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**MATHEMATICA**  
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**The Children of LAUP:  
Executive Summary  
of the First 5 LA Universal  
Preschool Child  
Outcomes Study**

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# INTRODUCTION

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First 5 LA contracted with Mathematica Policy Research, Inc. (MPR) to conduct the First 5 LA/LAUP Universal Preschool Child Outcomes Study (UPCOS).<sup>1</sup> After completing Phase 1 (spring 2007) in which we pilot tested the feasibility, reliability, and validity of selected child development measures for the culturally and linguistically diverse population of children served by LAUP programs, we conducted a descriptive pretest-posttest study in 2007-2008. This report summarizes the results of that study.

## A. BACKGROUND AND CONTEXT OF THE STUDY

In 1998, California voters passed Proposition 10, the citizen initiative that levied a tax on tobacco products and earmarked the revenues to advance child and family development, health, education, and safety from pregnancy until children enter kindergarten. Funds flow from the state treasury to the California Children and Families Commission, known as First 5 California, and to the 58 county commissions. The largest of these, First 5 LA, has as its mission “to make significant and measurable progress towards our vision by increasing the number of children from the prenatal stage through age 5 who are physically and emotionally healthy, safe, and ready to learn” (First 5 LA 2008).

The largest of First 5 LA’s programs is the Los Angeles Universal Preschool (LAUP) Program. In February 2004, First 5 LA adopted a 10-year Universal Preschool Master Plan to increase the number of preschool slots in Los Angeles County and created LAUP to implement the plan. To meet its goals, First 5 LA committed \$580 million over five years to expand and improve existing preschool programs and build new facilities. The goal was to serve 4-year-olds throughout the county through center-based preschools and home-based family child care providers. LAUP operates several types of programs in different target areas. “Early Launch” programs include the approximately 120 licensed preschool centers and 73 family child care home providers funded in the first round of LAUP funding in March 2005.

LAUP then funded “Second Round” programs beginning in January 2006. These programs were funded approximately one year after the Early Launch programs and were targeted specifically

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<sup>1</sup> We were assisted by our subcontractors, Juárez and Associates, American Institutes for Research (AIR), and Berkeley Evaluation and Assessment Research (BEAR) Center. BEAR’s participation in the study concluded at the end of Phase 1.

to certain geographic areas. They were located in 34 of the most underserved zip codes in the county, which LAUP had identified using analyses conducted for its Universal Preschool Master Plan as Areas of Greatest Service Need (AGSN).<sup>2</sup>

First 5 LA also received funding from the California First 5 Commission to be one of nine counties to operate a special demonstration program, the Power of Preschool (PoP) Demonstration Project. PoP programs are designed to “demonstrate the impact of voluntary, quality preschool on children’s school readiness in counties throughout California” (LAUP 2008a). Beginning in fall 2006, LAUP implemented these programs in 13 cities within the AGSN zip codes.<sup>3</sup> As of December 2008, 240 LAUP programs in 61 zip codes received some PoP funding.

### **Purpose and Research Questions**

This descriptive study provides in-depth information on LAUP center-based programs and the children and families who participated in them during 2007-2008. Our data collection and analyses were organized around four broad questions that this study addressed:

1. What are the characteristics of LAUP children and families?
2. What is the overall level and range of quality in the implementation of LAUP and Power of Preschool (PoP) programs?
3. How do children enrolled in LAUP/PoP programs develop from fall to spring?
4. How are characteristics of children and families related to school readiness outcomes?<sup>4</sup>

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<sup>2</sup> The geographic areas were so designated because of their acute need for additional preschool capacity: in 16 of these, the number of 4-year-olds exceeded licensed preschool spaces by at least 1,000. In the other 18 zip codes, capacity was at least 500 spaces short of the number of 4-year-olds and, in addition, the majority of the elementary schools in the area were designated by the state as “low performing.” Furthermore, almost one-third of all 4-year-olds in the county (about 50,000) live in these 34 zip codes.

