

# **Executive Summary**

## **Boston Quality Inventory: Preschool Classrooms in Community Programs**



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For Boston EQUIP  
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## Preface

This study was conducted by a team of researchers, led by Dr. Nancy Marshall and Dr. Joanne Roberts, Work, Families and Children program at the Wellesley Centers for Women. We wish to thank the program directors, teachers and staff who welcomed us into their programs and classrooms, and the many families who participated in this study. We also wish to thank our research staff and colleagues who brought their skills and experience in classrooms to this needs assessment. The research team worked in collaboration with Associated Early Care and Education/Boston EQUIP and the Boston Child Care Alliance in the conduct of this study.<sup>1</sup> The study was funded by an anonymous foundation. However, the findings of this report and the views and opinions expressed herein do not necessarily state or reflect those of Associated Early Care and Education/Boston EQUIP, the Boston Child Care Alliance or the funder. Any errors are the sole responsibility of the authors.

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<sup>1</sup> For more information about The Boston Early Education Quality Improvement Project (Boston EQUIP), a project of Associated Early Care and Education, please visit their website: <http://www.bostonequip.org/>.



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The No Child Left Behind Act (NCLB) brought national attention to the achievement gap that exists for children from economically disadvantaged families, different race and ethnic groups and linguistic minority families. The National Governors Association Program for Best Practices recommended that education policies address early childhood education as one way to close the achievement gap.<sup>1</sup> Recent scientific research on brain development, coupled with rising concerns about school achievement, has prompted considerable interest in the ways in which early childhood education can contribute to young children's school success. The existing research from multiple disciplines clearly indicates that early childhood is a critical time for children to develop the foundations that they need, so that all children enter first grade ready to learn.<sup>2</sup> High quality early childhood programs are related to children's cognitive and school outcomes, especially for children from low-income families.<sup>3,4,5</sup> High-quality early childhood education has been found to produce lasting gains on achievement tests, and reduced rates of grade retention or placement in special education services.<sup>6</sup>

The achievement gap is an issue in Boston. In his 2007 State of the City address, Mayor Menino called for citywide action on preventing the achievement gap. This call to action launched Boston's Birth to Five School Readiness Planning Initiative in March 2007 as a 60-member Action Planning Team (APT). The APT is tasked with creating a ten-year vision and five-year action plan to prevent the achievement gap and promote school readiness. A Parent Action Planning Team (Parent APT) is working in tandem with the APT to create the vision and action plan. Also, a Data and Research Team (DART) has been convened to anticipate and respond to the APT's data and information needs. Their work will run through early 2008. The findings in this report in particular will inform the work of the APT as it strives to ensure that all Boston children arrive at school ready to succeed.

## **The Boston Quality Inventory**

This report is based on data collected from 81 preschool classrooms in randomly-selected EEC-licensed programs, including Head Start programs, located in the city of Boston. The Boston Quality Inventory consisted of classroom observations, interviews with classroom teachers, surveys completed by program directors, as well as surveys completed by 465 families with children in the selected classrooms.

Boston currently has a system of mixed delivery of early childhood education, including the BPS Early Childhood programs and community programs. Community programs are an important part of the system, and are available in all neighborhoods of the city. Community programs are administered by a range of organizations. Almost one-in-five of the programs that participated in the Boston Quality Inventory were Head Starts; one-quarter of the programs were part of a multi-site early care and education organization; more than one-third were single-site programs; almost one-fourth of the programs were part of an organization that also provided other services (e.g., YMCAs, CAP agencies). Not-for-profit organizations are the backbone of the community programs; almost three-quarters of the programs were not-for-profits and not religiously affiliated, 5% of the programs were religiously affiliated, not-for-profit programs.

Most of the Boston community programs serving preschoolers offer full day, full-year early care and education – open 5 days per week and at least 50 weeks a year. A few programs were open 7 days a week. Only 6% were open less than 40 weeks per year and only 7% of programs were open fewer than 6 hours per day. Because most community programs are open full day

and year-round, they provide continuity of early education and care for the children enrolled, and a safe setting for many young children while their parents are at work.

