The Children of LAUP:
Final Report of the First 5
LA Universal Preschool
Child Outcomes Study

Summary Report

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INTRODUCTION

First 5 LA contracted with Mathematica Policy Research, Inc. (MPR) to conduct the First 5 LA/LAUP Universal Preschool Child Outcomes Study (UPCOS). 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 pretest-posttest study in 2007-2008. This report summarizes the results of that study.

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/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?

Study Methods

In summer 2007, we selected a representative sample of programs from all those funded by LAUP, and because we used statistical procedures to weight the data, we can generalize the results

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1 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 after Phase 1 ended.

2 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, as UPCOS is, researchers approach this type of question with considerable caution. Because families self-select into the programs, it is possible, even likely, that family characteristics (such as family income or parent education) will be associated with the type of preschool center the child enrolls in. We examined the possibility of this "selection bias" in our sample and discovered that key family characteristics and child performance at baseline (fall 2007) were associated with classroom quality measures—even though the child assessments were conducted before the program could have influenced the children’s performance. 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.
to all LAUP programs, classrooms, and children. In our sampling we took steps to ensure that our sample would include programs in LAUP’s Areas of Greatest Service Need (AGSN) ZIP codes as well as non-AGSN sites, both Early Launch and Second Round programs, and Power of Preschool (PoP) demonstration programs.\(^3\)

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 those programs, an excellent response rate.) We also interviewed 1,555 parents, surveyed 147 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 (ELL).

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), we decided on a set of measures designed to capture the full spectrum of school readiness. See Table 1 in the appendix for a complete list of the measures. 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
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. 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 all 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 the LA County

\(^3\) In addition to the findings summarized in this report, we prepared a separate report on the PoP programs, addressing the same questions described here.
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 five domains:
  - Language and literacy skills
  - Early mathematical concepts and skills
  - Social-emotional development
  - Approaches to learning
  - Physical health and motor development
- 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 children could be classified according to the language they spoke or primarily spoke. For certain developmental domains, we report children’s progress by language group, as well as overall: English speakers, Spanish-only speakers, Spanish-primarily speakers, Other-language-only, and Other-language-primarily speakers.

After describing the findings in each area, we suggest key implications that 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 discuss with the Commission and LAUP 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

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. 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.

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 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). In the face of poverty, 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 40 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 (3.5 hours) programs, many children spend more time than that outside their homes. They average 17.5 hours a week in LAUP programs, although about half of the families reported having their children attend 20 or more hours per week. In addition, 22 percent of families reported child care outside LAUP—the majority from a relative—for a mean of 15 hours per week.

Implications of Findings Related to the Characteristics of Children and Families

- Because LAUP serves many families whose children are underserved by typical preschool programs, 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 ELL children.
• Given that LAUP is currently serving a large percentage of children who would be income-eligible for existing subsidy programs, consider increasing collaboration with local Head Start grantees as well as CDE to ensure that funding is being maximized.
Main Findings

We report our findings on children’s development in each of the areas described on page 5: 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 spelling. Here are the highlights.

From fall to spring, children nearly doubled the number of letters of the alphabet they could name, increasing from 17 to 30 out of 52 upper and lower case letters, on average. Spanish-only and Spanish-primarily children scored somewhat lower but also made the greatest gains during their year in the program. Overall, LAUP children did better than the performance of Head Start children in the Head Start Child and Family Experiences Survey (FACES).

English-speaking children’s spelling abilities were at the national average in the fall and about half a standard deviation above average in the spring. Children who took the test in Spanish did not do as well, however, scoring about one standard deviation below the national mean 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. However, performance on the expressive language assessment was more than one standard deviation below the mean 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.

Overall, about 15 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. Their average performance improved significantly from fall to spring. 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.  

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 teacher and parent 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 change from fall to spring (but the change was statistically significant).

We also trained our assessors to rate children’s behavior 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 (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 executive functioning (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, LAUP children did better than those in other studies using the same measures.

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 and 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). Although BMIs decreased somewhat from fall to spring, the rate of obesity in spring 2008 was 20 percent (that is, at the 95th percentile or higher), and another 14 percent of the children were

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

5 This is the same scale that the County of Los Angeles Department of Public Health uses; they reported an obesity rate of 232 percent among 5th, 7th, and 9th graders in 2008.
classified as overweight (with BMIs between the 85th and 94th percentiles). By language group, spring obesity rates were all high, but varied slightly, from 18 percent of the English-speaking children to 23 percent of Spanish speakers.

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

- Some of the language and literacy findings suggest a concern for children’s school readiness at the end of preschool. The below-average performance of children who speak Spanish-only and those who speak Spanish-primarily on the spelling 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.

- The parents of children in the Spanish-only and –primarily groups reported a much lower average number of hours per week in preschool than reported for the other language groups. This suggests that outreach to encourage better attendance may be part of a solution to the language achievement gap.

- Although most of the findings describe the average performance of LAUP children, on each of the child development measures, we found large differences between children in the upper and lower ends of the distributions. (See Figure 1 in the appendix for an example.) Strategies that help teachers identify low-performing children and work with them during the year may be fruitful in improving the performance of the children at the lower end of the distribution.