<sup>3</sup> These PoP demonstration programs initially were referred to as Preschool for All (PFA) programs; some counties still use the PFA designation. The overarching goal of PoP programs is to increase the number of high-quality spaces for preschool-age children in California while gathering information that may guide the development of a statewide preschool system. PoP programs vary by county and are not required to follow a particular curriculum or format as a condition of their funding. LAUP programs receiving PoP funds were not intended to differ in any systematic way (such as curricula used or auspice) from other LAUP programs. PoP programs follow quality criteria that closely relate to LAUP’s Star Rating System. See First 5 California’s website for further details ([www.cfcf.ca.gov](http://www.cfcf.ca.gov)).

<sup>4</sup> First 5 LA had hoped that this study would address a fourth research question, one that would explore the relationships between program characteristics (such as classroom quality and teacher characteristics) and children’s school readiness outcomes. In nonexperimental research designs such as UPCOS, it is possible, even likely, that family characteristics will be associated with the type of preschool center in which the child enrolls. We examined the possibility of this “selection bias” in our sample by calculating intraclass correlations (ICCs) for children’s initial abilities in the fall and the correlations between average initial abilities of children in the classroom and certain classroom characteristics.

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## Study Methods

In summer 2007, we selected a representative sample of programs from all those funded by LAUP. Because we used statistical procedures to weight the data, we can generalize the results to all LAUP programs, classrooms, and children. In our sampling, we took steps to ensure that our sample would include programs in AGSN as well as non-AGSN zip codes, both Early Launch and Second Round programs, and Power of Preschool (PoP) demonstration programs.<sup>5</sup>

Once the sample was selected, MPR staff worked closely with LAUP management and local program staff to recruit centers and parents for the study. The final sample on which we collected data included 97 programs and 1,555 4-year-old children enrolled in them. (This was 90 percent of all the children we could have assessed in the sampled programs, an excellent response rate.) We also interviewed 1,555 parents, surveyed 138 lead teachers, and conducted observations in 88 classrooms to obtain detailed profiles of teaching activities and teacher-child interactions, including teachers' language interactions with English Language Learners (dual language learners or DLLs).

After a thorough review of the recent literature on early childhood assessments in other preschool program evaluations, and in consultation with First 5 LA staff and its Research Advisory Committee (RAC)<sup>6</sup>, we decided on a set of measures designed to capture the full spectrum of school readiness (listed in Table 1 in the appendix). They include measures that have enabled us to report findings in the following domains:

1. Language and literacy
2. Early mathematics
3. Social-emotional development

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*(continued)*

The results indicated that the ICCs for children's initial abilities were around .2, suggesting that a substantial proportion (20 percent) of the variance in children's initial abilities was associated with program characteristics even before the program could have influenced the children's performance. Furthermore, the average initial abilities of children in the classroom were strongly correlated with classroom characteristics such as mean income of families in the classroom and concentration of dual language learners in the classroom, with the magnitude of the correlations ranging from .5 to .7. Thus, it seemed clear that families enrolled their children in programs in nonrandom ways and either made choices based on program characteristics or enrolled children in particular centers for reasons we do not understand, but that resulted in children with similar characteristics being clustered together in centers. Therefore, we decided it would be misleading and inappropriate to examine the associations between program characteristics and the gains that children made from fall to spring.

<sup>5</sup> In addition to the findings summarized in this report, we prepared a separate report on the PoP programs, addressing the same questions described here. That report appears as Appendix E in our final technical report (Love et al. 2009).

<sup>6</sup> The First 5 LA Universal Preschool Research Advisory Committee (RAC) is made up of research experts representing varied depth and breadth of local and national early childhood research and related expertise who provide input and advice to First 5 LA on matters relating to research and evaluation.

#### 4. Approaches to learning

#### 5. Physical health and motor development

We used a multimethod data collection to obtain indicators of children’s development from multiple sources. The child development measures included direct assessments, teacher ratings, parent ratings, and ratings by the child assessors. We were particularly careful in determining when our assessors should assess a child in Spanish or English, and developed a new routing procedure to ensure that assessors were sensitive to each child’s language strengths.<sup>7</sup> We also used a technique called conceptual scoring, which meant that assessors could give children credit for answering correctly no matter whether they used English or Spanish to respond.

