



# Annual Evaluation Report: Clayton Educare

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2009-10 School Year

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## EXECUTIVE SUMMARY

In 2005, Clayton Early Learning was invited to join the national Bounce Learning Network of Educare Schools. The fifth Educare School in the nation opened on the Clayton Campus in September 2007. Educare Schools are committed to helping young children grow up safe, healthy, and eager to learn. Through a consortium of partners, Educare Schools create, provide and promote high-quality, research-based, outcome-focused learning environments for families and their young children who are at-risk for school failure.

While the Educare Model has an explicit focus on Center-Based care, Clayton Early Learning offers a variety of service options to families in Denver. Clayton Early Learning offers home-based services to families during pregnancy and when children are birth to five years old. Center-Based services are available in the Educare School for infants, toddlers and preschoolers. In addition, a Combination option is available for families with toddlers. Families in this service option bring their children to the Educare School for two half days a week in addition to receiving home visits.

All Educare Schools participate in the *Bounce Learning Network Implementation Study*. The purpose of the study is to document the features of Educare and how implementation of the model contributes to program quality and links to child and family outcomes. Researchers from Frank Porter Graham Child Development Institute and the University of North Carolina, Chapel Hill (FPG) collaborate with local evaluation partners at each Educare site to design and carry out the study. Researchers at FPG prepare reports on aggregate data across all the Educare sites. These cross-site reports are available on their website.<sup>1</sup> This report documents the results of the Implementation Study, focusing only on Clayton Educare.

In addition, this report includes data from an evaluation of Clayton Educare's Home-Based service option for preschool-aged children. This program option utilizes the Home Instruction for Preschool Youngsters (HIPPY) program. Through this program, Clayton Educare staff visit parents in their home to deliver a curriculum designed to support parents in embracing their role as their child's first teacher. The HIPPY model has four key features (see box at the right).<sup>2</sup> Clayton Educare staff supplements the HIPPY program to meet Head Start Performance Standards.

At the start of the school year, Clayton Educare served 172 children through its Center-Based and combination options and 86 children through the HIPPY home-based service option. During the 2009-10 school year, Clayton Educare experienced incredible growth when it received 64 new Early Head Start and 32 Head Start slots through funding from the American Recovery and Reinvestment Act. By the end of the 2009-10 school year, 314 children were enrolled in the center-based, combination or HIPPY service options.<sup>3</sup> 348 children participated in the research studies described in this report. The number of participants is greater than the number of slots available because of turnover in enrollment.

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<sup>1</sup> <http://www.fpg.unc.edu/~bounce/>

<sup>2</sup> For more information about the HIPPY Program Model, please visit [www.hippyusa.org](http://www.hippyusa.org)

<sup>3</sup> Clayton Early Learning also served an additional 93 children and their families through EHS Home-Based services (including Prenatal services), as well as EHS slots served by community partners (Mile High Montessori Early Learning Centers and Florence Crittenton).

## RESULTS

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Clayton Educare serves a demographically mixed population of children and their families through its different service options. The results of this study illustrate that the different program options tend to be selected by different types of families. There was a much higher concentration of African American children in full-day center based options than in other service options. Conversely, there were more Hispanic children in home-based and part-day center-based service options than in full-day center-based. These differences limit our ability to compare outcomes for the different service types. Across service options, a substantial proportion of families report facing multiple risks in addition to poverty, including food insecurity, stressful life events and depression.

The results of classroom observations indicate that Educare is succeeding in providing center-based classroom environments that are of high-quality. Examination of classroom observation data over time demonstrate that Educare has been providing high-quality classroom environments consistently over time. This year, we added a new observation to our protocol for preschool classrooms, the CLASS observation. This observation provides more detailed information about teacher-child interactions than the other tools we have previously used. Compared to national studies using this tool, the scores for preschool classrooms at Clayton Educare were strong. However, the results suggest that the areas of classroom organization and instructional support would be good areas to target for improvement to raise scores even higher.

Even though they come from backgrounds characterized by great risk, infants and toddlers scores on cognitive and language assessments were near national averages. Parents and teachers described the socioemotional development of infants in the program rather positively. Parents of toddlers also described their children's development rather positively, but teachers noted more concerns about toddler's socioemotional development. Neither teachers' nor parents' ratings of infants' and toddlers' socioemotional development changed significantly over time.

Preschool-aged children in the center-based option started this school year with rather low English receptive vocabulary scores, on average, particularly for children for whom English was not their primary language. However, children made tremendous gains in their receptive vocabulary scores over time on average, far exceeding what would be expected simply by maturation. Spanish speaking preschoolers in the center-based option tended to maintain or grow in their Spanish skills over time, on average.

English-speaking children enrolled in HIPY tended to start and end the year with language skills that were similar to national averages. Spanish-speaking children enrolled in HIPY tended to start the year with stronger written Spanish skills than oral Spanish language skills. However, by the end of the school year, their scores in both areas were near national averages.

In terms of socioemotional development, on average, parents of center-based preschoolers tended to describe their children as having high levels of positive behaviors (attachment, self-control, and initiative), but they also reported high levels of problematic behaviors as well. In contrast, teachers' ratings of children's behavioral concerns were more in line with national averages. Parents of children in HIPY reported high levels of concerns about their children's behaviors. On average, they reported low levels of positive behaviors and high levels of negative behaviors.

We examined the subgroup of preschool-aged children who were leaving the program to attend kindergarten in fall 2010. On average, children who had been enrolled in the center-based option left the program with vocabulary and school-readiness scores in the low-average range. These scores differed by children's primary language. Children whose primary language was English left with average scores that were closer to national norms than children with other primary languages. Children's phonological awareness skills were, on average, slightly below benchmarks for the spring of the pre-kindergarten year.

On average, English-speaking kindergarten-bound children who had been enrolled in the HIPPY home-based option left the program with language skills that were at or exceeded national averages. Spanish-speaking kindergarten-bound children from the HIPPY program left the program in the spring with average scores near national averages for written Spanish and near the bottom of the average range for oral Spanish skills.

The research design provides only limited data about outcomes for parents, collected via an annual parent interview. Both center-based and HIPPY parents reported rather high levels of competence as a parent. Parents of children enrolled in the center-based option reported low levels of parenting stress. Only about a third of parents in both program options reported reading to their children every day.

## CONCLUSIONS

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The results of the study are promising. Clayton Educare is providing a high-quality program for the families it serves. Children come to the program with a number of factors that put them at risk for falling behind developmentally. Nonetheless, there is evidence that they make progress while in the program. This study has identified areas the program could bolster to build on this solid base to provide an even higher-quality program, which will result in even better outcomes for children and families.





## WHAT IS EDUCARE?

In 2005, Clayton Early Learning was invited to join the national Bounce Learning Network of Educare Schools. The fifth Educare School in the nation opened on the Clayton Campus in September 2007. Educare Schools are committed to helping young children grow up safe, healthy, and eager to learn. Through a consortium of partners, Educare Schools create, provide and promote high-quality, research-based, outcome-focused learning environments for families and their young children who are at-risk for school failure. Educare Schools are learning organizations, committed to implementing innovative ideas and best practices to continuously improve their work with families. In short, Educare is a *partnership* (to create a high quality birth-to-five program), a *place* (to serve as a beacon of hope), a *program* (to prepare young children for school) and a *platform for change* (to drive system change locally and nationally by demonstrating the potential of high-quality birth-to-five care and education to policy makers). Currently, Clayton Educare is one of twelve Educare Schools.<sup>4</sup> All of the schools are guided by the 12 Core Features of the Educare Model. The Bounce Learning Network supports each Educare School to implement all of the Core Features through network meetings, ongoing trainings, and on-site technical support.

While the Educare Model has an explicit focus on Center-Based care, Clayton Early Learning offers a variety of service options to families in Denver. Clayton Early Learning offers home-based services to families during pregnancy and when children are birth to five years old. Center-Based services are available in the Educare School for infants, toddlers and preschoolers. In addition, a Combination option is available for families with toddlers. Families in this service option bring their children to the Educare School for two half days a week in addition to receiving home visits.

### ***Educare Model Core Features***

1. Research-Based Practices and Strategies
2. Small Class Size and High Staff/Child Ratios
3. High Staff Qualifications and Intensive Professional Development
4. Focus on Language and Literacy
5. Emphasis on Social-Emotional Development to Promote School Readiness
6. Enhanced Focus on Problem-Solving and Numeracy
7. Continuity of Care to Help Children Develop Secure Relationships
8. On-Site Family Support Services to Engage Children and Parents
9. Reflective Supervision and Practice Throughout the Program
10. An Interdisciplinary and Effective Team Approach
11. Arts Used to Support Social-Emotional, Language and Literacy Development
12. Emphasis on Prenatal Services

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<sup>4</sup> The other Educare Schools are located in Chicago, Omaha (two schools), Milwaukee, Tulsa (two schools), Miami, Oklahoma City, Seattle, Kansas City, and Central Maine.

All Educare Schools participate in the *Bounce Learning Network Implementation Study*. The purpose of the study is to document the features of Educare and how implementation of the model contributes to program quality and links to child and family outcomes. Researchers from Frank Porter Graham Child Development Institute and the University of North Carolina, Chapel Hill (FPG) collaborate with local evaluation partners at each Educare site to design and carry out the study. Researchers at FPG prepare reports on aggregate data across all the Educare sites. These cross-site reports are available on their website.<sup>5</sup> This report documents the results of the Implementation Study, focusing only on Clayton Educare.

#### **HIPPY Model Features**

1. Developmentally-Appropriate Curriculum
2. Role Play as a Method of Instruction
3. Staffing Includes Home-Visitors Supervised By a Professional Coordinator
4. Service Delivery via Home Visits and Group Meetings

In addition, this report includes data from an evaluation of Clayton Educare's Home-Based service option for preschool-aged children. This program option utilizes the Home Instruction for Preschool Youngsters (HIPPY) program. Through this program, Clayton Educare staff visit parents in their home to deliver a curriculum designed to support parents in embracing their role as their child's first teacher. The HIPPY model has four key features (see box at the right).<sup>6</sup> Clayton Educare staff supplements the HIPPY program to meet Head Start Performance Standards.

## **WHO DOES EDUCARE SERVE?**

At the start of the school year, Clayton Educare served 172 children through its Center-Based and combination options and 86 children through the HIPPY home-based service option. During the 2009-10 school year, Clayton Educare experienced incredible growth when it received 64 new Early Head Start and 32 Head Start slots through funding from the American Recovery and Reinvestment Act. By the end of the 2009-10 school year, 314 children were enrolled in the center-based, combination or HIPPY service options.<sup>7</sup> During the course of the year, we received informed consent for participation in the research studies for 348 children.<sup>8</sup> The services children received are described in Table 1. Nearly a third of study participants were enrolled in Early Head Start (EHS). Of children enrolled in EHS, about two-thirds were enrolled in the Center-Based option and the remaining third was enrolled in the combination option. Two-thirds of study participants were enrolled in Head Start (HS). Of those enrolled in HS, 29% were enrolled in a full-day preschool classroom; 35% were enrolled in a part-day classroom. A small percentage of children transitioned from part-day to full-day during the course of the school year. The remaining 35% of HS children were enrolled in the HIPPY home-based option. Finally, a small percentage of children (3%) were enrolled in EHS at the start of the school year but transitioned to HS during the course of the year. Half of the children in this group transitioned from the Combination option to Part-Day Head

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<sup>7</sup> Clayton Early Learning also served an additional 93 children and their families through EHS Home-Based services (including Prenatal services), as well as EHS slots served by community partners (Mile High Montessori Early Learning Centers and Florence Crittenton).

<sup>8</sup> This number exceeds the number of available slots because of turnover in enrollment.

Start. The other half of children transitioned from Center-Based EHS to Full-Day Head Start. About a third of children enrolled in Head Start for the entire year were eligible to attend kindergarten in the 2010-11 school year (n=80, 35%; HIPPY: n=19, 24%; Part-Day: n=29, 36%; Full-Day: n=30, 47%; Transitioned from Part-Day to Full-Day: n=2, 40%).

Demographic characteristics of children participating in the study are summarized in Table 2.