- 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. Latino children deserve special attention in these efforts. 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.
RELATIONSHIPS BETWEEN CHILD AND FAMILY CHARACTERISTICS AND THE CHILDREN’S DEVELOPMENT FROM FALL TO SPRING

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 home language, and children’s performance at the time they entered LAUP programs (as measured on our fall pretests).

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).

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. In most areas of school readiness in the spring of preschool, 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 overall average had in the previous fall. Figure 1 in the appendix illustrates this situation with respect to expressive vocabulary.

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 1 in the appendix illustrates the differences for one of our measures, letter naming. At the same time, parents of Spanish-speaking children reported that their children spent fewer hours in preschool per

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6 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 living in the household.
week and reported lower frequency of reading to their children and having fewer children’s books in the home than the other language groups.

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.

**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.

- 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, work 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 children’s ability levels within classrooms.
LAUP Program Characteristics, Teacher Characteristics, and Classroom Practices

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 standards set by California’s child care licensing and accreditation criteria of the National Association for the Education of Young Children; however, 17 percent of classrooms observed had child:staff ratios above the LAUP guidelines in their Star rating system (8:1).

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 had 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. This is a substantially higher percentage than the 42 percent with a BA degree or higher found in a recent California statewide study.

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.)

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. No other curriculum was used by more than 10 percent of teachers. 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.7

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,

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7 These teachers responded that they used such “curricula” as “my own,” “thematic,” or “emergent.”

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33 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.

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

Main Findings

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.

Implications of what We Learned About Classroom Quality

- LAUP coaches could best 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.
• Consider re-weighting components of the Start quality ratings to give more emphasis to the ECERS-R scores and teacher preparation.

• Increase the proportion of classrooms with fewer than 20 children.

• Maintain the excellent child:staff ratios while at the same time bringing all classes to meet this standard.
# Table 1: Child Assessment Measures Used

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<thead>
<tr>
<th>Measure (in order of administration)</th>
<th>Purpose and Domain Assessed</th>
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<tbody>
<tr>
<td><strong>Direct Child Assessments</strong></td>
<td></td>
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<tr>
<td>Spanish Pre–LAS: Tio Simon Dice</td>
<td>Language screener: Spanish receptive proficiency</td>
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<tr>
<td>Spanish Pre–LAS: Exposición de Arte</td>
<td>Language screener: Spanish expressive proficiency</td>
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<tr>
<td>English Pre–LAS: Simon Says</td>
<td>Language screener: English receptive proficiency</td>
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<tr>
<td>English Pre–LAS: Art Show</td>
<td>Language screener: English expressive proficiency</td>
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| Receptive One-Word Picture Vocabulary Test-- Spanish Bilingual Edition (ROWPVT and ROWPVT-SBE)

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<tr>
<th>Measure (in order of administration)</th>
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<td>Direct Child Assessments</td>
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<tr>
<td>ECLS—B Math&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Cognitive development: Mathematics concepts</td>
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<td>Height and Weight</td>
<td>Physical development</td>
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<td>Executive Functioning</td>
<td>Approaches to learning: executive functioning and self-control</td>
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<tr>
<td>1. Walk-a-Line Slowly Task</td>
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<td>2. Pencil-Tapping Task</td>
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<tr>
<td>Rapid Letter Naming&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Literacy development: Letter identification</td>
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<tr>
<td>Woodcock-Johnson III—Test 7 Spelling (WJ-III) and Woodcock-Muñoz III—Test 7 Ortografía (WM-III)</td>
<td>Literacy development and fine motor skills: Writing and spelling/ability to take dictation/fine motor control</td>
</tr>
<tr>
<td>Leiter-R Examiner Rating Scales both fall and spring</td>
<td>Approaches to learning and social-emotional development: Assessor rating of children’s attention, activity level, and sociability</td>
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<td><strong>Parent Ratings</strong></td>
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<td>Health Ratings</td>
<td>LA County Health Survey items</td>
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<td>Preschool Kindergarten Behavior Scales—2—adapted</td>
<td>Rating positive social skills</td>
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<tr>
<td>Approaches to Learning</td>
<td>Adaptation of ECLS-K Approaches to Learning</td>
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<td><strong>Teacher Ratings</strong></td>
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<td>Preschool Kindergarten Behavior Scales—2 (PKBS-2)</td>
<td>Rating positive social skills</td>
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<td>Social Skills Rating System (SSRS)</td>
<td>Rating problem behaviors</td>
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<tr>
<td>Desired Results Developmental Profile—Revised (DRDP-R)</td>
<td>Comprehensive ratings of child development</td>
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<tr>
<td>ECLS-K Approaches to Learning</td>
<td>Rating positive approaches to learning</td>
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<sup>a</sup>Denotes conceptual scoring.
**FIGURE 1** EXPRESSIVE VOCABULARY, FALL AND SPRING

![Expressive Vocabulary Chart](chart1)

**FIGURE 2** LETTERS NAMED CORRECTLY FALL AND SPRING, BY LANGUAGE GROUP

![Letters Named Correctly Chart](chart2)