We obtained detailed descriptions of the children’s teachers and parents, as well as measures of classroom quality. For the quality assessments, we used a classroom observation tool called the Classroom Assessment Scoring System, or CLASS, that has been used in many other studies in California and across the country. Because of the way we selected the measures, we have many opportunities to draw useful comparisons between LAUP findings and what has been found in other studies. To ensure that we obtained high-quality data, we hired people from LA County communities, including many who were bilingual, and trained them to high levels of reliability to assess the children, interview parents, and observe classrooms.

We also obtained Star ratings (including classroom scores on the Early Childhood Environment Rating Scale-Revised, or ECERS-R) from LAUP so that we could consider them in our analyses.

In this summary report, we summarize the findings in five areas:

- Characteristics of the children and families enrolled in LAUP programs
- Children’s development in LAUP, focusing on their progress from fall 2007 to spring 2008 in the five domains noted on page 2
- Relationships between child and family characteristics and the children’s development from fall to spring
- LAUP program characteristics, teacher characteristics, and classroom practices
- Quality of LAUP classrooms

In reporting children’s developmental progress, we took note of the fact that LAUP children live in families with diverse linguistic environments. Based on questions we asked the parents in fall 2007, we found that children could be classified according to the language they spoke or primarily

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<sup>7</sup> The language routing procedures is fully described in Appendix B of the final technical report (Love et al. 2009).

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spoke. For certain developmental domains, we report children’s progress in four language groups: speakers of English, Spanish-only, Spanish-primarily, and other languages, as well as overall.

After describing the findings in each of the five areas, we suggest key implications they may have for program operations and strategic planning. These should be understood as suggestions for consideration by the LAUP leadership and, in some cases, First 5 LA Commission policymakers. We will be pleased to further discuss our findings and their meaning, and why we suggest particular implications on the basis of what we have learned in this research.



# CHARACTERISTICS OF THE CHILDREN AND FAMILIES ENROLLED IN LAUP PROGRAMS

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## Main Findings

Most (75 percent) of the children were Latino, followed by African American (8 percent), Asian (7 percent), white (7 percent), and other groups (4 percent). English and Spanish languages predominated, with 53 percent of children speaking English (only or primarily), 29 percent Spanish-primarily, and 13 percent Spanish-only. Five percent spoke languages other than English and Spanish, including, for example, Armenian and Mandarin.<sup>8</sup> Nearly two-thirds of parents were immigrants, mostly from Mexico, and three-quarters of children lived in households in which at least one parent was born outside the United States, although nearly all children were born in the United States. Ninety percent of parents born outside the United States had lived in this country for more than five years at the time of the study.

Families faced a range of challenges but also exhibited strengths in the face of the challenges. More than one-third of mothers and 40 percent of fathers lacked a high school diploma or GED. Although 89 percent of fathers and 43 percent of mothers were employed full time, they were not in high-paying jobs as nearly 40 percent lived below the federal poverty line (and 77 percent were below 240 percent of poverty, the threshold used by the California Department of Education, CDE). About three-fourths (73 percent) of children lived with both parents and 58 percent of parents were married. One challenge parents faced was limited understanding of English, with 43 percent of mothers reporting they did not understand English well or at all. However, about 40 percent of parents reported reading daily to their child in the fall, and just under half of children had more than 25 books in the home.

Although LAUP funds only part-day programs (for 3.5 hours per day), many children spent more time than that in care outside their homes. They spent a median of 15.5 hours and a mean of 24 hours a week in LAUP programs (according to parent report)—parents could obtain additional hours of care through subsidies or by paying for the hours. The range of care experiences was wide, with parents reporting anywhere from 3 to more than 40 hours per week in LAUP programs. In addition, 22 percent of families reported child care outside LAUP—the majority from a relative—for a mean of 15 hours per week.

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<sup>8</sup> Languages spoken in addition to those noted in the text include Cambodian, Creole, Japanese, Korean, Russian, Tagalog, Tigrina, Vietnamese, and Yoruba.

**Implications of Findings Related to the Characteristics of Children and Families**

- Because LAUP serves many families whose children are underserved by typical preschool programs, the program should continue the types of recruitment and outreach that encourage these families to enroll their children.
- With almost half the children primarily speaking a language other than English at home, teachers need skills in teaching DLL children.
- Given that LAUP is currently serving a large percentage of children who would be income-eligible for existing subsidy programs, the program might consider increasing collaboration with local Head Start grantees as well as CDE to ensure that funding is being maximized.