Over 40% of children

were Black. Parents identified over 40% of children as Hispanic. Spanish was the primary language for slightly over a third of children. Very few children had primary languages other than Spanish or English. The vast majority of children did not have identified disabilities. About a third of children had a primary caregiver whose highest level of education was a high school diploma or equivalent. Over 40% of children had a primary caregiver who had pursued some education beyond high school, in the form of either technical training or college. Nearly a quarter of children had primary caregivers with less than a high school diploma. Over 40% of children lived in single-parent headed families. Only about 16% of them were born to teen mothers.

There were some significant differences in demographic characteristics by program option. Among children enrolled in EHS, those in the Center-Based option were over twice as likely to be Black (68%) than children in the Combination option (30%). Conversely, children in the combination option were three times more likely to be Hispanic (46%) than children in the Center-Based option (15%).<sup>9</sup> Parents of over a third of children in the Combination option identified Spanish as their primary language compared with just 7% of children in the Center-Based option.<sup>10</sup> Nearly all of the children in EHS with IFSPs were enrolled in the combination option (89% of identified children).<sup>11</sup> Families enrolled in the two EHS program options did not differ in terms of primary caregiver education, family structure, or mother's age at the child's birth.

**Table 1: Study Participants by Service Type<sup>1</sup>**

Service	Frequency	Percent
<b>Early Head Start</b>	<b>110</b>	<b>32%</b>
Combination Option	37	34%
Center-Based	73	66%
<b>Head Start</b>	<b>228</b>	<b>66%</b>
Full-Day	64	29%
Part-Day	80	35%
Transitioned from Part-Day to Full-Day midyear	5	2%
HIPPY Home-Based	79	35%
<b>Transitioned from Early Head Start to Head Start Midyear</b>	<b>10</b>	<b>3%</b>
Transitioned from EHS Center-Based to Full-Day Head Start	5	50%
Transitioned from EHS Combination Option to Part-Day Head Start	5	50%

<sup>1</sup> Some categories do not sum to 100 due to rounding error.

<sup>9</sup> Fisher's exact test,  $p < .001$

<sup>10</sup>  $\chi^2_1 = 16.50$ ,  $p < .001$

<sup>11</sup> Fisher's exact test,  $p < .001$

**Table 2: Demographic Characteristics of Study Participants<sup>1</sup>**

Characteristic	Frequency	Percent
<b>Race/Ethnicity</b>		
White	9	3%
Black	144	41%
Hispanic	151	43%
Multiracial	36	10%
Unspecified/Other	8	2%
<b>Child's Primary Language</b>		
English	221	64%
Spanish	122	35%
Other	4	1%
<b>Disability Plan</b>		
None	303	88%
IEP	20	6%
IFSP	23	7%
<b>Parent/Primary Caregiver Education Level</b>		
Bachelor's Degree	20	6%
Some college but no degree	114	34%
High school diploma and technical training or certificate	9	3%
High school diploma or equivalent	109	33%
Some high school	45	13%
8 <sup>th</sup> grade or less	34	10%
Unknown	6	2%
<b>Family Structure</b>		
Single Parent	115	42%
Two Parent	156	58%
<b>Mother's Age at Child's Birth</b>		
Teen Mother	39	16%
Mother Age 20 or Older	209	84%

<sup>1</sup>Some categories do not sum to 100% because of rounding error.

Among children enrolled in Head Start, those enrolled in the Center-Based options were much more likely to be Black than those in the HIPPY option, and children enrolled in the Full-Day Center based option were more likely to be Black than those enrolled in the Part-Day option (Full-Day, 59%; Part-Day, 36%, HIPPY, 8%). Conversely, the vast majority of children in the HIPPY option were Hispanic (89%) compared with about half of the children in the Part-Day Center-Based (48%), and only about a fifth of children in the Full-Day Center-Based (20%).<sup>12</sup> As would be expected given the racial and ethnic distributions across the program options, there were differences in children's primary languages by program option.<sup>13</sup> Children in the HIPPY option were far more likely to speak Spanish as their primary language (83%) than children enrolled in the Center-Based options. Among

children enrolled in the Center-Based options, those in the Part-Day option were nearly three times as likely to speak Spanish as their primary language than those in the Full-Day option (Part-Day, 37%; Full-Day, 13%). There were also differences in parent or primary caregiver education in the two program options. Children in the Center-Based options were more likely to have primary caregivers with education past high school (52% for Full-Day, 45% for Part-Day) than children in the HIPPY option (16%).<sup>14</sup> Children enrolled in Center-Based were more likely to come from single-parent headed families (Part-Day, 38%; Full-Day, 57%) than children enrolled in the HIPPY option (24%).<sup>15</sup> Children enrolled in HIPPY and Center-Based Head Start did not differ on mother's age at their birth.

<sup>12</sup> Fisher's Exact Test,  $p < .001$

<sup>13</sup>  $\chi^2_2 = 73.33$ ,  $p < .001$

<sup>14</sup>  $\chi^2_2 = 22.69$ ,  $p < .001$

<sup>15</sup>  $\chi^2_2 = 13.28$ ,  $p < .01$

During the 2009-10 school year, 232 primary caregivers of 275 children enrolled completed an interview. A total of 156 of these were caregivers of 196 children in enrolled in the Center-Based or Combination option, a 73% response rate, and 76 of these were caregivers of 79 children enrolled in the HIPPY option, a 100% response rate. Primary caregivers reported high levels of food insecurity; 51% reported that they worried about running out of food sometimes or often and 38% reported that they sometimes or often ran out of food. Families enrolled in the HIPPY service option reported significantly higher levels of food insecurity than those enrolled in Center-Based or Combination. Over two-thirds of HIPPY families (67%) reported worrying about food sometimes or often during the past year compared with slightly under half of Center-Based or Combination option families (44%).<sup>16</sup> Similarly, HIPPY families reported running out of food sometimes or often in the past 12 months significantly more often than Center-Based or Combination option families (55% of HIPPY families compared with 29% of Center-Based or Combination option families).<sup>17</sup>

On a stressful life events survey<sup>18</sup>, primary caregivers reported, on average, 2.9 life events ( $SD=2.1$ ). However, there was great variability in this with some primary caregivers reporting no stressful life events and some reporting as many as 12. The number of stressful life events also significantly differed by program option, with Center-Based and Combination option families reporting more life events than HIPPY families.<sup>19</sup> Center-Based and Combination option families reported 3.2 stressful life events on average ( $SD=2.3$ ), while families enrolled in the HIPPY option reported 2.4 on average ( $SD=2.4$ ).

Caregivers also responded to questions about how supportive their neighborhoods are.<sup>20</sup> The average score was 2.7 ( $SD=0.7$ ), indicating that respondents generally agreed that their neighborhoods were supportive, but were not very enthusiastic about their agreement. Scores ranged the entire range of the scale, indicating that some respondents definitely did not feel their neighborhoods were supportive, while others found their neighborhoods to be very supportive.

Families enrolled in the Center-Based and Combination options also reported on their depression. Seventeen percent of these caregivers screened positive for depression.

Taken together, these results illustrate that different program options are selected by different types of families. The substantially different demographic characteristics of the children and families enrolled in each of the program types greatly limit our ability to compare outcomes for the different program types. We do present outcomes by program type in this report, but caution the reader against drawing any conclusions about the relative strengths of the program types based on these data. Further, it is clear that a substantial proportion of

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<sup>16</sup>  $\chi^2_1=11.31, p<.001$

<sup>17</sup>  $\chi^2_1=14.42, p<.001$

<sup>18</sup> The stressful life events survey included 20 items of both positive (e.g., Did you get married? Did you gain a new family member (though birth, adoption or someone moving in?)) and negative valence (e.g., Did you get divorced? Has a family member had a serious illness?). Primary caregivers were asked to indicate whether each of the events happened in their lives during the course of the last year.

<sup>19</sup>  $t=2.99, p<.01$

<sup>20</sup> These items were from the National Survey of Children's Health (2003) and included six statements rated on a four point Likert scale (1=definitely disagree, 2=somewhat disagree, 3=somewhat agree, 4=definitely agree). Sample items include "Your child is safe in your neighborhood." and "There are people you can count on in your neighborhood."

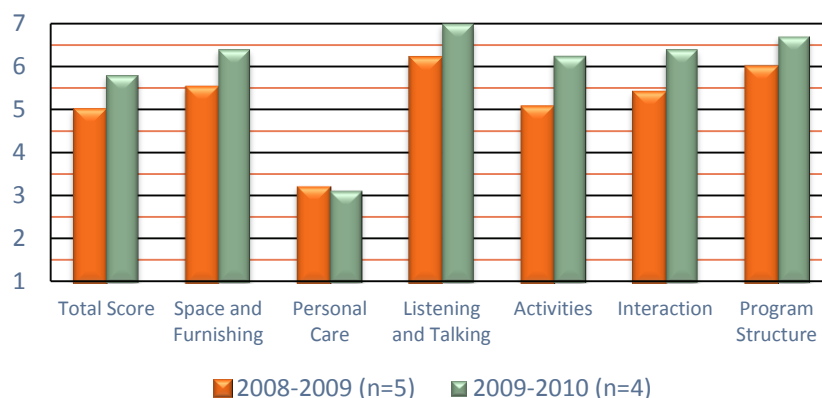
families served by Clayton Educare are facing multiple challenges including food insecurity, stressful life events and depression.

## CLASSROOMS ARE OF HIGH QUALITY

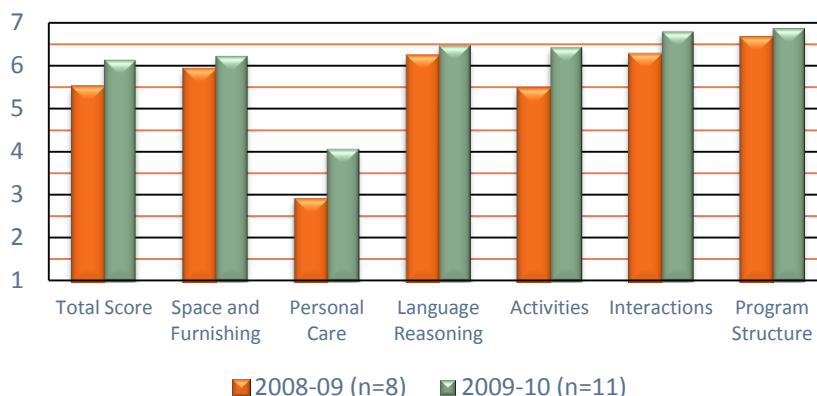
Classroom quality was assessed through classroom observations using widely-used observation measures. Infant-toddler classrooms were observed using the Infant/Toddler Environment Rating Scale, Revised Edition (ITERS-R).<sup>21</sup> Preschool classrooms and older toddler rooms<sup>22</sup> were observed with Early Childhood Environment Rating Scale, Revised (ECERS-R).<sup>23</sup> All preschool classrooms were also observed using the Early Language and Literacy Classroom Observation (ELLCO)<sup>24</sup> and the Classroom Observation Scoring System (CLASS).<sup>25</sup>

The results of classroom observations with the ITERS-R for the current school year as well as the 2008-09 school year are presented in Figure 1. The average total score across the four classrooms observed this year was approaching 6, which is widely considered to be good quality. All of the subscale scores, with the exception of Personal Care were in the good quality range (above 5).

**Figure 1: ITERS-R Scores for Educare Infant and Toddler Classrooms**



**Figure 2: ECERS-R Scores for Educare Preschool and Older Toddler Classrooms**



<sup>21</sup> Harms, T., Cryer, D. & Clifford R. M. (2006). *Infant/Toddler Environment Rating Scale, Revised Edition, Updated*. Chapel Hill: University of North Carolina.

<sup>22</sup> The ITERS-R was used to observe toddler rooms when enrollment included 50% or more children under the age of 2.5 years. When a greater proportion of children were 2.5 years of age or older, the ECERS-R was used.

<sup>23</sup> Harms, T., Clifford, R. M., & Cryer, D. (2005). *Early Childhood Environment Rating Scale, Revised Edition, Updated*. Chapel Hill: University of North Carolina.