The National Association for the Education of Young Children (NAEYC) *Early Childhood Program Standards* provide detailed guidelines for preschool programs on curriculum, teaching, physical environment and other key program components.<sup>7</sup> These NAEYC Standards provide the context for the Boston Quality Inventory, and for our recommendations to close the achievement gap.

## **Recommendations**

### **1. Incorporate community programs into Boston's citywide planning for early education and care.**

Boston currently has a system of mixed delivery of early education and care, including the BPS Early Childhood programs and community programs. Community programs are an important part of the system, serving over 12,000 children in center-based and Head Start programs.<sup>8</sup> Many community programs offer quality early care and education, high levels of family communication and comprehensive services for families.

- Almost half of preschool classrooms met the Good Benchmark on the Curriculum Index, a comprehensive assessment of the curriculum materials, furnishings and space available to each classroom, and of the teacher's ability to use these resources to meet the developmental and educational needs of young children.
- Over half of preschool classrooms in community programs currently have at least one teacher with a BA or higher degree, an important predictor of program quality.
- Community programs offer additional strengths that support children, families and communities. The teaching staff of community programs reflect the race/ethnic and language diversity of the children of Boston, fostering culturally-sensitive education and care, as well as encouraging families' involvement.
- Community programs have high levels of family communication, with 65% of families reporting they talk to their child's teacher every day. Most programs have a lending library of materials for families to use at home, and invite families to field trips and classroom activities. The majority of community programs also include families on their governing or advisory boards and ensure that staff receive professional development in working with families.
- Many community programs offer comprehensive services to families, by program staff or by consultation, including child assessments, physical health screening, mental health services and counseling, family education and family support groups. Some programs also offer early intervention services, on-site social services, language and speech therapy, and physical and occupational therapy. In addition, almost all programs offer these and other services by referral.

### **2. Bring all community programs up to the NAEYC Early Childhood Program Standards.**

The Boston Quality Inventory assessed the quality of preschool classrooms in community programs on a set of indices based on the NAEYC Early Childhood Program Standards. Almost

half of the classrooms (48%) meet the Good Benchmark on the Curriculum Index and one-quarter meet the Good Benchmark on the Instructional Supports Index. However, one-third or more of community programs were rated as Inadequate on the Instructional Supports Index, Literacy Supports Index and the Health and Safety Index. To close the achievement gap, Boston should ensure that all community programs meet the NAEYC Early Childhood Program Standards.

- **NAEYC accreditation.** About 60% of programs were NAEYC accredited and 7% of the programs were currently in the accreditation process. Programs that were NAEYC accredited were less likely to be rated as inadequate, compared to programs that were not accredited. NAEYC accreditation should be supported as an important step in raising programs to the Adequate Benchmark.
- **Teachers with BAs in every classroom.** Over half of observed classrooms had at least one teacher with a BA or more. Classrooms with a BA-level teacher were significantly more likely to meet the Good Benchmarks on the Curriculum, Instructional Supports, Literacy Supports and Emotional and Social Supports Indices. Boston community programs should expand the number of classrooms with BA-level teachers to meet the NAEYC Program Standards requirement that, by 2020, at least 75% of classrooms in an early childhood program have a teacher with a minimum of a baccalaureate degree in early childhood education or a related field.<sup>2</sup>
- **Provide all community preschool classrooms with the materials needed to provide a high-quality early care and education program for all children.** Children in most programs had access to a range of materials, including fine motor materials, dramatic play materials, blocks, math/number materials, nature and science activities and materials, art materials, and sand and water play. However, at least two-thirds of programs did not have the variety of materials that are necessary to offer children the opportunity to engage in a variety of activities, explore with diverse materials and interact with multiple peers. In addition, children in more than half of classrooms did not have access to any musical instruments or musical materials.
- **Improve the safety of public playgrounds.** The NAEYC Standards require fencing or natural barriers for outdoor play areas and well-maintained equipment. One-third of community programs lacked access to safe outdoor space and equipment. Many of these programs did not have their own outdoor space and relied instead on public playgrounds, which often lacked adequate fencing or well-maintained equipment, or required young children to walk along busy city streets to reach them. Improving public playgrounds, and providing on-site outdoor space for programs not located near improved playgrounds, would improve the health and safety of community programs.
- **Provide additional professional development opportunities for Boston community program teachers.** The BQI found specific areas where teachers would benefit from additional training. Some of this training may be available through formal education (e.g.,

