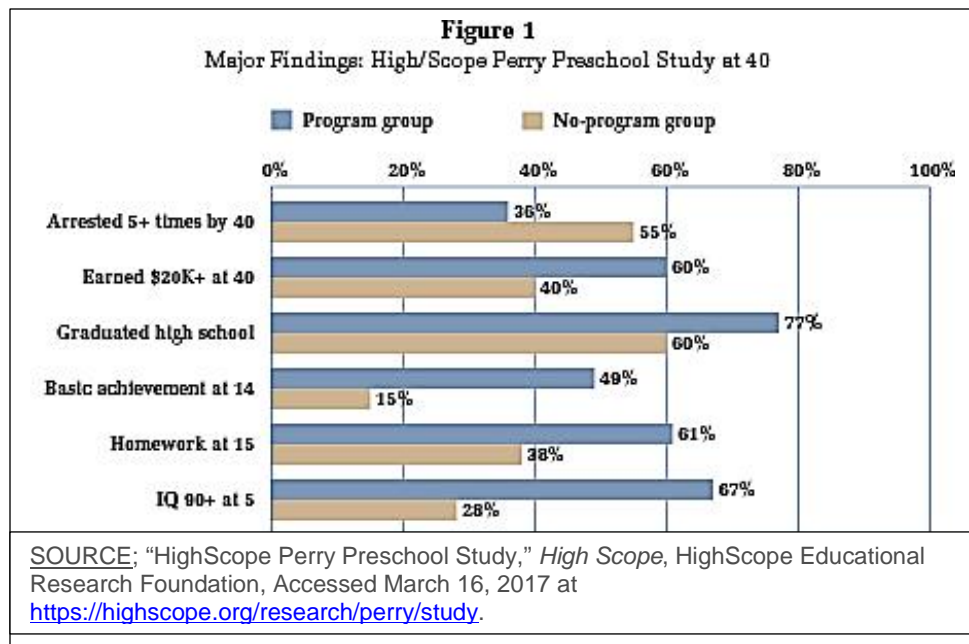
of the study participants still living were interviewed at age 40. Additional data were gathered from the subjects’ school, social services, and arrest records.”

“Adults at age 40 who had participated in the preschool program had higher earnings, were more likely to hold a job, had committed fewer crimes, and were more likely to have graduated from high school than adults who did not have preschool.

“Lifetime Effects: The HighScope Perry Preschool Study Through Age 40 (2005),” HighScope Educational Research Foundation. Accessed January 11, 2017 at <http://www.highscope.org/content.asp?contentid=219>.

The Abecedarian Project

A program of the Frank Porter Graham (FPG) Child Development Institute at the University of North Carolina, the Abecedarian Project was initiated in 1972 to provide high-quality preschool to children from birth to age 5 from disadvantaged backgrounds.



According to various studies, when compared to a control group, children who received Abecedarian services were—

- 42% more likely to have been employed
- 81% less likely to have received welfare
- Almost 4 times more likely to have graduated from college

“Social Programs that Work: Abecedarian Project,” *Coalition for Evidence-Based Policy*. Accessed January 11, 2017 at <http://evidencebasedprograms.org/1366-2/abecedarian-project>.

An August 2015 study showed the benefits of the Abecedarian and Perry Pre-School programs.

“Abecedarian children scored higher on achievement tests in math and reading during their elementary and secondary school years, and they also had lower levels of grade retention and fewer placements in special education classes,” reports the FPG Child Development Institute’s website.

At age 21, the treated Abecedarian group maintained statistically significant advantages both in intellectual test performance and in scores on academic tests of reading and mathematics, and the treated group also had attained more years of education. In addition, recipients of the Abecedarian curriculum were more likely to attend a 4-year college or university, more likely either to be in school or to have a skilled job, or both. They also were less likely to be teen parents, less likely to smoke marijuana, and less likely to report depressive symptoms, when compared to people in the control group.

“FPG’s Abecedarian Project and the Perry Preschool Project Bring Better Health Decades Later,” Frank Porter Graham Child Development Institute, The University of North Carolina at Chapel Hill, August 24, 2015, accessed January 11, 2017 at <http://fpg.unc.edu/news/fpgs-abecedarian-project-and-perry-preschool-project-bring-better-health-decades-later>.

Conti, Gabriella, James J. Heckman, Rodrigo Pinto. *The Effects of Two Influential Early Childhood Interventions on Health and Healthy Behaviors*, Working Paper 21454. Cambridge, MA: National Bureau of Economic Research, August 2015. Accessed January 11, 2017 at <http://www.nber.org/papers/w21454.pdf>.

Chicago Longitudinal Study

The Chicago Child-Parent Center Program (CPC) was established in 1967 through Title I funding. The oldest extended early childhood intervention in the United States, it is implemented at 25 sites and serves families in high-poverty neighborhoods. The program’s overall goal is to promote children’s academic success and to facilitate parental involvement in children’s education.

