

## EARLY EDUCATION COMMISSION

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# EARLY EDUCATION COMMISSION LITERATURE REVIEW

## Quality

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### INTRODUCTION

There are many articles and much opinion – over several decades - about the subject of quality in early care and education. Scholarly research on the topic has come on the horizon only in recent years and is limited to certain aspects of quality or specific small-scale model programs which have been studied longitudinally.

The definition of “quality” is elusive. Even some of the top experts in the field of early care and education do not agree on exactly what makes a quality program, model or day care center. Approximately 18 states have Quality Rating and Improvement Systems (QRIS); the first of these was established in Oklahoma in 1998. NAEYC has its accreditation guidelines. NIEER has its own definition of quality. There are separate measures for process quality and structural quality. Put ten early education experts in a room and you will come up with ten other definitions of quality.

Given the disparate measures and opinions, a telling comment about defining quality was made by the former superintendent of one of the state’s largest school systems (now president of an education advocacy organization), who noted at the EEC Stakeholder Luncheon, “It is difficult to get quality metrics for children in care ... a good measure of quality is hard to come by.”

The attached articles and meta-analyses provide a sampling of the aspects of “quality” that have been discussed and researched in the early education field.

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Barnett, W. Steven (September 2008). National Institute for Early Education Research *"Preschool Education and its Lasting Effects: Research and Policy Implications,"*  
Education and the Public Research Center, University of Colorado/Education  
Policy Research Unit, Arizona State University  
[http://epicpolicy.org/files/PB-Barnett-EARLY-ED\\_FINAL.pdf](http://epicpolicy.org/files/PB-Barnett-EARLY-ED_FINAL.pdf)

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**ABSTRACT:** This policy brief summarizes a variety of research on the short- and long-term effects of early childhood education. It pays particular attention to those characteristics that affect program effectiveness. A useful guide for policy decision makers, it is also a helpful resource for those seeking to familiarize themselves with the issues relevant to program quality.

After an overview of the current state of preschool programming across the nation, the main portion of the policy brief discusses research on all types of preschool programs, local, national and international. This section is followed by implications and recommendations for the future. A generous reference list is also included. Overall, the 35-page brief is rich with information on a number of significant studies and findings about quality preschool programming.

Barnett summarizes the conundrum facing groups like the Early Education Commission in his Executive Summary, "Over the last several decades, participation in center-based preschool programs has become much more common, and public support for these programs has grown dramatically. Nevertheless, participation remains far from universal, and policies vary across states, as well as across options such as private child care, preschools, Head Start and state pre-K. Since policy makers typically have more alternatives than money, they face key questions about the value of preschool education, whom it should serve or subsidize, and which program designs are best."

In its conclusions, the brief states that:

- While many different preschool programs have positive effects, the effects vary widely.
- Some well-designed programs produce long-term improvements in school success, as well as reduced delinquency and crime in childhood and adulthood.
- Economically disadvantaged children reap long-term benefits from preschool, but children from other socioeconomic backgrounds benefit as well.
- Current public policies for child care, Head Start and state pre-K do not ensure that most American children attend highly effective programs.
- Increasing federal and state child care subsidies will be unlikely to produce any meaningful improvements.
- Increasing public investment in preschool programs for all children can produce substantial benefits; these programs need not be provided exclusively by public schools.

The brief's recommendations include:

- Policy makers should support highly effective models (small class sizes, well educated teachers, adequate pay).
- Preschool program teachers should receive intensive supervision and coaching.
- Preschool programs should regularly assess children's learning and development.
- Preschool programs should be designed to develop the whole child, including social and emotional development and self-regulation.
- Policies expanding access to children under age 4 should prioritize disadvantaged children who are likely to benefit most.

Espinosa, Linda M. (November, 2002). *High-Quality Preschool: Why We Need It and What it Looks Like,* Preschool Policy Matters

National Institute for Early Education Research (NIEER)

<http://nieer.org/resources/policybriefs/1.pdf>

**ABSTRACT:** In this 11-page brief, the author introduces the topic of quality: *How do we define and measure preschool education? What is the current state of preschool programs? What do high-quality preschool programs look like?* Using the best practices recommended by the National Association for the Education of Young Children (NAEYC), the author answers these questions and more.

In her introduction, she reminds us that research has consistently shown that 3- and 4-year-olds who attend a high-quality preschool succeed at a higher rate in kindergarten and beyond—both academically and socially. But the majority of preschool programs in the United States rank below “good”, with many rated far lower. As well, many of our most vulnerable children attend the lowest quality programs, and children who are at risk for school failure are more strongly influenced by the quality of preschool. Many children from middle-class families also attend preschools that are not of good quality.

Preschool programs are typically rated on two dimensions of quality – process quality, which involves direct experiences such as teacher-child relationships, and structural quality, which involves elements such as class size and teacher qualifications. Both process and structural quality are critical factors.