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<sup>2</sup> NAEYC requires that 75% of teachers in larger programs – those with 4 or more classrooms - have a BA or higher by 2020; NAEYC defines a teacher as the adult with the primary responsibility for the classroom. Therefore, in the Massachusetts context, the NAEYC requirement for teacher education can best be understood as 75% of classrooms in larger programs must have at least one primary teacher with a BA or higher by 2020. (This requirement is being phased in between 2006 and 2020.)

BA programs), but even when teachers have a BA degree, additional training has been found to be associated with higher quality.<sup>9</sup> Areas where specific training is indicated include:

- **Instructional supports.** In most programs, concept development, quality of feedback, instructional learning formats and language modeling did not reach the Good Benchmark.
- **Literacy supports.** Most teachers adequately facilitated literacy and language activities in the home through their interactions with parents, read daily to children in a group setting and organized some high quality activities that promoted children’s language development. However, only about half of the teachers regularly called attention to the functions and features of print, noted the sounds of letter and words, facilitated children’s letter recognition and promoted children’s interest in writing.
- **Emotional and social supports.** Most teachers created a positive emotional climate that reflected enthusiasm, enjoyment and respect between teachers and children. Most teachers also avoided an angry or harsh negative emotional tone, and showed sensitivity to children’s needs for support and comfort. However, teachers were less likely to consider children’s interests, motivations, and points of view. Teachers were also less likely to use effective behavior management that emphasized preventing and redirecting students’ negative behavior.
- **Hand washing and health procedures.** The NAEYC Standards require that staff observe regular hand washing and ensure that children wash their hands before and after meals, and that programs maintain sanitary conditions around diapering and toileting. Three-quarters of classrooms often neglected hand washing before and after meals. Over half of classrooms did not maintain sanitary conditions around diapering and toileting.

Boston’s community programs are valuable participants in Boston’s efforts to close the achievement gap. Many community programs offer quality, full-day early education and care programs, with strong family involvement and comprehensive services for families. However, Boston’s plans for early childhood education will be strengthened to the extent that all community programs meet the highest professional standards. It is our hope that this report will provide the scientific research base to support Boston’s efforts to ensure that all children enter formal schooling ready to learn.

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• “We are not just going to close the achievement gap – we are  
• going to prevent it. We will continue to apply the most  
• progressive problem-solving and the most unflinching  
• commitment to the challenge of educating all of Boston’s  
• children. Because by opening up their minds, we can open up  
• their worlds.”  
•  
• – The Honorable Thomas M. Menino  
• State of the City Address. January 9, 2007  
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## Appendix: Methods

This report is based on data collected from 81 preschool classrooms in center-based and Head Start programs located in the city of Boston, in the 2006-07 school year. Programs were randomly selected from the licensing list provided by the Department of Early Care and Education. Once a program agreed to participate, a preschool classroom was randomly selected for observation by researchers.

Of the randomly selected programs, 78% agreed to participate and were visited by researchers from the study. For each classroom, we collected four types of data: [1] observations of the classroom on a typical morning; [2] teacher interviews regarding teacher qualifications; [3] family surveys completed by families of the children in the observed classrooms and [4] director surveys. Each of these is described below.

### Classroom Observations

The goal of the classroom observation was to assess classroom practices using standardized measures that would provide a picture of the strengths of each classroom, as well as areas needing improvement. The classroom observations used three assessment tools developed specifically for use in preschool classrooms, the Early Childhood Environment Rating Scale-Revised (ECERS-R); the Classroom Assessment Scoring System (CLASS) and Supports for Early Literacy Assessment (SELA). The data from these assessments were combined to create five indices, described below.

