Publicly supported, high-quality preschool education is among the most successful and well-documented of education reforms. Four out of every five states provide preschool in some format or for some students,¹ and nearly 75% of four year olds and just over half of three year olds have some form of preschool experience, ranging from day-care to high-quality educational programs.² However, in inflation adjusted dollars, overall funding per child served is lower than a decade ago.³

There is near-universal agreement that high-quality preschool programs more than pay for themselves in economic and social benefits. In reviewing the various cost-benefit studies, the RAND Corporation found that preschool education returns as much as $17.07 for each dollar invested, although the size of the return varies based on the nature of the program and how costs and benefits are calculated.⁴ No study found negative returns. Professor W. Steven Barnett, of the National Institute for Early Education Research at Rutgers, concludes that even if the programs only delivered one-tenth of their proven outcomes, they would still be economically justified.⁵ The Committee for Economic Development found the overall positive evidence to be so persuasive that they recommend early education as an international economic development tool.⁶
In terms of academic effects, preschool programs show large and immediate pay-offs. High-quality, intensive preschool education for at least two years can, by itself, close as much as half the achievement gap. Overall, the initial size of these effects averages a one-half standard deviation higher than control groups. This magnitude is the same as improving a score from the 30th percentile to the 50th percentile. These initial effects fade somewhat over time but nevertheless persist into adulthood, registering permanent effects in the 0.1 to 0.2 standard deviation range.

Perhaps more important than higher test scores is that children provided with preschool programs demonstrate more positive adult social indicators, across the board. Fewer arrests, less marijuana use, fewer grade retentions, higher graduation rates, higher college attendance rates, less special education, higher employment, higher earnings, greater social mobility and less welfare dependency are among the positive effects found in the best-designed studies.

Program quality is absolutely critical. While no one factor can be considered determinative, the key program quality elements include:

- Small class sizes and ratios – 20 or fewer children, with two adults.
- Well trained, adequately compensated and qualified teachers.
- Strong links to social and health services.
- Attention to families’ needs, including wrap-around child care.
- Adequate and appropriate supplies and materials.
- Appropriate and sufficient indoor and outdoor space.
- A mix of child-initiated and teacher directed activities with substantial time for individualized and small-group interactions.

A number of other issues are frequently raised. Here’s a summary of the key research:

**Very Early Interventions.** The highly successful Abecedarian program in North Carolina enrolled children beginning at four months of age. Researchers found sustained academic effect sizes at 0.33 standard deviations at ages 15 and 21, higher graduation rates, higher college attendance rates and higher employment. However, positive effects of this size are not universally reported and attention to program quality factors is of paramount importance.

**Extended Day and Year.** Half-day and full-day programs both show strong results, but only full-day programs produce economic benefits through working parents. A small randomized trial showed greater learning gains for extended year preschool.

**Universal versus Targeted Enrollment.** Economically deprived children benefit most, but all children are advantaged by preschool programs. Children from middle income families have the greatest access problems as they are not eligible for programs like Head
Start. As a result of the large size of the cohort, middle class children show the greater number of readiness needs.\textsuperscript{16} Universal enrollment is therefore the wiser policy approach.

**Center-Based Programs.** While a given home-based program can be high quality, center-based programs are more likely to meet the essential criteria for a high-quality program and are the preferred approach.\textsuperscript{17}

**Private versus Public Programs.** The research shows no advantage for one sector over the other. The key is the quality of the program being offered.\textsuperscript{18}

**Head Start.** With low family income determining eligibility, Head Start enrolls fewer students than state or district programs. Study results vary according to the rigor of the research design. Overall, the results indicate Head Start is a cost-effective program albeit with lesser but still positive results, suggesting that the program should be retained but strengthened.\textsuperscript{19}

**Curriculum.** No consistent advantage is found for any set-piece curriculum, although direct instruction matters.\textsuperscript{20}

**Recommendations for Policymakers**

- Investment in preschool is one of the most effective reform policies. Strong, positive economic, educational and social returns are well documented.
- Universal access is superior to targeted enrollment, as it reaches needy children from all walks of life.
- Successful preschool programs depend on the quality of the program. States should develop and monitor early education standards.
- States and districts should implement a continuous development and improvement program for both public and private providers.
- A successful program requires an emphasis on the “whole child.” Some of the stronger early education benefits are found in reducing crime and delinquency while increasing emotional development and self-regulation.
- Preschool programs should be expanded to three year olds with an emphasis on needy children.
- For maximum effectiveness, preschool programs should be integrated with social and health programs.


Also see


Chester Finn of the Hoover Institution is one of the few critics of these programs. His central thesis is that early education is too expensive, is not compatible with k-12 goals and should be provided only to needy populations. In reviewing Finn, Barnett opines: “The book cherry-picks a few weak studies to fit its preconceptions, and it builds the case for targeted programs based on errors, exaggeration, misrepresentation, and logical inconsistency.” Find this debate at


5 Barnett, 2008 (see note 2), 17.


7 Barnett, W.S. (2012, October 8). Email to author;

Barnett, 2008 (see note 2), 5.

9 The higher-quality studies typically employed randomly assigned experimental and control groups, followed over an extended time period. In other high-quality work, researchers employed a regression discontinuity design as a control procedure.


Barnett, 2008 (see note 2), 9;


11 Barnett, 2008 (see note 2), 18-19;

Barnett, W.S. (October 8, 2012). Email to author.

12 Barnett, 2008 (see note 2), 14.


14 Barnett, 2008 (see note 2), 18.

15 Barnett, 2008 (see note 2), 18.


17 Olson, 2005 (see note 1).

18 Barnett, 2008 (see note 2), 3.


20 Barnett, 2008 (see note 2), 19;

Barnett, 2011 (see note 13).
This is a section of Research-Based Options for Education Policymaking, a multipart brief that takes up a number of important policy issues and identifies policies supported by research. Each section focuses on a different issue, and its recommendations to policymakers are based on the latest scholarship. Research-Based Options for Education Policymaking is published by The National Education Policy Center, housed at the University Of Colorado Boulder, and is made possible in part by funding from the Great Lakes Center for Education Research and Practice.

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