<sup>24</sup> Smith, M. W., Brady, J. P., & Anastasopoulos, L. (2008). *Early Language & Literacy Classroom Observation, Pre-K Tool*. Baltimore: Brookes.

<sup>25</sup> Pianta, R. C., LaParo, K. M., & Hamre, B. K. (2008). *Classroom Assessment Scoring System (CLASS) Manual, Pre-K*. Baltimore, MD: Brookes.

The average score for Listening and Talking was 7 this year. The average score for Personal Care was fairly low, indicating that this is an area for improvement. Programs often find that their lowest score is in this area. When comparing last year’s data to the current year, it is clear that, Educare infant and toddler classrooms have been providing high-quality care consistently over time.

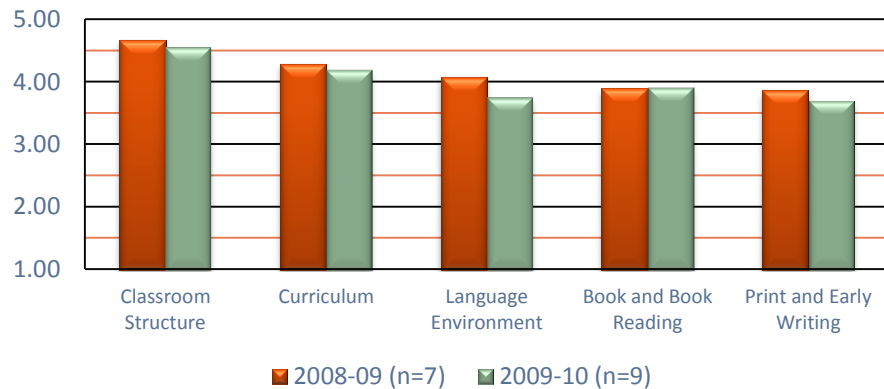
Average scores for the classrooms observed with the ECERS-R during the current and previous school years are presented in Figure 2. This year, average total score was over 6, indicating that these classrooms were of good quality. Average scores for most of the subscales were high, with particularly high scores for Program Structure, Language and Reasoning, Interactions, and Activities. As with the ITERS-R, Personal Care was the lowest area. Scores for Personal Care were much higher in the current school year than they were last year. Scores for all other scores stayed similar to last year or improved slightly, providing evidence that Educare has been providing a consistently high-quality preschool environment over time.

Nine preschool classrooms were observed this year with the ELLCO (see Figure 3). Average scores were quite high, with classrooms earning near a 4 or above on the 5-point rating scale, providing evidence that Educare preschool classrooms provide a stimulating

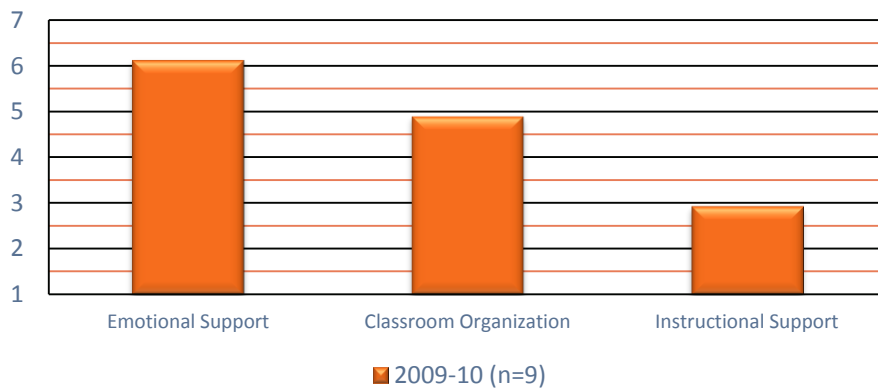
language environment. The strongest areas were Classroom Structure (which includes the contents of the classroom, how it is organized and managed), Curriculum (which includes the approaches to curriculum, opportunities for children to make choices and respect for diversity) and

the Language Environment (which is focused on conversations in the classroom, particularly the depth of conversations and how they are used to teach new vocabulary and build phonological awareness). Scores were very similar to scores for the previous school year.

**Figure 3: ELLCO Scores for Educare Preschool Classrooms**



**Figure 4: CLASS Scores for Educare Preschool Classrooms**



Nine preschool classrooms were also observed with the CLASS (see Figure 4). On average, scores for Emotional Support were high. The authors of the CLASS report scores in the range of 5-5.5 for this scale in national

studies.<sup>26</sup> The average CLASS score for Educare preschool classrooms are slightly above those other studies. On average, scores for Classroom Organization were in the middle to high range. In national studies of preschool classrooms, average scores for the items making up this scale tend to be in the 4-5.5 range. The average score for Educare is in line with those national studies. Finally, for Instructional Support, the average score for Educare was approaching mid-range. In national studies, classrooms tend to score quite low on this domain, with scores in the 2-2.8 range. The average score for Educare is in line with those national studies. In sum, average scores for Educare tend to fall near the top of the average ranges observed in other studies, but there is still room for improvement, particularly in the areas of Classroom Organization and Instructional Support.

Overall, our observational data support the conclusion that Educare classrooms provide a high-quality, stimulating environment for the children who attend. Educare teachers were observed having deep conversations with children and offering stimulating materials and activities in well-organized classroom environments.

## OUTCOMES FOR CHILDREN

Children enrolled in the Center-Based and Combination options are assessed using a variety of developmental assessments that are appropriate for their ages. Within a month of their second birthdays, children are assessed with the Bayley Scales<sup>27</sup>, a standardized assessment of children's cognitive and language development. All infants and toddlers are assessed twice per year (winter and summer) with the Early Communication Indicator (ECI),<sup>28</sup> a play-based assessment of children's ability to communicate both non-verbally and verbally. Starting at age 3, children's receptive language skills are measured with the Peabody Picture Vocabulary Test, Version 4 (PPVT-4).<sup>29</sup> The PPVT-4 is first administered within a month of a child's third birthday and then every fall and spring thereafter. The same assessment timeline is used to assess Spanish-speaking children's language development with the Woodcock-Muñoz Language Survey (WMLS).<sup>30</sup> Kindergarten-bound children are administered the Phonological Awareness Literacy Screening, Pre-Kindergarten Version (PALS-PreK)<sup>31</sup> in the fall and spring of their pre-kindergarten year. They are also assessed with the Bracken School Readiness Assessment (BSRA)<sup>32</sup> in the spring of the pre-kindergarten year.

Children enrolled in the HIPPI program are assessed in the fall and the spring using the Woodcock-Muñoz Language Survey (WMLS). This assessment is available in both Spanish and English. Children were assessed in their strongest language as reported by their child's primary caregiver.

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<sup>26</sup> SWEEP Study and My Teaching Partner Study, as reported in the CLASS Manual (Pianta, LaParo & Hamre, 2008).

<sup>27</sup> Bayley, N. (2006). *Bayley scales of infant and toddler development, 3rd edition*. San Antonio, TX: Harcourt Assessment.

<sup>28</sup> Greenwood, C. R., Carta, J. J., & Walker, D. (2005). Individual growth and development indicators (IGDIs): Tools for assessing intervention results for infants and toddlers. In B. Heward et al. (Eds.), *Focus on behavior analysis in education: Achievements, challenges, and opportunities (Chapter 6)* (pp. 103-124). Columbus, OH: Pearson/Prentice-Hall.

<sup>29</sup> Dunn, L. M., Dunn, D. M. (2007). *Peabody picture vocabulary test, 4th edition*. Minneapolis, MN: Pearson Assessment.

<sup>30</sup> Woodcock, R. W., Muñoz-Sandoval, A. F., Rief, M. L., & Alvarado, C. G. (2005). *Woodcock-Muñoz language-survey-revised, Spanish Form*. Itasca, IL: Riverside Publishing.

<sup>31</sup> Invernizzi, M., Sullivan, A., Meier, J., & Swank, L. (2004). *Phonological awareness literacy screening: Preschool (PALS – PreK)*. Charlottesville, VA: University of Virginia.

<sup>32</sup> Bracken, B. A. (2002). *Bracken school readiness assessment*. San Antonio, TX: Harcourt Assessment.



The socioemotional development of all children (both Center-Based and HIPPY) is monitored using the Devereaux Early Child Assessment (DECA)<sup>33</sup>, which is completed by both parents/primary caregivers and teachers. The DECA has both a preschool version and an infant-toddler version (DECA-I/T)<sup>34</sup>.

For both Center-Based and HIPPY, individual test scores are shared with teaching teams or home visitors, who in turn share the scores with parents. Teaching teams combine the information from these assessments with their own observations of children to inform instruction in the classroom. HIPPY home visitors use the assessment results to inform their work with families during home visits.

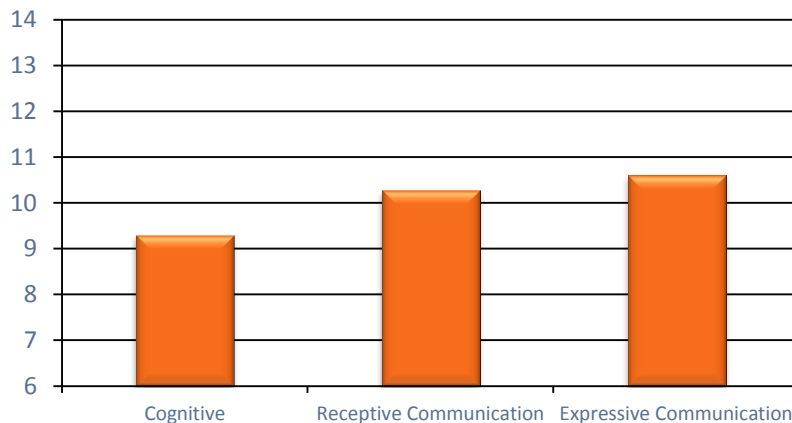
## INFANTS AND TODDLERS

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### BAYLEY SCALES

Nineteen two-year old children enrolled in the Center-Based or Combination options were assessed using the Bayley Scales between fall 2009 and spring 2010. The Bayley provides standard scores that are scaled such that a score of 10 corresponds with the national average. Scores between 8 and 12 are within one standard

**Figure 5: Mean Bayley Scores for 2 Year Old Children Enrolled at Clayton Educare (n=19)**



deviation of the mean of 10 and are considered within the average range. All scores are adjusted for child age.

Mean scores for children assessed with the Bayley during the 2009-10 school year are presented in Figure 5. Mean scores fell solidly within the average range for all subscales of the Bayley. Mean scores for both receptive and expressive language were slightly above the national average of 10 and the mean score for the cognitive domain was just slightly below the national average.

### EARLY COMMUNICATION INDICATOR

The ECI is a play-based assessment, administered in the winter and spring of each year to children enrolled in the Center-Based or Combination options, where children play with one of their teachers for 6 minutes. An observer notes the frequency with which the child gestures, makes non-word utterances, uses single words, and multiple word combinations. These four types of communication are then combined to form a total weighted communication score, which gives the more sophisticated types of communication more weight than the less

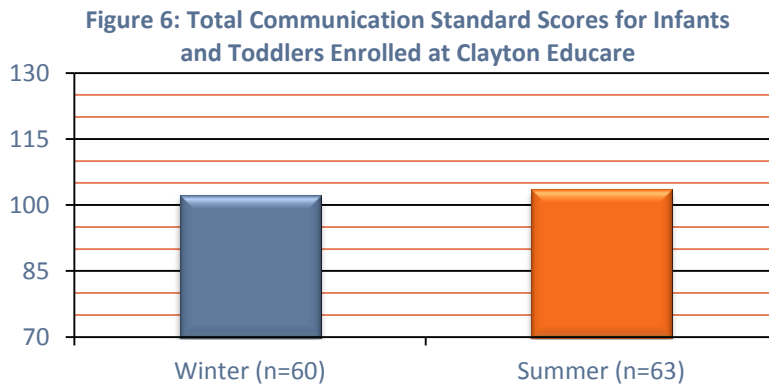
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<sup>33</sup> LeBuffe, P. A., & Naglieri, J. A. (1999). *Devereux early childhood assessment*. Lewisville, NC: Kaplan Press.