Process quality is typically measured by observation; a widely used research tool in early education is The Early Childhood Environmental Rating Scale (ECERS). Although there are no nationally representative studies on process quality, several state and smaller studies using ECERS have shown that few preschool programs rank in the “excellent” range and more than half generally fall into the “fair” category. Structural features are frequently regulated through state licensing requirements. Together, process and structure influence the quality of young children’s educational experiences.

What does high-quality preschool education look like? The author says the features of a high quality preschool program focus on what is critical for not only the child – but also the family, and the teacher/curriculum/classroom. Using current research and the best practices of NAEYC, the author cites recommendations in each of these areas in a detailed listing of items that are “critical” for child, family and teacher/classroom.

Finally, the brief includes these policy recommendations:

- Develop state standards for all preschool programs that address teacher qualifications, group size and class ratios.
- Raise teacher salaries and benefits to levels similar to those of comparably qualified K-12 counterparts.
- Develop valid measures of early educational quality incorporating recent research on early literacy, mathematical, scientific, and social-emotional learning.
- Provide continuous training and quality improvement efforts to all preschool teachers and programs.
- Work together at federal, state, and local levels to establish a coordinated system of high-quality education and care for all 3- and 4-year olds.

Gault, Barbara, and Anne W. Mitchell, Erica Williams. (2008) *Meaningful Investments in Pre-K: Estimating the Per-Child Costs of Quality*

Institute for Women's Policy Research (IWPR)

<http://www.iwpr.org/pdf/G718preknow.pdf>

ABSTRACT: This is an important document for policy makers to use as they begin to consider expenditures associated with varying levels of quality in early education programs, and a tool for administrators to approximate the costs of quality improvements. IWPR researchers have designed a model for estimating the cost of implementing universal state pre-kindergarten, taking into account a variety of implementation strategies and participation rates.

The 44-page report provides estimated financial investments needed to support both public and private preschool programs at differing levels of quality. Estimates include costs for both direct service and infrastructure, including:

- staff salaries and benefits,
- student support services (e.g., social work, guidance, health, speech),
- food for children,
- child transportation,
- instructional supplies,
- building operations and maintenance,
- in-service training and technical assistance,
- infrastructure improvements, including facilities renovation for safety,
- a small profit margin when discussing for-profit providers, and
- governance costs for statewide administration of the programs.

Quality levels for the cost estimates are based on differing class sizes and levels of teacher qualifications/pay. Costs are estimated for class sizes of 20, 17 and 15 children (smaller classes = higher quality). Each classroom would have both a lead and assistant teacher. There are hourly and annual cost estimates for school-year services offered for six, three and nine hours per day. The levels of teacher qualifications/pay used are:

- a) *Highest quality (recommended)*: A teacher with a Bachelor's degree paid at typical kindergarten-level wages\*
- b) A teacher with a Bachelor's degree paid at typical pre-K-level wages\*
- c) A teacher with an Associate degree
- d) *Lowest quality (not recommended)*: a teacher with a Child Development Associate (CDA) credential

*\*Costs are estimated based on two different rates of pay for BA level teachers, suggesting more adequate compensation is associated with better retention of well-qualified teachers, which is reflected in higher quality service delivery.*

The researchers note that the six-hour day represents the length of a typical school day, the three-hour program is close to the number of hours of publicly-funded programs that states typically offer, and that a nine-hour program is optimal for both the parents and the children, who do not have to be shuttled from one location to another (usually lower quality) setting.

According to the Executive Summary:

- The costs of a six-hour pre-K program in the United States in 2007 dollars range from \$5.17 per child-hour for the lowest level of quality (a class size of 20 and lead teacher with a Child

Development Associate credential) to \$8.18 per-child-hour for the highest quality level (a class size of 15 and lead teacher with a Bachelor's Degree paid at kindergarten-level wages).

- The annual costs of a six-hour program delivered for 185 days, or the typical school year, range from \$5,741 per child per year, for the lowest level of quality, to \$9,076 per child per year for the highest level of quality. It should be noted that costs will vary among states and these estimates are based on calculations derived from national medians.

A review of previous research is also included, showing that high teacher credentials and low student-to-teacher ratios have typically produced positive effects on children's school readiness.

The report cites several well-known studies on the benefits of high quality pre-K, including studies by the National Institute for Early Education Research (NIEER), and evaluations of the Perry Preschool Project, the Chicago Child-Parent Centers and the Michigan School Readiness Program. As well, the report points to economic impact studies which have demonstrated the benefits of quality pre-K to society via savings to public school systems, generation of jobs and spending in the community, and support of working parents (and the businesses who employ them) in the form of improved employee retention.

Finally, the report gives examples of high quality state programs, including those that most closely reflect aspects of the ideal preschool model in the report. *North Carolina More at Four* is a publicly funded pre-K program serving 12 percent of the state's four-year-olds (2005-2006); it operates 6 hours per day during the academic year in mixed settings (public schools, Head Start, private child care centers and faith-based organizations). The *Tennessee Early Childhood Education (ECE)* program serves 11 percent of four-year-olds and one percent of three-year-olds; it operates 5.5 hours per day (excluding nap time) during the academic year in mixed settings.

