



**EPSSL** | EDUCATION POLICY STUDIES LABORATORY  
Education Policy Research Unit

## **SCHOOL REFORM PROPOSALS: THE RESEARCH EVIDENCE**

### **EARLY CHILDHOOD EDUCATION**

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#### *Research Quality*

Since 1960 the percentage of young children enrolled in a preschool or child care classroom has risen steadily, with 70% of children enrolled at age 4. Research has been short-term and long-term and includes studies of child care, model programs that enrolled highly disadvantaged populations and were more resource-intensive than typical public programs for young children, and large-scale public preschool programs for children in poverty. The strongest studies tested model programs using randomized trials. Other studies used partially experimental designs and may have suffered from selection bias. Many of these other studies had additional methodological weaknesses that tended to obscure effects on achievement.

#### *Research Findings*

**Early Intervention Program Studies:** Educational interventions have targeted children expected to have greater difficulty in school, usually based on poverty. Interventions usually involve half-day or school-day programs operating over a school year. The average initial effect on cognitive abilities is about 7 or 8 points on an IQ test; effects on socialization and motivation were smaller, but positive. Results have been consistent across studies using a wide variety of research designs.

**Home Visitation:** Randomized trials suggest home visit programs focused on parenting frequently fail to influence parenting or to improve children's cognitive development. Such home visit programs are not effective substitutes for classroom programs. In randomized trials, however, nurse home visits beginning prenatally and continuing at least through age two have been found to reduce children's injuries, abuse and neglect, and to benefit mothers.

**Child Care Studies:** Across many studies, child care has been found to produce modest positive effects on cognitive and language development. Effects are larger for very high quality programs. Children attending higher quality child care have better outcomes in vocabulary testing and pre-reading and math abilities. Child care for young children can produce small negative effects in the short term on social behavior, particularly aggression.

**Long-Term Effects:** Failure to distinguish between IQ and achievement led some to inaccurately conclude that all cognitive effects of early care and education decline and disappear over time. More careful review of model program and large-scale public preschool program research found long-term effects in several categories, however: All model program studies found positive initial effects on IQ, most of which disappear later. About half of the studies found persistent long-term effects on achievement, with the strongest evidence in the randomized trials. Positive permanent effects also were found on school progress, placement, high school graduation, and social behavior.

**New Research:** Participants in a Title I-funded half-day preschool and extended elementary program in Chicago had significantly lower rates of special education placement, grade retention, juvenile arrest, and arrest for a violent offense; significantly higher reading and math achievement test scores through age 15; and a higher rate of high school completion.

**Costs and Benefits:** Research has found a high quality early education program can be cost-effective when benefits – savings from reducing crime and delinquency, from reducing the direct costs of educational failure, and from increasing adult economic success by preventing educational failure – are properly accounted for.

**Program Design and Effectiveness:** There appears to be a dose-response with respect to resources provided. Comparisons of programs and their outcomes produce consistent conclusions favoring better-educated and compensated teachers and smaller class sizes.

### ***Recommendations***

- Class sizes and child-teacher ratios must be kept low.
- Teachers must be highly qualified, with at least a bachelor's degree and with specialized training in early education, and must be paid well.
- Curricula must be intellectually rich and sufficiently broad to address children's developmental needs in all domains.
- Programs must have an infrastructure adequate to support best practices, professional development, and ongoing evaluation and accountability.
- Programs must engage in an active partnership with parents and accommodate their needs, including their needs for child care.
- Programs starting at or before age three will be more effective.
- Resources should be focused so as to increase quality for disadvantaged children.
- The existing array of public school, Head Start, and private programs all can be used, but both standards and resources must be substantially increased to produce the desired results.

The foregoing is a summary of a chapter in the book *School Reform Proposals: The Research Evidence* (Information Age Publishing, 2002), edited by Alex Molnar. The full chapter can be viewed at:

[http://www.asu.edu/educ/epsI/EPRU/documents/EPRU 2002-101/Chapter 01-Barnett-Final.pdf](http://www.asu.edu/educ/epsI/EPRU/documents/EPRU%2002-101/Chapter%2001-Barnett-Final.pdf)