<sup>34</sup> Mackrain, M., LeBuffe, P. A. (2007). *Devereux early childhood assessment for infants and toddlers*. Lewisville, NC: Kaplan Press.

sophisticated types. This total communication score is then compared to the communication scores of a large sample of children assessed by the test’s developer to form standard score with a mean of 100 and a standard deviation of 15. All scores are adjusted for the child’s age. A child who scores 100 would be considered to be communicating at a rate similar to the average rate for a child his or her age. Children with scores between 85 and 115 would be considered to be in the average range for communication.

Between January 2010 and April 2010 (winter), 60 infants and toddlers were assessed using the ECI. Between May 2010 and September 2010 (summer), 63 children were assessed using the ECI. The ECI can only be



administered up to age 3. By summer, some children who had been assessed with the ECI in the winter were now too old for the assessment. Children aging coupled with turnover in enrollment resulted in a sample size of 40 children with an ECI at both time points. The average length of time between observations was 5.4 months. Figure 6 presents the ECI communication scores for the

entire sample of infants and toddlers at each time point. At both time points, the mean score for Educare children slightly exceeded the average of 100. When we examined data from just the 40 children who had both winter and spring ECI scores, we did not observe a significant increase over time.<sup>35</sup> This suggests that children enrolled in Educare are, on average, developing at an average rate.

### *DEVEREUX EARLY CHILDHOOD ASSESSMENT FOR INFANTS AND TODDLERS (DECA-I/T)*

Children’s socioemotional development was monitored using the DECA-I/T, which is a survey that was completed by both teachers and parents in the fall and spring of the 2009-10 school year. Because of rapid development in the infant/toddler developmental period, there are two versions of the survey: one for children who are 18 months of age or less, and one for children between 18 and 36 months of age. Both surveys yield a score for Total Protective Factors which is converted to a T-score with a mean of 50 and a standard deviation of 10. Scores of 40 and below indicate a concern that should be addressed, scores between 41 and 59 are considered typical, and scores of 60 and above indicate that this is an area of strength for the child.

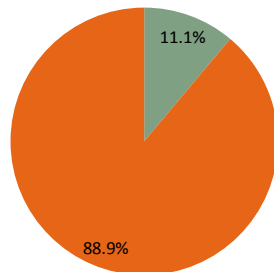
Figures 7 and 8 display the proportion of children falling into each of these categories in the fall and spring of the 2009-10 school year, by reporter. Generally, teachers and parents described children 18 months of age or younger as having either typical or high levels of protective factors (see Figure 7). In the fall, both teachers’ and parents’ reports indicated concerns for about 11% of infants. The assessment is scaled such that about 17% of children would be expected to fall into the “concern” range. In the spring, parents’ reports indicated that none of the infants were in the concern range, while teachers’ reports indicated concerns for about 9% of children. About

<sup>35</sup> This subgroup of children scored an average of 105 in the winter round (SD=12) and 104 in the summer round (SD=10).

17% of children are also expected to fall in the “strength” range given the way the assessment is scaled. It is noteworthy that none of the infants rated by teachers in the fall fell into this range. A higher proportion of children than would be expected were identified by parents in the “strength” range. By spring, teachers rated nearly a fifth of children as having Protective Factors as a strength. Parents rated a slightly smaller proportion of children in the strength range than in the fall, but still twice as many as would be expected given the way the assessment is scaled. These large deviations from what might be expected are explained, in part, by the very small sample size for the infant version of the DECA-I/T. With sample sizes of 9 and 11, each child represents approximately 10% of the sample, increasing the likelihood of more extreme percentages. It is important to note that Figure 7 presents data for all children at each time point. As a result, the same children are not necessarily represented in the fall and spring graphs. Therefore, conclusions should not be drawn about change over time from the two graphs. To shed light on the extent of change over time, analyses on paired data, that is, on only those children who had both fall and spring data, will be discussed later in this report.

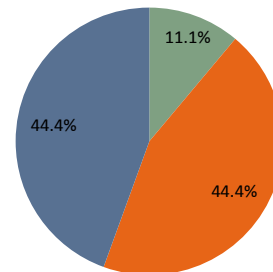
**Figure 7: Total Protective Factors Categories for Children 18 Months of Age and Younger, by Reporter and Time, 2009-10 School Year**

Teacher Report, Fall 2009 (n=9)



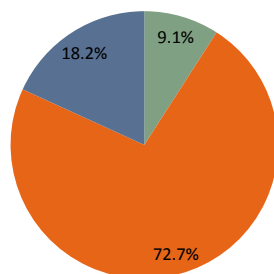
■ Concern ■ Typical ■ Strength

Parent Report, Fall 2009 (n=9)



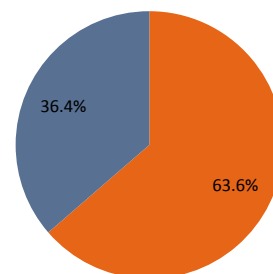
■ Concern ■ Typical ■ Strength

Teacher Report, Spring 2010 (n=11)



■ Concern ■ Typical ■ Strength

Parent Report, Spring 2010 (n=11)



■ Concern ■ Typical ■ Strength

To follow up on the apparent differences between Parents' and Teachers' reports in Figure 7, we compared parents' and teachers' T-score ratings on the DECA-I/T. When doing this, we used two metrics to determine if the differences between parents' and teachers' ratings were meaningful. First, we examined statistical significance, which helps us determine the likelihood that we would have observed these differences by chance. Second, we examined the significance of differences between raters using guidelines from the authors of the DECA. The authors developed these guidelines to help users distinguish between differences in scores due to measurement error and differences that are likely due to a meaningful difference between scores. For infants, the authors suggest that the difference between a parent and teacher be in the range of 7-9 to be considered meaningful. In the fall, the average difference in ratings of infants in this sample was both statistically significant<sup>36</sup> and exceeded the threshold provided by the authors for determining significance. On average parents rated children about 12 points higher than did teachers. This difference is large, over a standard deviation in size. By spring, the difference between teachers' and parents' ratings had narrowed (parents rated children 5.1 points higher than teachers did on average,  $SD=15.16$ ). This difference was not statistically significant nor did it reach the threshold provided by the authors, indicating that teachers' and parents' ratings did not systematically differ in the spring.

Generally speaking, teachers' and parents' reports tended to indicate concerns more often for toddlers than was observed for infants (see Figure 8). In the fall, teachers' reports indicated that Protective Factors was an area of concern for a quarter of children. This proportion is about one and half times what one would expect based on the way the assessment is scaled (i.e., 17% of children falling into the concern range). With respect to identifying Protective Factors as an area of concern, parents' reports were more in line with what one would expect given the way the assessment is scored (about 15% of children). However, parents were about twice as likely to identify Protective Factors as an area of strength as one might expect given how the assessment is scored. In the spring, teachers identified Protective Factors as an area of concern for a fifth of children, and as an area of strength for just 13% of children. Parents reported concerns at a similar rate as they did in the fall. They rated slightly fewer children in the "strength" range than they did in the fall, but still a higher proportion of children than one would expect given the way the assessment is scaled. As with the data on infants, the cautions against comparing these fall and spring data to make inferences about change over time apply.

As with infants, we conducted analyses to assess whether teachers' and parents' reports differed significantly using both tests of statistical significance and using the threshold provided by the authors of the DECA-I/T (for toddlers the threshold is 7). In the fall, the difference between teachers' and parents' ratings approached statistical significance<sup>37</sup> and in the spring the difference was significant.<sup>38</sup> At neither time point did the magnitude of the difference exceed the threshold provided by the authors of the tool. On average, in the fall, parents rated children about 4.3 points higher than did teachers ( $SD=13.9$ ). In the spring, parents rated children, on average, about 4.5 points higher than did teachers ( $SD=12.2$ ). This pattern of results provides some weak evidence for parents reporting more Protective Factors than teachers.

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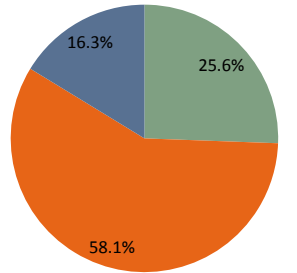
<sup>36</sup>  $t=3.30, p<.05$

<sup>37</sup>  $t=1.99, p<.10$

<sup>38</sup>  $t=2.63, p<.05$

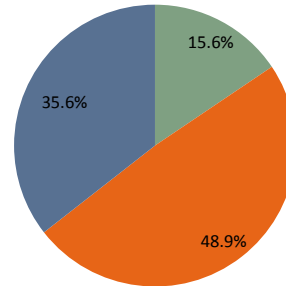
**Figure 8: Total Protective Factors Categories for Children Between 18 and 36 Months of Age, by Reporter and Time, 2009-10 School Year**

Teacher Report, Fall 2009 (n=43)



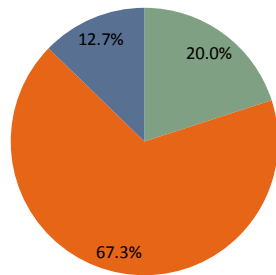
■ Concern ■ Typical ■ Strength

Parent Report, Fall 2009 (n=45)



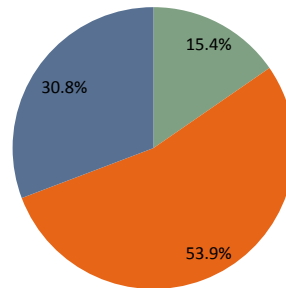
■ Concern ■ Typical ■ Strength

Teacher Report, Spring 2010 (n=55)



■ Concern ■ Typical ■ Strength

Parent Report, Spring 2010 (n=52)



■ Concern ■ Typical ■ Strength

To follow up on whether reports of children’s protective factors change over time, we analyzed data from only those children who were rated using the same version of DECA-I/T in the fall and the spring. As with comparisons by reporter, we used two metrics to determine if the differences between ratings in the fall and spring were meaningful. First, we examined statistical significance, which helps us determine the likelihood that we would have observed these differences by chance. Second, we examined the significance of differences using guidelines from the authors of the DECA-I/T. The DECA-I/T manual includes several tables that are used to help one determine, based on a given pretest score whether the posttest score is meaningfully different.<sup>39</sup>

Only two infants were rated at both time points with the infant version of the DECA-I/T rendering it impossible to conduct statistical tests of their change over time.<sup>40</sup> For toddlers, the magnitude of the increase over time was not statistically significant for either reporter.<sup>41</sup> In the fall, the average of teachers’ ratings of Protective Factors for toddlers was 47. According to the manual, for a pretest score of 47, a posttest score would have to be greater than 53 to represent a meaningful change. In this sample, the average posttest score was 50, which did not exceed that threshold. In the fall, the average of parents’ reports on Protective Factors for toddlers was 53. According to the manual, given this pretest score, a posttest score would need to exceed 60 in order to be interpreted as meaningful change. The average posttest score in this sample, 57, did not exceed that threshold.

In sum, results suggest that infants and toddlers in the program are developing typically. Two year olds’ scores on the Bayley Scales were within the average range. ECI results suggest that children tend to be communicating at average levels with their caregivers. Children who were assessed twice with the ECI maintained this level of communication across time. Parents and teachers tended to rate the socioemotional development of infants rather positively, but teachers, in particular, tended to identify a higher proportion of toddlers with socioemotional concerns. Parents identified Protective Factors as an area of strength for a relatively large proportion of infants and toddlers. There was not a significant change in parents’ or teachers’ ratings of Protective Factors over time.

## PRESCHOOL-AGED CHILDREN

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### PEABODY PICTURE VOCABULARY TEST

Children’s English receptive vocabulary, or the words they understand, was assessed using the Peabody Picture Vocabulary Test, Version 4 (PPVT-4). This assessment is standardized and adjusted for age, with a mean of 100 and a standard deviation of 15. As a result, a score of 100 is considered to be the national average for a child and scores falling between 85 and 115 are considered to be the average range.

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<sup>39</sup> Mackrain, M, LeBuffe, P., & Powell, G. (2007). *Devereux Early Childhood Assessment for Infants and Toddlers: User’s Guide*. Lewisville, NC: Kaplan Early Learning Company.