# CHILDREN'S DEVELOPMENT IN LAUP

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## Main Findings

We report our findings on children's development in each of the areas described on page 2: language and literacy, early mathematics, social-emotional development, approaches to learning, and physical health and motor development.

**Language and Literacy Development.** Because of the importance of this domain for school readiness in 4-year-olds, we administered six measures in addition to the language screener—measures of receptive and expressive vocabulary, rapid letter naming, and early writing. Here are the highlights of what we learned.

From fall to spring, children nearly doubled their score on the letter naming task, increasing from 17 to 30 of a possible 52 upper and lower case letters, on average.<sup>9</sup> Spanish-only and Spanish-primarily children scored somewhat lower but also made the greatest gains during their year in the program.

English-speaking children's spelling/writing abilities were at the national average in the fall and about half a standard deviation above average in the spring.<sup>10</sup> Children who took the test in Spanish did not do as well however, scoring about one standard deviation below the national mean for Spanish speakers in both fall and spring.

Expressive and receptive language skills both improved from fall to spring, but not as much as would be expected when compared to a nationally representative sample of English-speaking children. Performance on the expressive language assessment for the sample overall was more than one standard deviation below the national mean for English speakers at both time points. Even though children's vocabularies increased from fall to spring, the increase did not keep pace with national norms, so their standard scores declined in expressive language. It is important to consider these scores keeping in mind the high proportion of DLL children in the sample. Many of those children increased enough in their English language skills to be assessed in English in the spring, and they were therefore learning many new words. However, the words they learned may have been for

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<sup>9</sup> Because no one child was asked to name all 52 letters, these scores are a prediction of the number they would have gotten correct. The actual number of letters named was about 9 letters in the fall and 18 in the spring.

<sup>10</sup> The early writing test for preschoolers ("spelling") largely measures fine motor coordination, ability to trace letters, and ability to write their own name.

concepts or objects they already knew in their first language, as opposed to words for entirely new concepts or objects.

Overall, about 45 percent of the children who took the assessments in Spanish in the fall showed sufficient proficiency to be tested in English in the spring. This in itself suggests progress in preparing children for an English-only public school environment.

**Early Mathematics Development.** We assessed children’s skills in number concepts, spatial ability, and measurement. On average, children’s early knowledge of mathematical concepts improved significantly during the preschool year. In the fall, they could identify basic shapes and show understanding of relative amounts. By spring, children (on average) could identify order (“point to the last bicycle”), match patterns and continue patterns, and count 10 objects with one-to-one correspondence.<sup>11</sup>

**Social-Emotional Development.** Using well-established rating scales, teachers and parents provided us with details about their children’s positive social skills (cooperation, social interaction, and independence) and problem behaviors. In all areas, LAUP children stood out as having higher levels of the positive skills and lower levels of problem behaviors than national norms. Children also continued to show improvement in their social-emotional skills from fall to spring.

**Approaches to Learning.** Using the rating scales that also included the social-emotional skills, teachers rated such behaviors as attention, persistence, and eagerness to learn. Teachers’ ratings indicated that children’s approaches to learning changed little from fall to spring. Similarly, parent ratings of children’s paying attention and persisting in difficult tasks showed only slight improvement from fall to spring (but in both cases the changes were statistically significant).

We also trained our assessors to rate children’s behavior that they observed in the context of the direct assessments. Assessors’ ratings of the children’s attention to the assessment tasks in the spring were significantly higher than their fall ratings.

Finally, we took the relatively unusual step in preschool program evaluations of administering direct measures of executive functioning, another aspect of approaches to learning. In two tasks, children were required to inhibit a natural response, that is, to show self-regulation. On a pencil-tapping task, for example, children were told to do the opposite of what the assessor did. So children demonstrated positive self-regulation and impulse control if they correctly tapped once when the assessor tapped twice, and vice versa. LAUP children showed significantly better self-regulation in the spring than in the fall. On a second measure of impulse control (Walk-a-Line Slowly), LAUP children similarly showed improved performance from fall to spring. On both of these measures by the spring, LAUP children did better than those in a study of Head Start children in Chicago that used the same measures (Smith-Donald et al. 2007).