“Program Overview and History,” Department of Early Childhood Education, Chicago Public Schools and Chicago Longitudinal Study, Institute of Child Development, University of Minnesota. Accessed January 11, 2017 at <http://www.cehd.umn.edu/icd/research/cls/History.html>.

A 2001 cost-benefit analysis of the program showed definitive benefits for the children who participated in the program.

Relative to the comparison group, preschool participants had a 29% higher rate of high school completion, a 33% lower rate of juvenile arrest, a 42% reduction in arrest for a violent offense, a 41% reduction in special education placement, a 40% reduction in the rate of grade retention, and a 51% reduction in child maltreatment. School-age participation and extended program participation for 4 to 6 years were associated with 30 to 40% lower rates of grade retention and special education placement. Compared to children with 1 to 3 years of participation, extended program participants also had higher achievement test scores in adolescence and lower rates of child maltreatment by age 17.

In addition, the analysis estimated the value of public benefits of the preschool program at \$2.6 billion (based on 1998 dollars).

The largest benefit was program participants' increased earnings capacity projected from higher educational attainment.

The largest categories of public benefits were increased tax revenues associated with higher expected earnings capacity (28%), criminal justice system savings due to lower rates of arrest (28%), savings on tangible costs for crime victims (24%), and savings on school remedial services (18%).

Reynolds, Arthur J., Judy A. Temple, Dylan L. Robertson, and Emily A. Mann. *Age 21 Cost-Benefit Analysis of the Title I Chicago Child-Parent Program, Executive Summary*. Report presented at the annual meeting of the Society for Prevention Research in Washington, DC on June 1, 2001. Minneapolis, MN: Institute of Child Development, University of Minnesota, 2001. Accessed January 11, 2017 at <http://www.cehd.umn.edu/icd/research/cls/cbaexecsum4.html>.

The Task Force on Student Achievement's review of the research on the three preschool programs found reduced special education placement (approximately half the rate of control groups), increased adult earnings, increased income tax and sales tax revenues paid to governments from higher earnings, and savings from social safety programs. Research also indicates that these programs will save approximately 3% on the overall school budget yearly by decreasing grade retention and special education services.

Status of Early Childhood Education

In a recent report on the state of pre-school education, the National Institute for Early Education Research (NIEER) at Rutgers University found that state-supported pre-Kindergarten programs improved in terms of increased enrollment, quality, and funding.

"Nationally, the 2014-2015 school year showed continued improvement in state funded pre-K as states recovered from the Great Recession," NIEER states in the report, *The 2015 State of Preschool Yearbook*. "Enrollment increased. More states met the benchmarks for minimum quality standards. State funding for pre-K increased: for the third year in a row, spending per child exceeded the previous year."

“However, not all states moved forward... For the nation as a whole, this means that access to a high-quality pre-school program remained highly unequal, and this situation is unlikely to change in the foreseeable future unless many more states follow the leaders.”

States the report, “Nearly 1.4 million children attended state-funded pre-K, nearly 1.2 million at age 4. Almost five percent of 3-year-olds and 29 percent of 4-year-olds were served in state-funding pre-K.”

Barnett, W. Steven, Allison H. Friedman-Krauss, Rebecca E. Gomez, Michelle Horowitz, G.G. Weisenfeld, Kirsty Clarke Brown and James H. Squires. *The State of Preschool 2015: State Preschool Yearbook*. New Brunswick, NJ: National Institute for Early Education Research, Rutgers Graduate School of Education, © 2016 National Institute for Early Education Research. Accessed January 12, 2017 at http://nieer.org/wp-content/uploads/2016/05/Yearbook_2015_rev1.pdf.

New Jersey Preschool Programs

New Jersey provides state-funded preschool education for all 3- and 4-year olds in 52 districts. They include the 31 former Abbott districts, four additional “expansion” districts serving low-income populations, and 17 other communities which are sub-grantees sharing in the federal Preschool Development Grant received by the state of New Jersey.

Division of Early Childhood Education, New Jersey Department of Education, accessed March 19, 2017 at <http://www.nj.gov/education/ece/psexpansion/>.

The Abbott programs also include a Department of Human Services “wrap-around” that provides before-school and after-school care and summer programs.

Barnett, W. Steven, Kwanghee Jung, Min-Jong Youn and Ellen C. Frede. *Abbott Preschool Program Longitudinal Effects Study: Fifth Grade Follow-Up*. New Brunswick, NJ: National Institute for Early Education Research, Rutgers—The State University of New Jersey, March 20, 2013: 3. Accessed March 19, 2017 at <http://nieer.org/wp-content/uploads/2013/11/APPLES205th20Grade.pdf>.