<sup>40</sup> Of the 9 children assessed on the DECA-I/T in the fall, 2 had left the program by the spring, 5 had ages in the spring that were over 18 months so they were assessed with the toddler version, leaving 2 children who were still young enough to be assessed with the infant version.

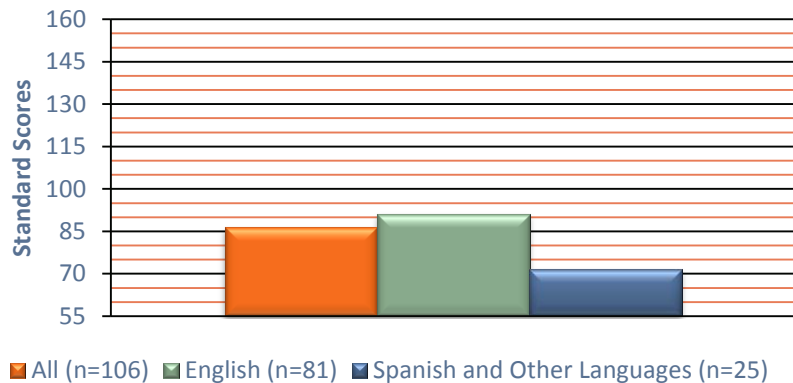
<sup>41</sup> Teachers:  $t=1.47$ , n.s.; Parents:  $t=1.66$ , n.s.

During the fall of 2009, 106 children enrolled in the Center-Based option were assessed using the PPVT-4. On average, their scores were rather low (see Figure 9), with an average score near the bottom of the average range. However, there was a significant difference in fall PPVT-4 scores by children’s primary language. As would be expected, children whose primary language was English scored significantly higher than children whose primary language was Spanish or another language.<sup>42</sup> Children whose primary language was English had scores that were on average, about two-thirds of a standard deviation below the national average, while children whose primary language was Spanish or another language had scores that were much lower, nearly two standard deviations below the mean on average. Since these scores were from the fall, when the largest group of children enters the program for the first time, we examined whether scores for children who were brand new to the program in fall 2009 differed significantly from children who had been previously enrolled. This difference was not significant, indicating that scores were similar regardless of how long a child had been enrolled in the program.<sup>43</sup>

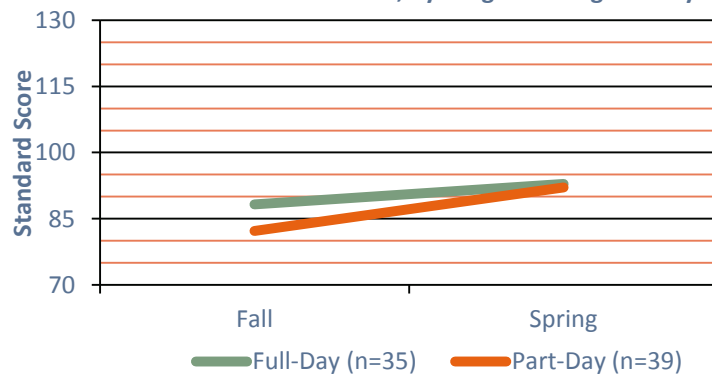
We also examined whether there was a significant difference in fall PPVT-4 scores for children in the Full- and Part-Day classrooms. When examining scores by length of preschool day, it is important to consider the demographic differences between the children in the two groups (described previously under the heading “Who Does Educare Serve?”). After controlling for race/ethnicity, primary language, and primary caregiver/parent education, there was not a significant difference in PPVT-4 scores for Full-Day and Part-Day classrooms.<sup>44</sup>

We examined change over time in PPVT-4 scores for the 89 children who had both fall and spring PPVT-4 data. The rate of change was similar for both primary language groups, but differed by length of program day (see Figure 10).<sup>45</sup> After adjusting for primary language,

**Figure 9: Peabody Picture Vocabulary Test Scores for Children Aged 3 and Older Enrolled at Clayton Educare, Fall 2009**



**Figure 10: Change in PPVT-4 Scores Over the Course of the 2009-10 School Year, by Length of Program Day**



<sup>42</sup>  $t=4.63, df=29.9, p<.0001$

<sup>43</sup>  $t=.15, df=104, n.s.$

<sup>44</sup> Fall:  $F(1,73)=2.66, n.s.$

<sup>45</sup>  $F(1,68)=4.15, p<.05$

race/ethnicity, and primary caregiver/parent education, children in the Full-Day option increased nearly 5 standard score points, on average, over the course of the year. This difference is large, nearly a third of a standard deviation. Children in the Part-Day option started lower, but made even greater gains on average, over the course of the year, gaining nearly 10 standard score points, or about two-thirds of a standard deviation. By spring, children in both program options had similar scores on average.

In sum, the results for receptive vocabulary indicate that preschool children started out the year with rather low English receptive vocabulary scores. However, the program has been successful in supporting children to increase their vocabulary scores over the course of the school year. This is evidenced by the substantial increase over the course of the year, particularly for children in the Part-Day program option.

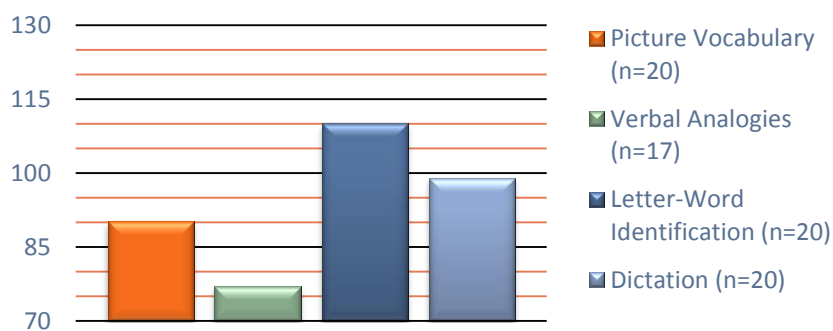
### WOODCOCK-MUÑOZ LANGUAGE SURVEY

Developing Spanish-English bilingual children in Center-Based preschool classrooms were administered the Spanish version of the Woodcock-Muñoz Language Survey (WMLS).<sup>46</sup> Children enrolled in the HIPPY program were administered the WMLS in their strongest language (English or Spanish). This assessment is standardized to a mean of 100 and standard deviation of 15 and is adjusted for child age. A score of 100 can be interpreted as the national average for a child of a given age and scores between 85 and 115 are considered to be in the average range. This assessment provides a score for four subtests: Picture Vocabulary, which includes both receptive and expressive language; Verbal Analogies, which requires children to apply their knowledge of the meaning of words by identifying the relationship between words; Letter-Word Identification, which assesses early literacy skills; and Dictation, which measures prewriting skills.

#### CENTER-BASED

Twenty children in the Center-Based option were assessed in the fall with the Spanish WMLS. Twenty-one children enrolled in the Center-Based option in the spring were assessed.<sup>47</sup> Results of the fall assessment are presented in Figure 11. On average, Children’s scores on Picture Vocabulary were in the low average range. Their scores on Verbal Analogies were quite low, about one and half standard deviations below the national average. Their pre-literacy skills, as measured by

**Figure 11: Woodcock-Muñoz Language Survey Scores for Children Enrolled in Center-Based Preschool Classrooms at Clayton Educare, Fall 2009**



<sup>46</sup> The vast majority of assessed children were enrolled in Part-Day classrooms (95% in the fall and 90% in the spring).

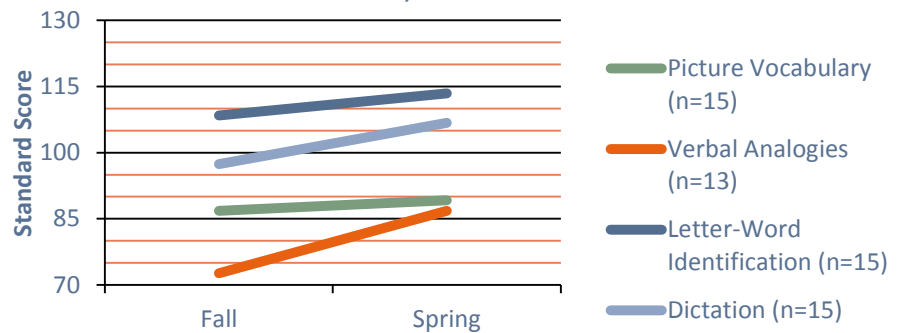
<sup>47</sup> Standardized assessments such as the WMLS require that children answer a specified number of items in a row correct in order to determine that they understand what is being asked of them with the assessment. Answering this number of items correctly is called achieving a basal. Three children in the fall and two children in the spring did not achieve a basal in the fall on Verbal Analogies. As a result, they did not receive a score for this subtest.



the Letter-Word Identification subtests, were quite strong on average, about two-thirds of a standard deviation above the national average. Finally, average scores for pre-writing skills, as measured by the Dictation subtest were very close to the national average. As with the PPVT-4, we examined whether children who were entering the program for the first time differed significantly from children who had previous exposure to the Clayton Educare program prior to fall 2009. There was not a significant difference by length of enrollment on any of the subtests.<sup>48</sup> Children who had been previously enrolled in the program scored similarly, on average, to those who were new to the program in fall 2009.

We also examined change over the course of the school year in WMLS scores (see Figure 12). Fifteen children were assessed in both fall 2009 and spring 2010.<sup>49</sup> Change over time was significant for Verbal Analogies and Dictation, but not for Picture Vocabulary or Letter-Word Identification.<sup>50</sup> On average, children increased nearly a standard deviation on Verbal Analogies and about two-thirds of a standard deviation on Dictation.

**Figure 12: Change in WMLS Scores Over the Course of the 2009-10 School Year, Center-Based Children**



In sum, children tend to have stronger written Spanish skills (Letter-Word Identification and Dictation) than oral Spanish skills (Picture Vocabulary and Verbal Analogies), though on average, their scores were within the average range for three out of the four areas measured. Like the PPVT-4, there was no difference between children who were new to Educare and those who had been enrolled for longer. Children made gains in their Spanish language skills over time for two of the four areas assessed.

#### HIPPY

In the fall, thirteen<sup>51</sup> children enrolled in the HIPPY program were assessed in English with the WMLS and 50<sup>52</sup> children were assessed with the Spanish WMLS. Results for children assessed in English are presented in Figure 13. On average, scores in the fall were quite strong. Average scores for all areas were near the national

<sup>48</sup>Picture Vocabulary:  $t=0.23$ ,  $df=18$ , n.s.; Verbal Analogies:  $t=0.77$ , n.s.; Letter-Word Identification:  $t=0.42$ , n.s.; Dictation:  $t=1.27$ , n.s.

<sup>49</sup> Two of these children did not achieve a basal for Verbal Analogies and are not included in analyses of change over time this subtest. They are included in the analyses for the other subtests.

<sup>50</sup> Picture Vocabulary:  $t=1.42$ , n.s.; Verbal Analogies:  $t=3.57$ ,  $p<.01$ ; Letter-Word Identification:  $t=1.49$ , n.s.; Dictation:  $t=2.65$ ,  $p<.05$

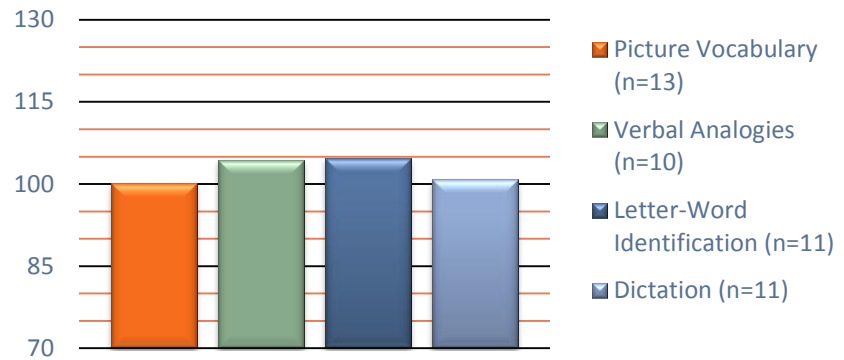
<sup>51</sup> One child did not achieve a basal for Verbal Analogies but was able to achieve a basal on the remaining subtests. Additionally, two children refused to participate on all subtests with the exception of the Picture Vocabulary subtest. These three children are not included in analyses of change over time for these subtests.