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<sup>11</sup> The national data we need for making comparisons (from the Early Childhood Longitudinal Study-Birth Cohort) have not yet been released. When they become available, LAUP children’s performance can be put in the context of that nationally representative sample.

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**Physical Health and Motor Development.** We assessed gross motor skill by asking children to walk along a one-half-inch-wide six-foot line while assessors scored how well they stayed on the line. Children showed good balance and body control, with 71 percent of them staying on the line in the fall. Six months later, 81 percent did.

Using a common general health rating scale, 96 percent of parents rated their children as being in very good or excellent health in both fall and spring. In addition, we weighed the children, measured their height, and calculated a standard index of physical health—the body mass index or BMI (using protocols available from the CDC that are tailored to children’s age and gender).<sup>12</sup> Although BMIs decreased somewhat from fall to spring, the rate of obesity in spring 2008 was 20 percent (that is, at the 95<sup>th</sup> percentile or higher), and another 14 percent of the children were classified as overweight (with BMIs between the 85<sup>th</sup> and 94<sup>th</sup> percentiles).

### **Implications of What We Learned About Children’s Development**

- Children’s average and above average performance in early literacy (except for expressive vocabulary), social-emotional development, and approaches to learning suggests that LAUP programs are appropriate for the children they serve, on average. Lower performance in expressive language suggests that teachers might strengthen their teaching strategies in this area.
- Although parents gave their children highly positive health ratings, the finding that 20 percent of the children were obese suggests a need for programmatic interventions (perhaps involving parents) aimed at improving children’s diets and increasing opportunities for physical exercise. It may be helpful to build or strengthen relationships with existing nutrition and public health programs such as WIC and the Los Angeles County Department of Public Health to identify ways to reduce the obesity rate among children in LAUP programs.

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<sup>12</sup> This is the same scale that the County of Los Angeles Department of Public Health uses; they reported an obesity rate of 22.9 percent among 5<sup>th</sup>, 7<sup>th</sup>, and 9<sup>th</sup> graders in 2008; the most recent FACES study reported an obesity rate of 16 percent among Head Start children nationally. A recent study based on a nationally representative sample of 4-year-old children found that 18.4 percent were obese using this same standard (Anderson and Whittaker 2009).



# RELATIONSHIPS BETWEEN CHILD AND FAMILY CHARACTERISTICS AND THE CHILDREN'S DEVELOPMENT FROM FALL TO SPRING

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## Main Findings

We assessed a large number of child and family characteristics in UPCOS, and we analyzed the extent to which they were associated with children's school readiness performance in the spring of 2008. The variables we highlight here are family risk factors, children's performance at the time they entered LAUP programs (as measured on our fall pretests), and children's home language.

**Family Risk.** Having more than 3 risk factors (out of the 10 we measured) was a consistent predictor of lower spring scores even after controlling for other factors (including the child's fall scores, age, language group membership, and the interval between fall and spring assessments).<sup>13</sup>

**Children's Entering Performance Levels.** Although all groups of children progressed during the year, not all children learned the same amount or at the same rate over the year. Children who performed more poorly in the fall (that is, scored in the lowest quartile on a measure) learned as much or more during the year as the higher-performing (top quartile) children did.<sup>14</sup> In most areas of school readiness, however, many LAUP children were not performing sufficiently well to catch up to the national norms when they enter kindergarten. In fact, children in the lowest quartile in language, literacy, and mathematics had lower mean scores in the spring than children performing at the highest quartile had in the previous fall. Figure 1 in the appendix illustrates this situation with respect to expressive vocabulary.

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<sup>13</sup> Risk factors included (1) family income below the poverty threshold, (2) maternal educational attainment less than high school, (3) being a teenage mother, (4) single-parent household, (5) maternal depression, (6) parent born outside the United States, (7) parent living in the United States for five or fewer years, (8) exposure to violence witnessed by child, (9) language other than English spoken in household, and (10) more than five people living in the household.

<sup>14</sup> Children in the lowest quartile differed from higher-performing children in a number of ways in addition to scoring low on the particular measure. Children who scored in the bottom quartile on two or more of the measures had mothers who were less likely to have completed high school, were more likely to be Spanish speaking, were less likely to read to the child at least three days a week, and were less likely to be married. Low-scoring children were also more likely to live in an AGSN zip code.