Classroom observers received extensive training on all measures. Visits were scheduled at times that were not disruptive and on days that were typical of the usual environment for that classroom (i.e., not on a day when a field trip was planned, nor when half the class, or the regular teacher, was out sick). Each observation took 3-4 hours and followed a standardized administration procedure designed to minimize disruption to students, teachers, and other program staff.

***ECERS Curriculum and ECERS Health & Safety Indices.*** For this report, we created two indices from the ECERS measure, based on exploratory factor analysis. *Early Childhood Environment Rating Scale (ECERS)*.<sup>10</sup> The ECERS has been widely used for a number of years in the assessment of early childhood education preschool environments. This 37-item scale is a rating of the resources available in an early childhood program, the teachers' use of these resources, and the teachers' interactions with the children. It is comprised of seven sub-scales that include Space & Furnishings, Personal Care Routines, Language-Reasoning, Activities, Interaction, Program Structure and Parents & Staff.

*The ECERS Curriculum Index* includes measures of the availability of resources as well as the teacher's behavior. ECERS Curriculum is an average of the subscale scores for Space & Furnishings, Language-Reasoning, Program Structure and Activities, as well as the Interaction scale without the two supervision items.

*The ECERS Health & Safety Index* is an average of the health items from the ECERS Personal Care Routines scale (meals/snacks, naps, toileting, health behaviors) and the average of the two supervision items from the interactions scale.

***Benchmarks.*** The findings on the ECERS Curriculum and ECERS Health & Safety Indices are

reported in terms of benchmarks. In this report, classrooms are said to meet the Inadequate Benchmark if they score below a “3” on an ECERS Index, that is, the classrooms were judged inadequate on one or more of the ECERS components. Classrooms that meet the Adequate Benchmark have scored between a 3 and a 4.5, indicating classrooms that meet or exceed minimal standards on one or more of the ECERS components. Classrooms that meet the Good Benchmark on the ECERS Curriculum Index have earned an average score of 4.5 or higher on the ECERS domains, indicating classrooms that provide a curriculum that meets professional standards for children’s growth and development. Classrooms that meet the Good Benchmark on the Health & Safety Index have earned an average score of 4.5 or higher on the ECERS items, indicating classrooms that meet professional standards for protecting children’s health and safety.

***CLASS Emotional and Social Support and Instructional Support Indices.*** Based on the guidelines of the developers of the CLASS, we created two indices – Emotional and Social Support and Instructional Support – from the *Classroom Assessment Scoring System* (CLASS).<sup>11</sup> The CLASS is an observational instrument developed to assess classroom quality in preschool through third grade classrooms. The CLASS scores are based solely on *interactions* between teachers and children. The presence of materials and the physical environment are not considered in scoring.

The CLASS looks specifically at the emotional and instructional tone of the classroom using nine dimensions – Positive Climate (reflects enthusiasm, enjoyment and respect between teachers and children); Negative Climate (degree to which the classroom has a negative emotional tone as indicated by anger or harshness); Teacher Sensitivity (the degree to which teachers offer support and comfort to children); Regard for the Student Perspective (the degree to which teachers’ interactions and classroom activities consider students’ interests, motivations, and points of view); Behavior Management (considers teachers’ abilities to prevent and redirect negative behavior); Productivity (examines teachers’ abilities to use instructional time and routines as learning opportunities); Concept Development (explores the strategies used to promote reasoning skills and creativity through problem-solving and classroom instruction); Instructional Learning Format (extent to which available activities, presentations, groupings and range of materials encourages children’s engagement); and Quality Of Feedback (focuses on the quality of verbal feedback offered to children regarding their interactions, comment and ideas).

***The Emotional and Social Support Index*** includes the CLASS dimensions of Positive Climate, Negative Climate, Teacher Sensitivity, Regard For The Student Perspective And Behavior Management. ***The Instructional Support Index*** includes CLASS dimensions of Productivity, Instructional Learning Formats, Concept Development, Quality Of Feedback And Language Modeling.