<sup>52</sup> Seventeen children were unable to achieve a basal or refused to participate on the Verbal Analogies subtest in the fall. 4 children refused to participate on the Letter-Word Identification subtest and 3 children refused the Dictation subtest.

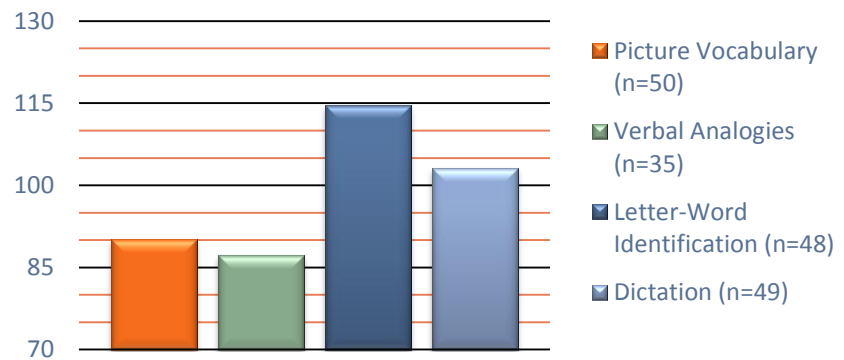
average of 100. As with children enrolled in the Center-Based option, we tested for change over the course of the year on this assessment. All of the tests were non-significant, indicating that children's scores in the spring were similar to the fall scores displayed in Figure 13.<sup>53</sup>

Results for children assessed in Spanish are presented in Figure 14. On average, scores were in the low average range for Picture Vocabulary and Verbal Analogies. Average scores for Letter-Word Identification were quite high, over one standard deviation above the national mean. Scores for Dictation were in the high average range. Once again, we tested for change over time. There was significant change over time in two of the subtests (see Figure 15).<sup>54</sup> There was a significant increase over the course of the program year in Picture Vocabulary. Over the course of the year, children increased, on average, about a third of a standard deviation. There was a significant decrease over time in Letter-Word Identification, over three-quarters of a standard deviation. However, because children started so high, on average, on this subtest, their score still

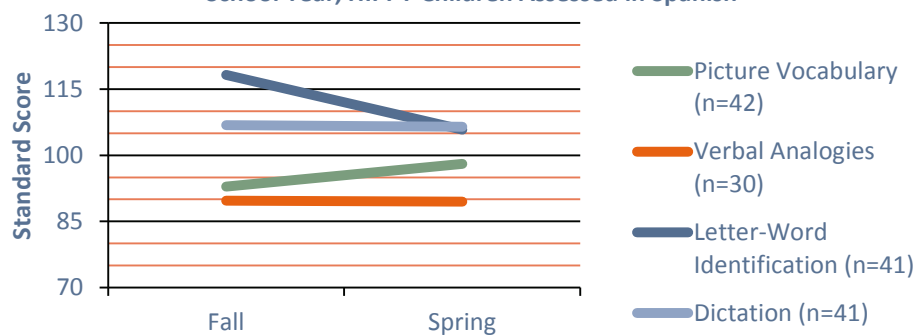
**Figure 13: Woodcock-Muñoz Language Survey Scores for Children Enrolled HIPPY and Assessed in English, Fall 2009**



**Figure 14: Woodcock-Muñoz Language Survey Scores for Children Enrolled HIPPY and Assessed in Spanish, Fall 2009**



**Figure 15: Change in WMLS Scores Over the Course of the 2009-10 School Year, HIPPY Children Assessed in Spanish**



<sup>53</sup> Picture Vocabulary:  $t=1.55$ ,  $df=11$ , n.s.; Verbal Analogies:  $t=1.31$ ,  $df=8$ , n.s.; Letter-Word Identification:  $t=1.16$ ,  $df=9$ , n.s.; Dictation:  $t=.61$ ,  $df=9$ , n.s.

<sup>54</sup> Picture Vocabulary:  $t=3.30$ ,  $df=41$ ,  $p = .05$ ; Verbal Analogies:  $t=.07$ ,  $df=29$ , n.s.; Letter-Word Identification:  $t=4.34$ ,  $df=40$ ,  $p < .001$ ; Dictation:  $t=.11$ ,  $df=40$ , n.s.

exceeded the national average in the spring. The Letter-Word Identification subtest of the WMLS begins by presenting preschool aged children with questions about individual letters, then moves on to simple words. It may be the case that children excelled on this subtest in the fall because they had very strong knowledge of the alphabet. To maintain such extremely high scores when they were 6-8 months older required knowing more words. One implication of this pattern of findings is to ensure that children who are ready to start reading are supported by the program to learn to do so.

In sum, Spanish speaking HIPPIY children tended to demonstrate stronger written language skills than oral language skills. The differences between these two areas was less pronounced in the spring, however, as scores on Picture Vocabulary increased significantly over time and Letter-Word Identification scores attenuated over the course of the year. Children assessed in English had scores for both oral and written language that were in the average range in the fall. Their scores did not change substantially over time, indicating that they tended to develop in their language skills at an average rate over time.

### *DEVEREUX EARLY CHILDHOOD ASSESSMENT (DECA)*

Teachers and parents reported on children's socioemotional development using the DECA.<sup>55</sup> The preschool version of the DECA yields scores in two areas, Total Protective Factors and Behavioral Concerns, which are converted to T-scores with a mean of 50 and a standard deviation of 10. As with the DECA-I/T, for Total Protective Factors, scores of 60 and above indicate that the area is a strength for children, scores between 41 and 59 are typical, and scores of 40 and below indicate a concern. Behavioral Concerns is scored such that higher scores indicate greater concerns. Scores of 60 or above indicate that it is an area of concern. Scores of 59 and below are considered typical. There is no "strength" category for the Behavioral Concerns domain. In the population at large, one would expect about 17% of children to fall into the strength and concern categories, with the remainder falling into the typical category.

### CENTER-BASED

Figure 16 presents the proportion of children falling into each of these categories for Protective Factors, by time of year and reporter. In the fall, teachers' reports indicated that Protective Factors was an area of concern for a relatively small number of children, less than 10%, which is lower than what would be expected based on how the assessment is scaled. Parents' reports indicated this was an area of concern for about 15% of children, about what one would expect based on the way the assessment is scaled. Teachers reported that Protective Factors was an area of strength for nearly a quarter of children, which is higher than what one would expect given the way the assessment is scaled. Parents, in contrast, reported that this was an area of strength for about 14% of children, which is lower than what one would expect in the population at large.

In the spring, teachers' reports indicated that Protective Factors was an area of concern for only 11% of children while parents' reports indicated that this was an area of concern for about 22% of children. Teachers' reports also indicated that Protective Factors was an area of strength for a relatively small number of children as well, less than 10%. In contrast, parents reported that Protective Factors was an area of strength for over a quarter of children.

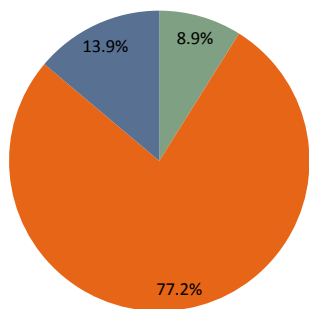
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<sup>55</sup> For children in the HIPPIY program, only parents completed the DECA.

Figure 17 presents the proportion of children falling into each category for Behavioral Concerns, by time of year and reporter. In the fall, teachers' and parents' reports were quite different, with teachers' reports indicating that this was an area of concern for about a fifth of children and parents' reports indicating that this was an area of concern for nearly half of the children. A similar pattern emerged in the spring, with teachers' and parents' reports indicating that this was an area of concern for 20% and 53% of children, respectively.

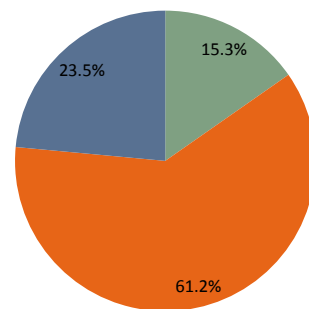
**Figure 16: Total Protective Factors Categories for Preschool-Aged Children, by Reporter and Time, 2009-10 School Year**

Teacher Report, Fall 2009 (n=101)



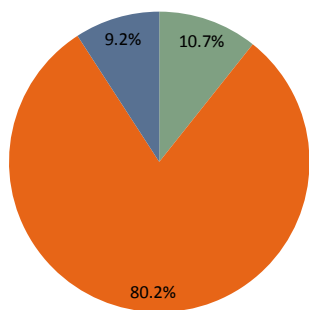
■ Concern ■ Typical ■ Strength

Parent Report, Fall 2009 (n=85)



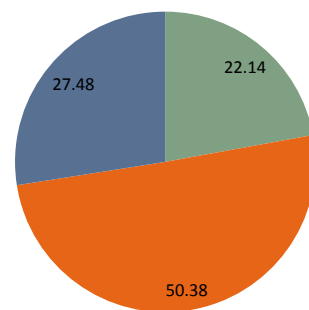
■ Concern ■ Typical ■ Strength

Teacher Report, Spring 2010 (n=131)



■ Concern ■ Typical ■ Strength

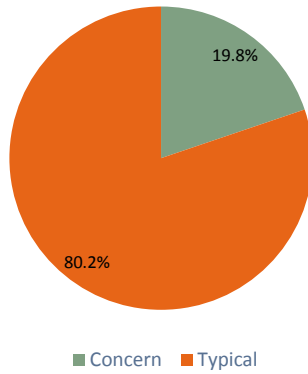
Parent Report, Spring 2010 (n=131)



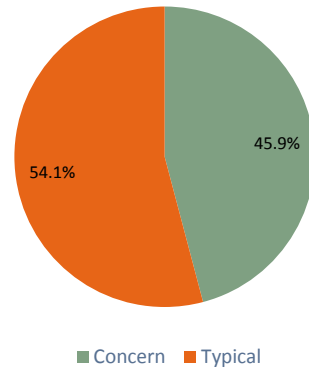
■ Concern ■ Typical ■ Strength

**Figure 17: Behavioral Concerns Categories for Preschool-Aged Children, by Reporter and Time, 2009-10 School Year**

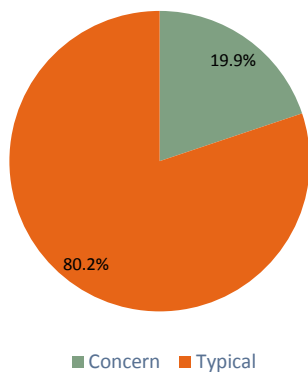
Teacher Report, Fall 2009 (n=101)



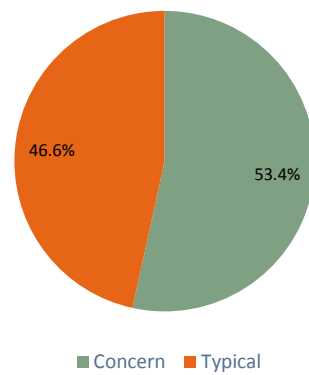
Parent Rating, Fall 2009 (n=85)



Teacher Report, Spring 2010 (n=131)



Parent Report, Spring 2010 (n=131)



To follow up on the apparent differences between parents' and teachers' reports in Figures 16 and 17, we compared parents' and teachers' T-score ratings on the DECA. When doing this, we used two metrics to determine if the differences between parents' and teachers' ratings were meaningful. First, we examined statistical significance, which helps us determine the likelihood that we would have observed these differences by chance. Second, we examined the significance of differences between raters using guidelines from the authors of the DECA. The authors developed these guidelines to help users distinguish between differences in scores due to measurement error and differences that are likely due to a meaningful difference between scores. When comparing parent and teacher, the authors report that a difference of 7 T-score points is needed between raters'

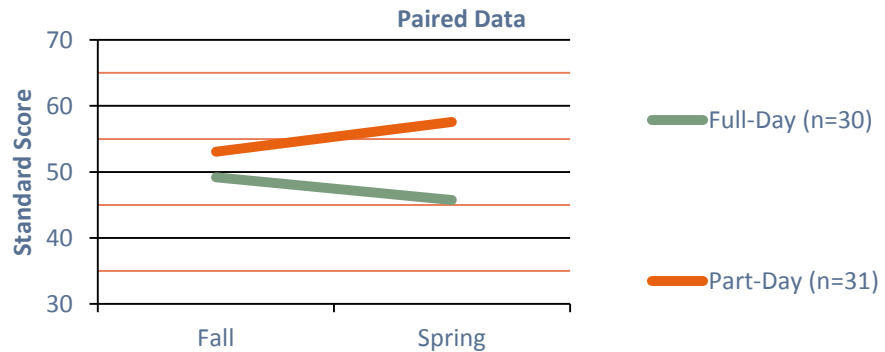
reports of Total Protective Factors and a difference of 14 T-score points is needed between rater’s reports of Behavioral Concerns in order to conclude that the scores are significantly different.<sup>56</sup>

Follow-up statistical tests indicated that teachers’ and parents’ reports of Behavioral Concerns differed significantly in both the fall and the spring, but their reports of Protective Factors did not significantly differ.<sup>57</sup> In the fall, parents rated children about 6.5 T-score points higher on average on Behavioral Concerns than did teachers.<sup>58</sup> In the spring, parents rated children about 5.5 T-score points higher, on average, on Behavioral Concerns than did teachers.<sup>59</sup> While these differences are statistically significant, they do not reach the threshold of 14 provided by the authors of the DECA for determining that scores are significantly different. This pattern of findings suggests that even though parents tend to rate their children higher on Behavioral Concerns than do teachers, the differences observed are likely not meaningful.