We also found that when there was higher variability in the expressive language skills of the children in a classroom in the fall, the children's spring scores in expressive vocabulary tended to be higher. Having a range of language skills present in the classroom supports growth because children, in part, learn language from each other.

**Children's Home Language.** As already noted in discussions of some of our findings, in general we found fairly large differences in the school readiness performance of English- and Spanish-speaking children. Figure 2 in the appendix illustrates the differences for one of our measures, letter naming. At the same time, parents of Spanish-speaking children reported lower frequency of reading to their children and having fewer children's books in the home than the other language groups. These parents also reported that their children spent fewer hours attending preschool per week relative to the other groups, for example, 22 percent of parents in the Spanish-only group and 16 percent in the Spanish-primarily group reported their child attended the LAUP program 12 or fewer hours per week, compared to 7 percent of the English- and 8 percent of the other-language groups.

### **Implications Related to What We Learned About These Relationships**

- Findings by family risk factors and home language indicate that children with more than three risk factors and those who live in homes where only Spanish is spoken have greater need for the instructional support preschool can provide. With greater attention to family risk and language, LAUP can give guidance to teachers in providing support for these children.
- Children who enter preschool in the fall scoring in the lowest quartile of the distribution on a particular school readiness measure need extra help to augment their developmental trajectory between fall and spring. More systematic developmental screening and assessment in the first weeks or months of the program would give teachers the information needed to provide this assistance.
- The below-average performance of Spanish-only and –primarily children on the early writing test was in a range that might suggest possible educational risk, as was the lower-than-average performance in expressive language. LAUP should consider ways to enhance instructional support in the area of language development.
- LAUP teachers and other staff may need to find ways to strengthen their teaching strategies for Spanish-speaking children, increasing the length of time the children attend, and working with parents to increase their program involvement and participation in home activities with their children.
- We encourage programs to continue practices that create or maintain diversity of ability levels among children within classrooms.
- The much lower average number of hours per week in preschool that parents of Spanish-only and –primarily children reported (compared with the other language

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groups) suggests that outreach to encourage better attendance may be part of a solution to the language achievement gap.



# LAUP PROGRAM CHARACTERISTICS, TEACHER CHARACTERISTICS, AND CLASSROOM PRACTICES

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## Main Findings

LAUP teachers were diverse in their race/ethnicity, language, and experience and training. About half the children (52 percent) had Latino teachers, 17 percent had white teachers, 15 percent had African American teachers, 7 percent Asian, and 9 percent other race/ethnicities.

Lead teachers reported considerable experience: children's teachers averaged more than 12 years teaching preschool, 99 percent of the children's teachers had taken 6 or more classes in early childhood education or child development, and 88 percent had lead teachers who held at least an associate's (AA) degree. More than half (61 percent) of children's teachers held a BA or higher degree.<sup>15</sup> This is a substantially higher percentage than the 42 percent with a BA degree or higher found in a recent California statewide study (Karoly et al. 2008).

Almost half (45 percent) of LAUP children had teachers who reported speaking both English and Spanish at home, and 5 percent reported speaking English and another language at home. (As noted earlier, 42 percent of the children were classified as only or primarily Spanish speakers in the fall.)

Two published preschool curricula were most common in LAUP classrooms. About 31 percent of LAUP children had teachers who used either High/Scope or the Creative Curriculum. Fewer than 10 percent of children were taught with any other curriculum. More than half the curricula that teachers reported using addressed multiple developmental domains. However, one-third of the children had teachers who used a nonspecific curriculum.<sup>16</sup>

One-third of the children were in classes where their teachers reported that they did not screen at all for health or developmental problems. Among the children whose teachers reported screening, 34 percent were screened with the Ages and Stages Questionnaires. Across LAUP classrooms, a wide variety of screening tools were in use, according to the teachers' reports.

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<sup>15</sup> Teachers reported their education and experience and thus our findings may overestimate actual qualifications.

<sup>16</sup> These teachers responded that they used such "curricula" as "my own" or "thematic."

