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RESEARCH-BASED OPTIONS FOR EDUCATION POLICYMAKING

Preschool Education

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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

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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.⁷ Overall, the initial size of these effects averages a one-half standard deviation higher than control groups.⁸ 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.⁹

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.¹⁰
- 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.¹¹

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.¹² However, positive effects of this size are not universally reported and attention to program quality factors is of paramount importance.¹³

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.¹⁴ A small randomized trial showed greater learning gains for extended year preschool.¹⁵

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.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.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.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.¹⁹

Curriculum. No consistent advantage is found for any set-piece curriculum, although direct instruction matters.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.

Notes and References

1 Olson, L. (Fall 2005). Early Childhood Education: Investing in quality makes sense. *Research Points*, 3(2). Washington, DC: American Educational Research Association.

2 Barnett, W.S. (2008). *Preschool Education and its lasting effects: Research and policy implications*. Boulder and Tempe: Education and the Public Interest Center & Education Policy Research Unit, 3. Retrieved October 3, 2012, from <http://nepc.colorado.edu/publication/preschool-education>;

Barnett, W.S. & Nores, M. (2012, April 26). *Estimated Participation and Hours in Early Care and Education by Type of Arrangement and Income at Ages 2 to 4 in 2010*. New Brunswick, NJ: National Institute for Early Education.

3 Barnett, W.S. (2012, October 8). *The State of Pre-school 2011*. Retrieved October 19, 2012, from http://nieer.org/sites/nieer/files/2011yearbook_executive_summary.pdf.

Also see

Rotherham, A.J. (2012, April 5). Are Pre-k Programs about to get gutted? *TIME Ideas*. Retrieved October 19, 2012, from <http://ideas.time.com/2012/04/05/are-pre-k-programs-about-to-get-gutted/>.

4 Karoly, L.A., Kilburn, M.R., & Cannon, J. (2005). *Proven benefits of early childhood interventions*, Research Brief RB-9145-PNC. Santa Monica, CA: RAND Corporation. Retrieved November 5, 2012, from http://www.rand.org/pubs/research_briefs/RB9145.html;

Nores, M., Belfield, C.R., Barnett, W.S., & Schweinhart, L. (Fall 2005). Updating the economic impacts of the High/Scope Perry Preschool program. *Education Evaluation and Policy Analysis*, 27(3), 245-262.

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

Finn, C. (2009). *Reroute the Preschool Juggernaut*. Palo Alto: Hoover Institution. Retrieved October 8, 2012, from <http://www.hoover.org/publications/books/online/44003827.html>;

Barnett, W.S. (2009). *Special Review: Reroute the Preschool Juggernaut*. Boulder and Tempe: Education and the Public Interest Center and Education Policy Research Unit. Retrieved October 8, 2012, from <http://nepc.colorado.edu/files/Barnett-Hoover-EarlyEd.pdf>.

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

6 Ehrlich, E. & Kornblatt, T. (2004, September). *Developmental Education: The value of high quality preschool investments as economic tools* (working paper). Washington, DC: Committee for Economic Development.

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

Barnett, 2008 (see note 2), 5.

8 Camilli, G., Vargas, S., Ryan, S., & Barnett, W.S. (2010). Meta-analysis of the effects of early education interventions on cognitive and social development. *Teachers College Record*, 112(3), 579-620. Retrieved October 8, 2012, from <http://www.tcrecord.org/library> (ID Number: 15440).

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.

Lynch, R.G. (2007, May). *Enriching Children, Enriching the Nation: Public Investment in High Quality Prekindergarten*. Washington DC: Economic Policy Institute. Retrieved November 5, 2012, from http://www.epi.org/content.cfm/book_enriching;

Barnett, 2008 (see note 2), 9;

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10 Finn, J.D., Gerber, S.B., & Boyd-Zahris, J. (2005). *Journal of Educational Psychology*, 97 (2), 214-223. Retrieved October 8, 2012, from <http://www.classsizematters.org/wp-content/uploads/2011/04/finn-gerber-and-Zaharias.pdf>.

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

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

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

13 Barnett, W.S. (2011, August 19). Effectiveness of early education intervention. *Science*, 333, 975-978. Retrieved August 19, 2011, from <http://www.sciencemag.org/content/333/6045/975> (subscription required).

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

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

16 Schulman, K. & Barnett, W.S. (2005, March). *The benefits of prekindergarten for middle-income children* (policy brief). New Brunswick, NJ: National Institute for Early Education Research, Rutgers University;

Laosa, L.M. (March 30 2005). *Effects of preschool on educational achievement* (NIEER Working Paper). New Brunswick, NJ: National Institute for Early Education Research, Rutgers University.

17 Olson, 2005 (see note 1).

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

19 High/Scope (n.d.) . *Long-Term Benefits: Head Start study finds long-term impact* (web page), Ypsilanti, MI: Author. Retrieved October 8, 2012, from <http://www.highscope.org/content.asp?contentid=260>.

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

Barnett, 2011 (see note 13).

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