As with the DECA-I/T, the data presented in Figures 16 and 17 include all children at each time point. Since there are sometimes different children included in each graph, it is inappropriate to compare them and draw conclusions about change over time. Instead, follow-up analyses were conducted to test for change over time using only paired data, that is, children who were rated on the DECA in both the fall and the spring of the school year. These analyses included 75 children rated by parents at both time points and 88 children rated by teachers at both time points.

None of the comparisons of average ratings over time were significant, indicating that scores in the spring tended to be similar to scores in the fall.<sup>60</sup>

**Figure 18: Change Parents' Ratings of Protective Factors Over the Course of the 2009-10 School Year, By Length of Program Day, Paired Data**



<sup>56</sup> LeBuffe, P. A. & Naglieri, J. A. (1999). *Devereux Early Childhood Assessment User’s Guide*. Villanova, PA: The Devereux Foundation.

<sup>57</sup> Paired t-tests were conducted on the t-scores: Protective Factors, fall,  $t=.08$ , n.s., spring,  $t=.38$ , n.s.; Behavioral Concerns, fall,  $t=4.88$ ,  $p<.0001$ , spring,  $t=5.29$ ,  $p<.0001$ .

<sup>58</sup> Examining only the 83 children rated by both the parent and teacher in the fall, parent rating, mean=57.19,  $SD=10.17$ ; teacher rating, mean=50.64,  $SD=9.10$ .

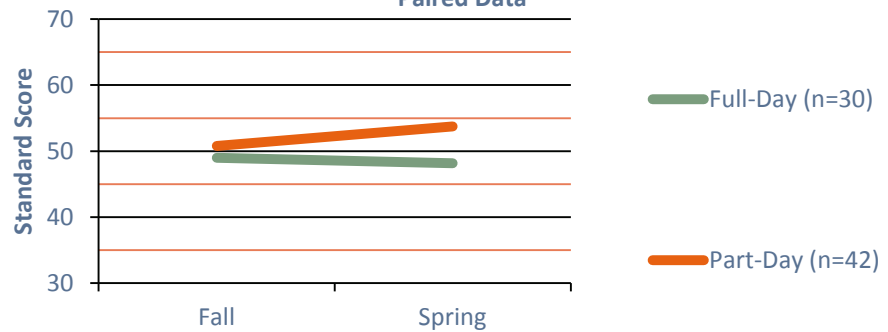
<sup>59</sup> Examining only the 124 children rated by both the parent and teacher in the fall, parent rating, mean=58.58,  $SD=10.88$ ; teacher rating, mean=53.01,  $SD=7.91$ .

<sup>60</sup> Protective Factors: parents,  $t=.70$ , n.s., teachers,  $t=.99$ , n.s.; Behavioral Concerns: parents,  $t=.22$ , n.s., teachers,  $t=1.61$ , n.s.

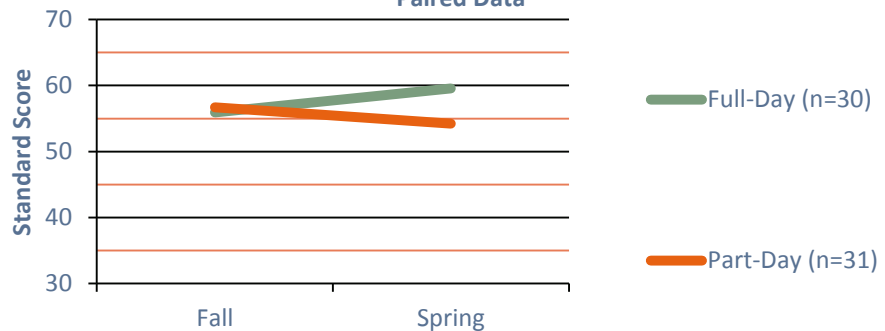
We also examined whether DECA t-scores differed for children in full-day and part-day classrooms. As with the PPVT-4, we considered the demographic differences between the children in these two groups when testing for differences. After controlling for race/ethnicity, primary language, and primary caregiver/parent education, there were some differences in DECA scores. In particular, in the spring, both parents' and teachers' ratings of protective factors tended to be higher for children in part-day classrooms. For Behavioral Concerns, teachers' ratings of Behavioral Concerns were significantly higher for children enrolled in full-day classrooms than for those enrolled in part-day classrooms. There were no significant differences in the fall. On a related note, there was a difference in change over time by length of program day. These effects are depicted in Figure 18-21.

Figure 18 displays the significant time by length of program day interaction for parents' reports of Protective Factors.<sup>61</sup> After controlling for background characteristics, parents report that children in part-day classrooms have more Protective Factors in the spring than they did in the fall. In contrast, parents of children in full-day classrooms report fewer Protective Factors over time, on average. A similar, but less pronounced, pattern was observed for teachers' reports of Protective Factors (see Figure 19).<sup>62</sup> Teachers' reports of Protective Factors increased slightly over time, on average, for children in part-day classrooms, while their reports for children in full-day classrooms remained relatively constant over time. Figures 20 and 21 present results for parents' and teachers' reports of Behavioral Concerns, respectively.<sup>63</sup> A similar pattern was observed for both reporters. Parents and teachers reported, on average, a slight increase in Behavioral Concerns for children enrolled in full-day classrooms over the course of the school year. In contrast, they reported, on average, a slight decrease over time for children enrolled in part-day classrooms.

**Figure 19: Change Teachers' Ratings of Protective Factors Over the Course of the 2009-10 School Year, By Length of Program Day, Paired Data**



**Figure 20: Change Parents' Ratings of Behavioral Concerns Over the Course of the 2009-10 School Year, By Length of Program Day, Paired Data**



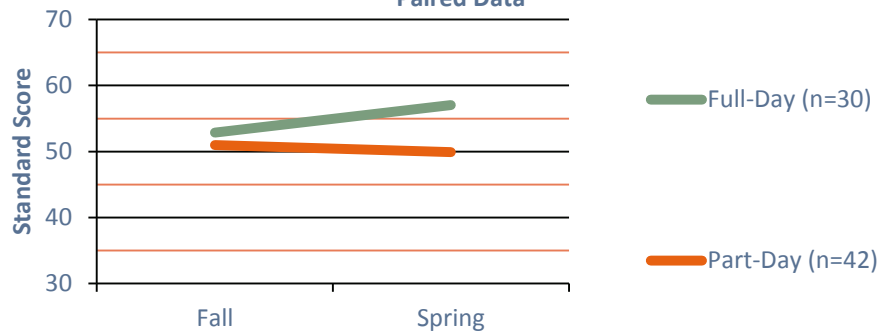
<sup>61</sup>  $F(1,55)=5.16, p<.05$

<sup>62</sup>  $F(1,66)=4.07, p<.05$

<sup>63</sup> Parent Report:  $F(1,55)=4.43, p<.05$ ; Teacher Report:  $F(1,66)=4.93, p<.05$

In sum, parents identified Protective Factors as an area of strength for more children than would be expected in both the fall and spring. Parent and teacher ratings of Behavioral Concerns differed markedly, with teachers tending to rate children more positively than parents did. For children rated in both the fall and the spring, parents and teachers tended to rate children in part-day classrooms more positively over time, and children in full-day classrooms less positively over time.

**Figure 21: Change Teachers' Ratings of Behavioral Concerns Over the Course of the 2009-10 School Year, By Length of Program Day, Paired Data**



HOME-BASED

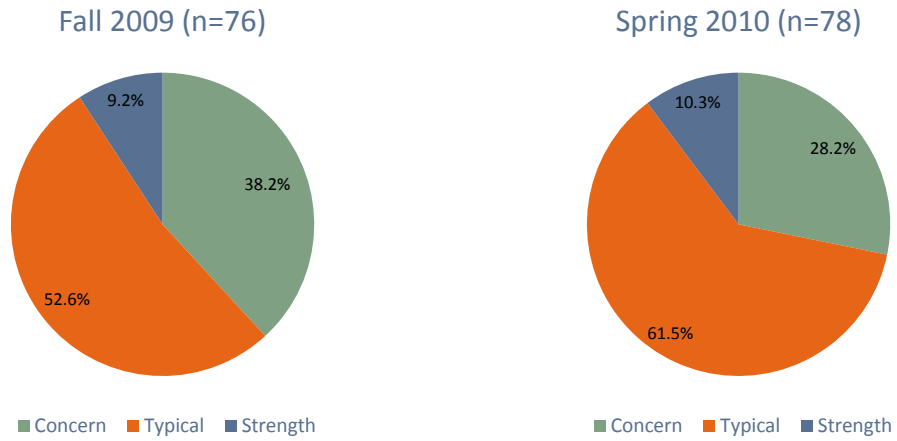
Results for parents' ratings on the DECA of children in the HIPPY program are presented in Figures 22 and 23. In the fall, parents reported that Protective Factors was an area of concern for over a third of children, nearly twice the proportion that one would expect based on the way that the assessment is scaled (see Figure 22). Conversely, parents rated fewer than 10% of children in the strength range for Protective Factors. In the spring, parents identified Protective Factors as an area of concern for a smaller proportion of children than they did in the fall, but the proportion of children in this category was still quite large. Similar to the fall, about a tenth of children were identified in the strength range on Protective Factors. Analyses of the 73 children with parent ratings in both the fall and the spring revealed little change over time. The average change over time was about 1 t-score point, which is not a statistically significant difference. This also does not exceed the threshold provided by the authors.

Figure 23 displays the results for Behavioral Concerns. In both the fall and the spring, parents rated over half of children in the HIPPY program in the concern range for Behavioral Concerns. Examination of change over time for the 73 children with paired data revealed that there was not a significant change over time.

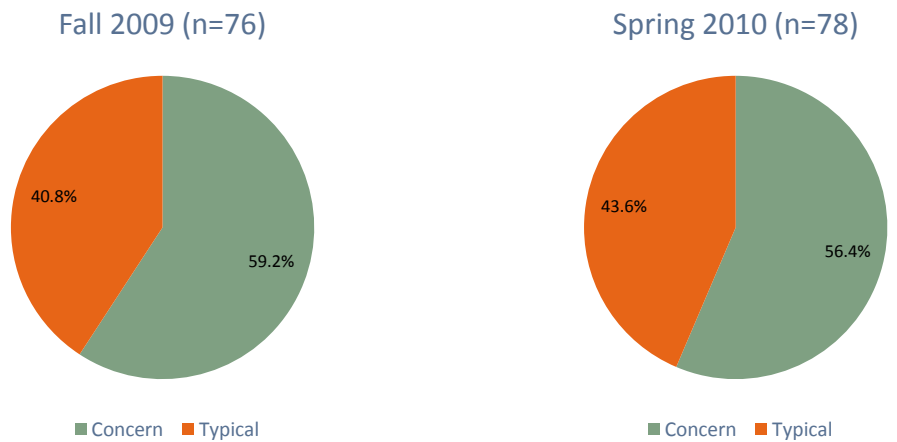
In sum, parents of children in the HIPPY Home-Based program reported larger than expected proportions of children in the concern range on both Protective Factors and Behavioral Concerns. Parents' ratings did not change substantially over the course of the program year.