***Benchmarks.*** The findings on the CLASS Emotional and Social Support and Instructional Support Indices are also reported in benchmarks. In this report, classrooms are said to meet the Inadequate Benchmark on the CLASS composites if they score below a “3” on a CLASS Index, that is, there are few, if any, indicators in the classroom of a positive emotional climate or positive instructional supports. Classrooms that meet the Adequate Benchmark have scored between a 3 and a 5, indicating there are some indicators of a positive emotional climate or positive instructional supports. Classrooms that meet the Good Benchmark have earned an average score of 5 or higher on the CLASS, indicating that there are many indicators of a positive emotional climate or positive instructional supports.

**SELA Literacy Index.** For this report, we created a composite from The *Supports for Early Literacy Assessment* (SELA).<sup>12</sup> The SELA was designed to assess early childhood classroom practices related to the development of literacy skills. The scale is comprised of 19 items on 7 dimensions: the literate environment, language development, knowledge of print/book concepts, phonological awareness, letters and words, parent involvement and developmentally appropriate practices. Two additional items address strategies used for bilingual and non-English speaking children and are scored if at least 20 percent of the children in the classroom speak a language other than English in their home.

The SELA Literacy Index consists of five of the SELA scales, The Literate Environment, Language Development, Knowledge of Print/Book Concepts, Phonological Awareness and Letters & Words.

**Benchmarks.** The findings on the SELA Literacy Index are also reported in benchmarks. In this report, classrooms are said to meet the Inadequate Benchmark on the SELA Literacy Index if they score below a “2.5” on the SELA Literacy Index, that is, the classroom does not consistently provide at least some evidence of literacy support on all five of the SELA domains. Classrooms that meet the Adequate Benchmark have scored between a 2.5 and a 4, on average, indicating consistent evidence of some use of literacy supports in each domain. Classrooms that meet the Good Benchmark have earned an average score of 4 or higher on the SELA Index, indicating strong evidence of literacy supports on at least half of the domains.

**Comparing Quality Measures.** These measures have in common their relation to children’s learning and development. However, they differ in their focus. The CLASS scores are based solely on *interactions* between teachers and children. The presence of materials, the physical environment or the safety of the space are not considered in scoring the CLASS. The SELA is designed to assess early childhood classroom practices related to the development of literacy skills, but does not address other domains. The ECERS is designed to assess multiple domains of quality that have been linked to student success, but it does not assess specific domains in as much detail as do the SELA or the CLASS. Together, these measures provide a comprehensive, in-depth assessment of the quality of classrooms.

In addition, each of the composite indices is significantly correlated with the CLASS Student Engagement measure, indicating that, in higher quality classrooms, students are more engaged in the classroom, participating and attending to classroom activities. Pearson Correlations ranged from  $r=.59$ ,  $p<.01$  for ECERS Health and Safety Index to  $r=.77$ ,  $p<.01$  for Class Emotional and Social Support Index. The Student Engagement dimension is generally considered a student outcome measure.<sup>13</sup>

## Surveys

**Teacher Interviews.** Brief teacher interviews were done with all teachers in the classrooms we observed. Teacher were asked about the enrollment of their classrooms including the gender, ethnic and language breakdowns of children. Teachers were also asked about their own ethnicity, languages spoken, experience in ECE and educational attainment. In addition, teachers were asked about the methods they used to communicate with the families of children in their class. The response rate was 99%.

**Director Surveys.** Directors of observed programs were asked to complete a brief questionnaire about their program, communication with parents and services offered.

Specifically, directors were asked to indicate job experience, hours of program operation, program profit status, enrollment, communication strategies used with families and income level of families served. Directors also indicated the types of services offered by their programs and the assessment techniques used to monitor children's developmental progression. Of the 81 directors asked to participate, 89% completed the survey.

**Family Surveys.** Family surveys were sent home with children and returned in sealed envelopes to a collection site at the program. The family survey offered families an opportunity to rate and comment on their child's current experiences and their reasons for choosing their child's program, as well as provide information about children's experiences at home. Four hundred sixty five (465) families returned surveys, from 60 programs; 74% of the programs, and 48% of families in the observed classrooms in those programs, participated in the family survey.

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