The NIEER *Yearbook* ranks state-supported pre-school programs according to access, resources, and quality standards. Among the District of Columbia and the 42 states that provide pre-school to 4-year-olds, New Jersey ranked 19th in terms of access to programs for children of that age, with 28.6% of 4-year-olds enrolled. Among the District of Columbia and the 27 states that have pre-school programs for 3-year-olds, New Jersey ranked 2nd in terms of access, with 18.6% of 3-year-olds enrolled. The state ranked second in the amount of resources provided to pre-school programming, with \$12,149 in state funds spent per pre-Kindergarten student, compared to a nationwide average of \$4,521.

In addition, the state scored 8.8 out of 10 on terms of quality standards. New Jersey’s programs met quality benchmarks including the following: early learning standards; requirements that teachers hold a bachelor’s degrees, have specialized training in pre-Kindergarten education, and receive at least 15 hours of in-service training annually; class sizes of 20 students or smaller, and a staff-child ratio of 1:10. A quality benchmark set by NIEER, but not met by New Jersey’s high-quality state preschool program, is a requirement that assistant teachers have a Child Development Associate credential, or equivalent, based on coursework.

In 2013, NIERR published a [follow-up study](#) on the academic achievement of fifth graders who had participated in the Abbott Preschool Program, starting at age 3 or age 4.

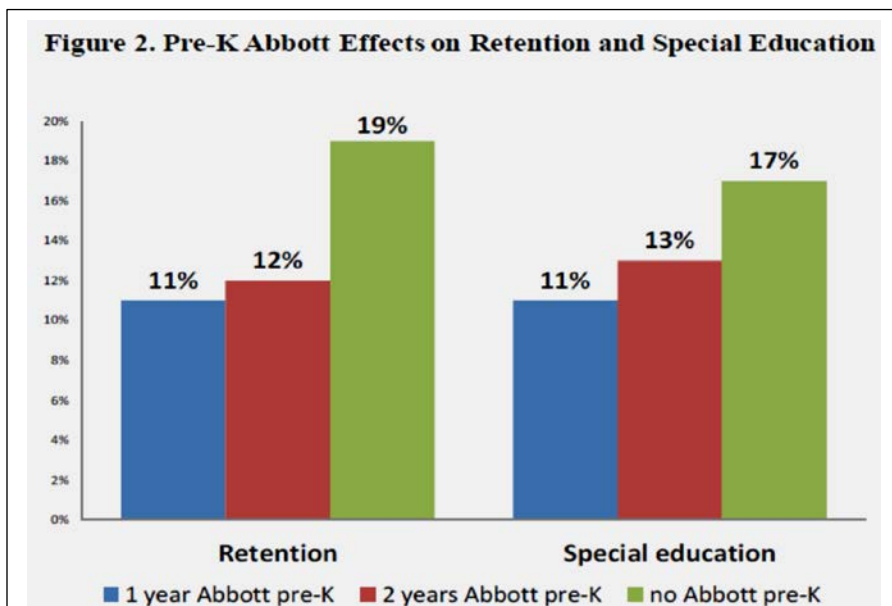
“The overall pattern of results in the APPLES (Abbott Preschool Program Longitudinal Effects Study) 4th and 5th grade follow-up using New Jersey statewide assessment and school placement data provides strong evidence that the Abbott Preschool program has produced persistent, meaningful gains in achievement for children in the state’s most disadvantaged communities,” states the report.

According to the NIEER report, the program also had significant impact on closing the achievement gap, particularly for children who entered the program at age 3.

Our estimates indicate that two years of pre-K beginning at age 3 had larger persistent effects on achievement than did one year of pre-K. The magnitude of the test score gains from one year are equivalent to roughly 10 to 20 percent of the achievement gap between minority and white students. The gains from two years are equivalent to 20 to 40 percent of the achievement gap.

Additionally, the program’s results compared well with those of the Chicago Child Parent Centers.

“The Abbott Preschool program’s effect on achievement and school success are larger than has been found for less well-funded programs with weaker standards,” states NIEER. “The gains in achievement from two years of the program are similar in size to those of the Chicago Child Parent Centers, as are the impacts of the Abbott pre-K program overall on grade retention and special education.”



SOURCE: Abbott Preschool Program Longitudinal Effects Study: Fifth Grade Follow-Up. New Brunswick, NJ: National Institute for Early Education Research, Rutgers—The State University of New Jersey, March 20, 2013, 2.

At the same time, the NIEER researchers expressed concern about participation rates in the Abbott Preschool Program and called for further state action.

“In some districts it is far below [the 90% level] and the human cost in low achievement and school failure is tragic as is the likely adult consequences of lower productivity and earnings and higher crime rates,” they wrote. “Second, as required by the New Jersey School Funding Reform Act of 2008, high-quality pre-K should be expanded to offer a comparable program to all low-income children. In addition, plans should be developed to extend the opportunity for high-quality pre-K to all of the state’s children.”