LAUP teachers reported that they frequently carried out activities that support children's language and mathematics learning: at least 75 percent of the children had teachers who reported engaging in important language and mathematics activities every day.

### **Implications from the Findings on Teacher Characteristics**

- The relatively well-educated LAUP teacher workforce, and teachers' reports of engaging children in important language and mathematics activities on a daily basis, mean the program has a solid foundation on which to make many of the improvements suggested in this report.
- Given the high educational and developmental needs of many of the children served by LAUP, steps should be taken to ensure that screening for developmental and health problems be conducted for all children in all classrooms early in the program year. Some of the children scoring in the lowest quartile may be eligible for IDEA services, and screening is the first step toward identifying and accessing services for them. Screening and assessment also may help to tailor the instruction to the needs of the children. Standardization of screening tools would facilitate revising their results and making consistent decisions across classrooms and groups of children.
- Consider re-examining the monitoring and compliance process to ensure that programs are regularly in compliance with LAUP Operating Guidelines regarding child:staff ratios and curriculum standards.

## QUALITY OF LAUP CLASSROOMS

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### Main Findings

LAUP centers had an average of slightly under 2 classrooms serving 37 children. Classes ranged in size from 9 to 28 children, with an average class size of 18. Child:staff ratios averaged 6:1, but ranged from a low of 3:1 to a high of 13 children per teacher. However, 83 percent of classrooms had ratios of 8:1 or better, and 91 percent were at 10:1 or better. These averages more than meet California's child care licensing standards and the accreditation criteria of the National Association for the Education of Young Children. Seventeen percent of classrooms observed had child:staff ratios above LAUP guidelines in the Star rating system (8:1).<sup>17</sup>

The overall quality of the LAUP programs, as measured by the Classroom Assessment Scoring System (CLASS), compares favorably with the quality levels reported in other studies of preschool programs. Nevertheless, this level of quality is generally considered lower than ideal for supporting children's school readiness.

Consistent with other studies of preschool programs, Instructional Support was the weakest of the three CLASS quality domains observed in LAUP classrooms (the other domains were Emotional Support and Classroom Organization). Low scores were especially noted for the dimensions of Instructional Support that measure Concept Development and Quality of Feedback by teachers.

Our analyses supported what is often found with respect to the importance of teacher characteristics and class size in classroom quality: (1) the education level of lead teachers was associated with classroom quality ratings, with observed quality in the Instructional Support domain of the CLASS being higher in classrooms where teachers had at least a two-year degree, and (2) smaller classes had higher levels of observed quality, noted particularly in the domains of Emotional Support and Instructional Support.

Star ratings that LAUP assigned to classrooms as an index of program quality were not a strong indicator of observed quality on the CLASS. However, one component of the Star rating—the ECERS-R total score—was consistently associated with observed quality as measured by each of the CLASS domains.

LAUP classrooms located in schools scored higher than non-school-based classrooms on both Emotional Support and Instructional Support.

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<sup>17</sup> We calculated child:staff ratios based on counts of children and adults during classroom observations.

### **Implications of What We Learned About Classroom Quality**

- Maintain the excellent child:staff ratios that many programs already have, and work to bring programs that fall short up to recommended levels.
- LAUP coaches might enhance program quality by focusing on aspects of what the CLASS refers to as Instructional Support. Instructional Support includes concept development, quality of feedback, and language modeling. Focusing on these means increased emphasis on promoting children’s understanding and higher-order thinking skills, providing frequent opportunities for analysis and reasoning (such as by asking “why?” and “how?” questions), encouraging children to generate their own ideas, expanding on children’s responses, and generally increasing the quality and amount of language-stimulating interactions.
- The relationship between quality measures and (1) teacher education and (2) class size imply that reducing class size by an average of five children would be equivalent to having a teacher with a BA. A two-pronged approach in which teacher qualifications are enhanced and where possible, class sizes reduced could result in improved quality.