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Phillips, Deborah, and William T. Gormley, Jr., Amy Lowenstein, Georgetown University (March 30, 2007). "Classroom Quality and Time Allocation in Tulsa's Early Childhood Programs," Presented at the biennial meetings of the Society for Research in Child Development  
[http://www.fcd-us.org/resources/resources\\_show.htm?doc\\_id=507566](http://www.fcd-us.org/resources/resources_show.htm?doc_id=507566)

ABSTRACT: Written and presented by three researchers from Georgetown University, this 50-page paper is the first report from 2006 data on the Tulsa Pre-K program. The program, which was established in 1998, is recognized across the country for several reasons. First, it reaches more four-year-olds than any other program in the U.S. Secondly, it utilizes a rigorous set of classroom quality standards. Under state law, pre-K teachers must have bachelor's degrees with a teaching certificate in early childhood education. They must also receive mandated training in math and reading. Finally, all classes must maintain a 10/1 child/staff ratio.

These researchers were not new to the Oklahoma universal pre-K (UPK) setting, having documented substantial learning gains among four-year-olds there following research in 2001 and 2003. In this newest wave of data collection (2006), a group of specially-trained observers visited 78 Tulsa Public Schools pre-K classrooms and 28 Head Start classrooms. Both are funded by the state of Oklahoma under its UPK system.

In addition to data on teacher characteristics obtained through a teacher survey, the observers used two observational instruments in the classrooms. The data which was obtained positively correlated across the board for both of these instruments:

- o the *Classroom Assessment Scoring System or CLASS* (an assessment of classroom quality that encompasses instructional quality, emotional support and classroom organization),
- and
- o the *Child Engagement section of the Emerging Academics Snapshot* (which provides detailed information on the time children spend engaged in specific academic activities, such as reading and pre-reading activities, expressive language development, math, science and social studies).

#### *Local vs. local and local vs. national comparisons*

First, researchers compared data within Tulsa, then they compared Tulsa to national statistics, where available. Between Tulsa Public Schools (TPS) and Head Start, the researchers found striking differences in the amount of classroom time allocated to various activities (ie: practicing letters and sounds vs. math engagement), but very similar results in the amount of time given to overall instructional support, emotional support and classroom management.

In a national comparison, it was found that TPS pre-K teachers devote much more time to key language and literacy activities than their national pre-K counterparts – almost twice as much time reading and three times as much time practicing letters and sounds. They also spent more time on math and science. The Tulsa Head Start program scored significantly higher than the national Head Start sample on three of four instructional support dimensions.

Overall, the researchers suggest that the differences between the Tulsa programs (public school vs. Head Start), while statistically significant, do not indicate that the experience for the children is anything less than high quality in either of the programs. They contrast the fact that the Head Start children are somewhat less exposed to pre-literacy and pre-math activities, but they are somewhat more exposed to social studies and fantasy play. The quality of instructional and emotional support in both is virtually identical.

#### *What the findings suggest*

The researchers suggest that “the critical question for policy purposes concerns how to produce the kinds of pre-K classrooms that generate learning gains.” They examined the associations between classroom quality and teacher characteristics as well as curriculum choices.

The findings within Tulsa suggest that teacher experience and use of “highly structured learning sequences” support better classroom management and emphasis on pre-literacy activities. As an aside, Spanish-speaking teachers were reported to have more supportive, respectful and flexible classroom environments. Further research is proposed on these aspects of the findings. Both the pre-K and Head Start programs, however, have several things in common:

- teachers with a B.A. degree,
- teachers who are early childhood certified, and
- teachers who are relatively well-paid.

On the Tulsa vs. national comparisons, the researchers concluded that the Tulsa pre-K program is producing substantial learning gains because the quality of instructional support is higher than elsewhere (three points above) and teachers are devoting more time to pre-reading and pre-math skills than their counterparts in other jurisdictions.

Numerous charts and an extensive reference bibliography are included at the end of the report.

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Kelley, Pamela and G. Camilli. (2009) *"The Impact of Teacher Education on Outcomes in Center-Based Early Childhood Education Programs: A Meta-analysis"*

National Institute for Early Education Research (NIEER) and Pew Charitable Trusts

EXCERPTS: This is a meta-analysis of 32 different research studies. It synthesizes research literature on the relationship between teacher educational attainment and measures of process quality and child development in center-based ECE settings.

Overall, the studies appear to provide some support for the hypothesis that teachers with more education are more skilled at creating high quality learning environments than teachers with less education.

The results of this meta-analysis indicate that outcomes in early childhood classroom are more positive when teachers have higher levels of educational attainment and in particular, a bachelor's degree. Specifically, effects on outcomes for teachers with a bachelor's degree were significantly greater than for teachers with less education.

96 citations