Barnett, W. Steven, Kwanghee Jung, Min-Jong Youn and Ellen C. Frede. *Abbott Preschool Program Longitudinal Effects Study: Fifth Grade Follow-Up*. New Brunswick, NJ: National Institute for Early Education Research, Rutgers—The State University of New Jersey, March 20, 2013. Accessed January 19, 2017 at <http://nieer.org/wp-content/uploads/2013/11/APPLES205th20Grade.pdf>.

Head Start

The impact of Head Start programs has been inconsistent, according to research by the federal Office of Planning, Research and Evaluation (OPRE).

“...the evidence is clear that access to Head Start improved children’s preschool outcomes across developmental domains, but had few impacts on children in kindergarten through 3rd grade,” states a 2012 OPRE report, *Third Grade Follow-up to the Head Start Impact Study*.

“In summary, there were initial positive impacts from having access to Head Start, but by the end of the 3rd grade there were very few impacts found for either cohort (3-year-old or 4-year-old) in any of the four domains of cognitive, social-emotional, health and parenting practices.”

U.S. Department of Health and Human Services, Administration for Children and Families, Office of Planning, Research and Evaluation, *Third Grade Follow-up to the Head Start Impact Study Final Report*, by Mike Puma, Stephen Bell, Ronna Cook, Camilla Heid, Pam Broene, Frank Jenkins, Andrew Mashburn, and Jason Downer, OPRE Report # 2012-45, Office of Planning, Research and Evaluation (Washington, DC, 2012). Accessed January 20, 2017 at https://www.acf.hhs.gov/sites/default/files/opre/head_start_report.pdf.

Full-Day Kindergarten

According to the New Jersey Department of Education, 55 New Jersey public school districts (10.9% of the districts that operate K-6, K-8 or K-12 programs) did not offer full-day Kindergarten in 2015-2016. Of the 91,703 students enrolled in public school Kindergarten that year, 13.1% (11,974) attended half-day programs.

A long-term advocate of early childhood education, the New Jersey School Boards Association believes in the academic benefits of full-day Kindergarten. In 1989, following a study on early childhood education, the NJSBA Delegate Assembly adopted the following policy:

The NJSBA believes that full-day kindergarten programs benefit students. Technical assistance from the Department of Education and financial incentives including state funds for program planning, staff development, and renovation or construction of

suitable kindergarten classrooms should be made available to districts seeking to convert from a half-day to full-day program.

“Early Childhood Education/Preschool” (File Code 6178), *Positions and Policies on Education*, New Jersey School Boards Association. Accessed March 19, 2017 at <https://www.njsba.org/wp-content/uploads/2016/02/resources-policy-ppm-6000-6178.pdf>.

Additionally, the Association has sought changes in state school funding policy that would enable more districts to implement full-day programs.

The Benefit of High Quality Early Childhood Education

Through its review of the research, the Task Force on Student Achievement identified numerous benefits of high-quality preschool programs for children, families and school districts.

For Children:

- Academic skills, which will be a foundation throughout their schooling and life
- Social and collaborative skills, which will enable them to get along with other students and promote positive lifetime interaction
- A positive attitude toward learning and school
- Acquiring skills for lifetime success
- Less grade retention
- Fewer special education placements
- Fewer teen-age pregnancies
- Fewer juvenile arrests
- More likelihood of higher education
- Higher earnings
- Better choices as adults

For Families:

- Parental involvement
- Help for families in economic need
- Better parenting, with an emphasis on the importance of schooling and strategies to support learning at home
- Activities to transition preschoolers into kindergarten and elementary grades

For Schools:

- For kindergartens, academic and social-skill equity (requiring less time on the part of teachers to help children with these skill deficits)
- The sharing and integration of the best preschool practices into the lower grades (for example, not using methods better suited for older elementary school students when teaching in the early grade levels)
- Less grade retention
- Less need for special services
- Fewer disciplinary actions
- Saving of money which could then be directed to other learning needs

RECOMMENDATIONS

Chapter 6 – Early Childhood Education

FOR LOCAL BOARDS OF EDUCATION:

39. Review and analyze district data to determine the early childhood program needs of schools.
40. Explore means to fund early childhood education, as well as before- and after-school programs.
41. Ensure that early childhood education programs are of high-quality and staffed by highly trained, certificated teachers.
42. Consider low-cost before- and after- school programs to give parents security of mind and financial relief, adding to a more supportive view toward their children's education.

FOR THE NEW JERSEY SCHOOL BOARDS ASSOCIATION:

43. Provide professional development for all board members/trustees about the benefits of early childhood education.
44. Continue to support funding for early childhood education for all students through advocacy before the state Legislature and federal government.