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## APPENDIX: TABLES AND FIGURES

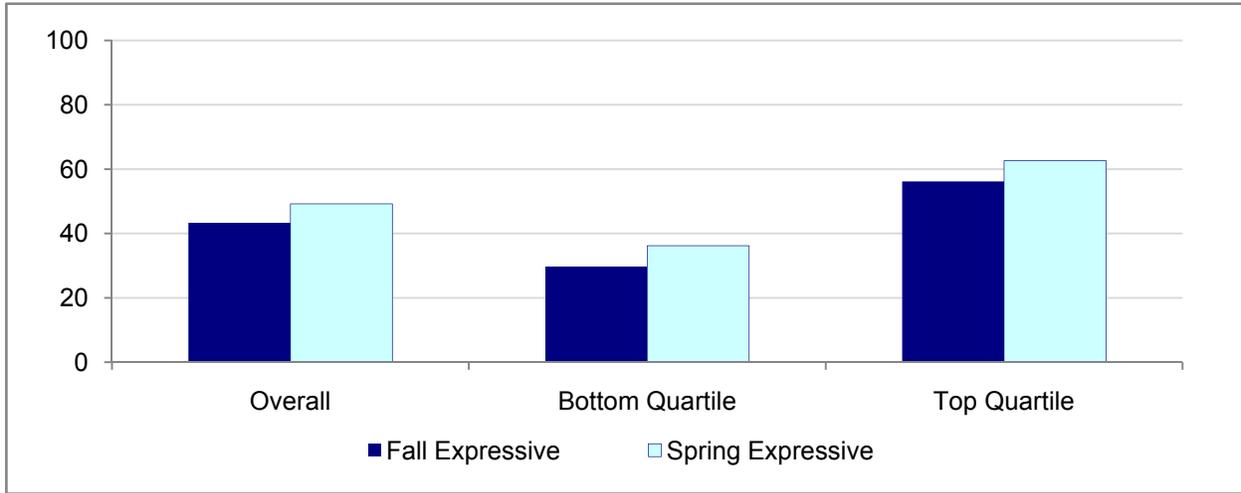
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**Table 1. Child Assessment Measures Used in UPCOS**

Measure (in order of administration)	Purpose and Domain Assessed
<b>Direct Child Assessments</b>	
Spanish Pre-LAS: Tío Simon Dice	Language screener: Spanish receptive proficiency
Spanish Pre-LAS: Exposición de Arte	Language screener: Spanish expressive proficiency
English Pre-LAS: Simon Says	Language screener: English receptive proficiency
English Pre-LAS: Art Show	Language screener: English expressive proficiency
Receptive One-Word Picture Vocabulary Test–Spanish Bilingual Edition (ROWPVT and ROWPVT-SBE) <sup>a</sup>	Language development: Receptive vocabulary
Expressive One-Word Picture Vocabulary Test–Spanish Bilingual Edition (EOWPVT-SBE) <sup>a</sup>	Language development: Expressive vocabulary
ECLS-B Mathematics <sup>a</sup>	Cognitive development: Mathematics concepts
Height and Weight	Physical development
Executive Functioning Walk-a-Line Slowly Task Pencil-Tapping Task	Approaches to learning: executive functioning and self-control
Rapid Letter Naming <sup>a</sup>	Literacy development: Letter identification
Woodcock-Johnson III—Test 7 Spelling (WJ-III) and Woodcock-Muñoz III—Test 7 Ortografía (WM-III)	Literacy development and fine motor skills: Writing and spelling/ability to take dictation/fine motor control
Leiter-R Examiner Rating Scales both fall and spring	Approaches to learning and social-emotional development: Assessor rating of children’s attention, activity level, and sociability
<b>Parent Ratings</b>	
Health Ratings	LA County Health Survey items
Preschool Kindergarten Behavior Scales-2 (PKBS-2)-adapted	Rating positive social skills
Approaches to Learning	Adaptation of ECLS-K Approaches to Learning
<b>Teacher Ratings</b>	
Preschool Kindergarten Behavior Scales-2 (PKBS-2)	Rating positive social skills
Social Skills Rating System (SSRS)	Rating problem behaviors
Desired Results Developmental Profile-Revised (DRDP-R)	Comprehensive ratings of child development
ECLS-K Approaches to Learning	Rating positive approaches to learning

<sup>a</sup>Denotes conceptual scoring.

**Figure 1. Illustrative Finding: Expressive Vocabulary, Fall and Spring, Overall and by Quartile**



**Figure 2. Illustrative Finding: Letters Named Correctly, Fall and Spring by Language Group**