**Figure 22: Protective Factors Categories for Children Enrolled in HIPPY, Parent Report Over Time, 2009-10 School Year**



**Figure 23: Behavioral Concerns for Children Enrolled in HIPPY, Parent Report Over Time, 2009-10 School Year**

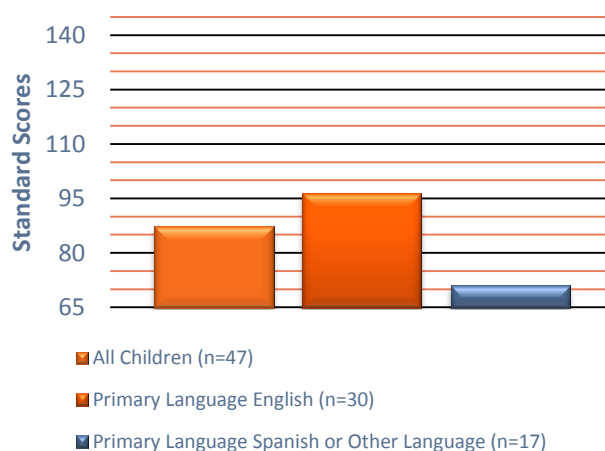


CENTER-BASED

Preschool-aged children in the Center-Based option who were old enough to start kindergarten in the 2010-2011 school year were administered three assessments in total: PPVT-4, discussed above and administered to all preschool aged children, as well as two assessments administered only to kindergarten-bound children, the Bracken School Readiness Assessment (BSRA) and the Phonological Awareness Literacy Screening, Pre-Kindergarten version (PALS-PreK). Fifty children were assessed in spring 2010, the spring before their kindergarten year. The BSRA is an assessment of children’s academic readiness. It includes questions covering what the authors refer to as “foundational concepts” in the areas of Colors, Letters, Numbers/Counting, Sizes, Comparisons and Shapes. It is a standardized assessment, adjusted for child age, with a mean of 100 and a standard deviation of 15. The PALS-PreK is an assessment of children’s emergent literacy skills. It includes questions in several areas found to be predictive of later reading success: Name Writing, Alphabet Knowledge, Beginning Sound Awareness, Print and Word Awareness, and Rhyme Awareness. This assessment is not standardized, but the authors have developed “Spring Developmental Ranges (SDR),” which were constructed based on research with the PALS Pre-K. Children who score within the SDRs are expected to go on to be successful readers in elementary school.

Figure 24 presents results for kindergarten-bound children’s receptive vocabulary as measured by the PPVT-4. On average, kindergarten-bound children’s scores on the PPVT-4 were at the bottom of the average range. As with the sample as a whole, children’s scores varied based on primary language; children whose primary language was English scored about 25 points higher on average than children whose primary language was Spanish or another language.<sup>64</sup> We also examined whether children who had been with the program for a longer period of time had higher scores than children who came to Educare more recently. Specifically, we examined the association between the child’s age at enrollment at Clayton Educare and children’s scores on the PPVT-4, after taking into account children’s demographic risk.<sup>65</sup> This association was not significant, indicating that children’s scores did not vary systematically with the length of time they had been enrolled in the program.<sup>66</sup>

Figure 24: PPVT-4 Scores for Kindergarten-Bound Children, Spring 2010

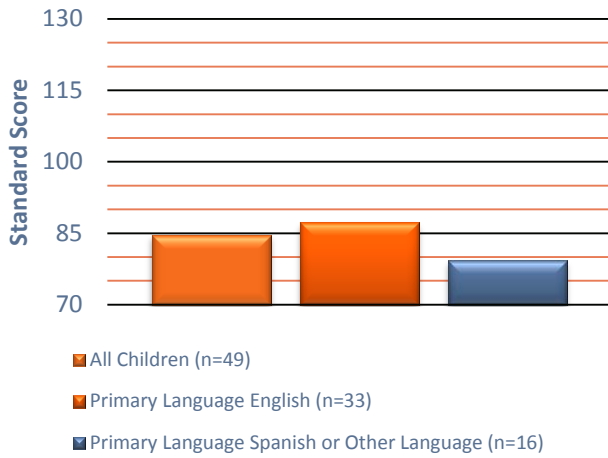


<sup>64</sup>  $t=4.17, df=20.3, p<.001$ .

<sup>65</sup> Seven demographic risk variables were included: teen mother, single parent, IEP, depressed parent, food insecurity, 6 or more life events, and primary caregiver with less than a high school diploma.

<sup>66</sup>  $F(1,39)=.24, n.s$ .

**Figure 25: BSRA Scores for Kindergarten-Bound Children, Spring 2010**



On average, kindergarten-bound children scored near the bottom of the average range in their school readiness skills as assessed by the BSRA, with a mean of 85 (see Figure 25). Since this assessment was administered in English, we examined whether the assessment scores differed by children’s primary language. Children whose primary language was English scored about half of a standard deviation higher, on average, than children whose primary language was Spanish or another language. This difference approached statistical significance.<sup>67</sup> Children whose primary language was English scored near the bottom of the average range, while children with another primary language scored, about a third of a standard deviation below the bottom of the average range.

As with the PPVT-4, we examined whether BSRA scores were associated with age at enrollment in Educare. Again, there was not a significant association, indicating that BSRA scores did not vary systematically with length of enrollment at Educare.<sup>68</sup>

Results for kindergarten-bound children’s performance on the PALS-PreK are presented in Figures 26 and 27. One portion of the PALS-PreK is focused on letter naming. Children are first presented with upper-case letters, in scrambled order, and asked to name them. Children who name at least 16 upper-case letters correctly are then presented with lower-case letters, in scrambled order. If they name at least 9 lower-case letters correctly, they are then presented with 26 letters and asked to produce the sound that each letter makes.<sup>69</sup>

**Figure 26: Letter Naming Tasks, PALS-PreK, Kindergarten-Bound Children, Spring 2010<sup>a</sup>**

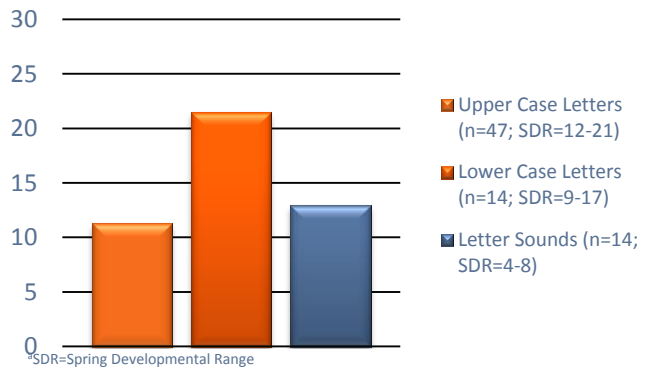


Figure 26 displays results for the letter-naming tasks on the PALS-PreK for kindergarten-bound children enrolled at Clayton Educare in spring 2010. Children correctly named, on average, about 11 upper-case letters on average, which is just slightly below the SDR for that task. About 30% of the children scored high enough on the upper-case naming task to move on to lower-case letters. On average, these 14 children correctly named around 21 letters, exceeding the SDR for this task. All of these children scored high enough on this task to move on to letter sounds. On average, these children correctly produced about 13 letter sounds, exceeding the SDR for this task.

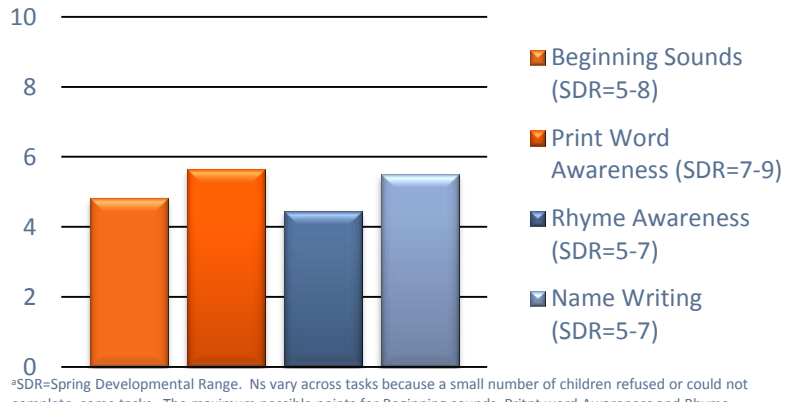
<sup>67</sup>  $T=1.70, p<.10$

<sup>68</sup>  $F(1,41)=.35, n.s.$

<sup>69</sup> This section includes Sh, Th, and Ch instead of M, Q, and X.

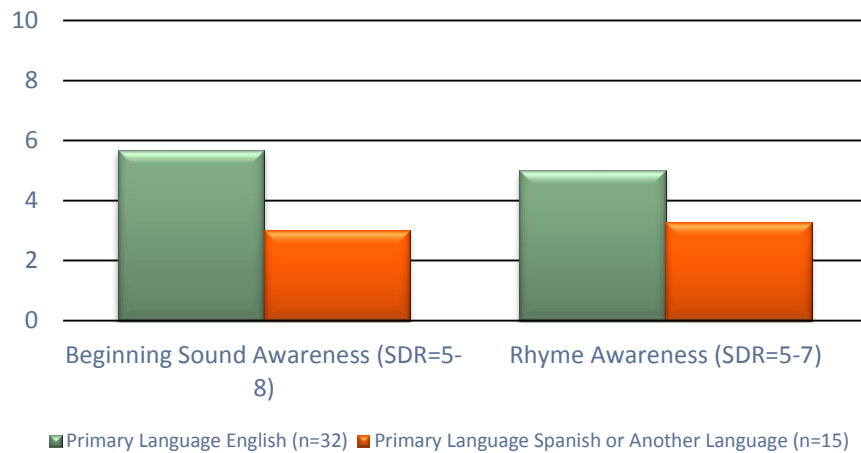
Figure 27 presents results for the remainder of the tasks on the PALS-PreK. All of these tasks have a maximum score of 10, except for Name Writing, which has a maximum score of 7. On average, children scored slightly below 5 on the Beginning Sounds Awareness task, which requires them to identify words that have the same beginning sound. This average score was slightly below the SDR for this task. The Print and Word Awareness task requires children to answer questions about the parts of a book and conventions of print (e.g., that we read from left to right). On average, children scored about 6 on this task, which is just slightly below the SDR. The Rhyme Awareness task requires children to identify words that rhyme. The average score for Rhyme Awareness was about 4 and slightly below the SDR for this task. For Name Writing, children scored, on average, 5.5 out of a total possible of 7. This was within the SDR for this task.

**Figure 27: PALS-PreK Scores for Kindergarten-Bound Children, Spring 2010<sup>a</sup>**



We examined whether scores on the PALS-PreK differed by child’s primary language. For most of the tasks, there was not a significant difference by primary language.<sup>70</sup> However, there were significant primary language differences for Beginning Sound Awareness and Rhyme Awareness.<sup>71</sup> These language differences are depicted in Figure 28. Children whose primary language is English scored nearly 3 points higher on average on Beginning Sound Awareness than their counterparts with another primary language. Children with English as their primary language scored nearly 6 on this task, which is within the SDR for this task.

**Figure 28: PALS-PreK Scores for Kindergarten-Bound Children, by Primary Language Spring 2010<sup>a</sup>**



Children with another primary language scored 3 on average, below the SDR. For Rhyme Awareness, children whose primary language is English scored nearly 2 points higher, on average than children with another primary language. Children with English as their primary language scored 5 on average on this task, which is at the

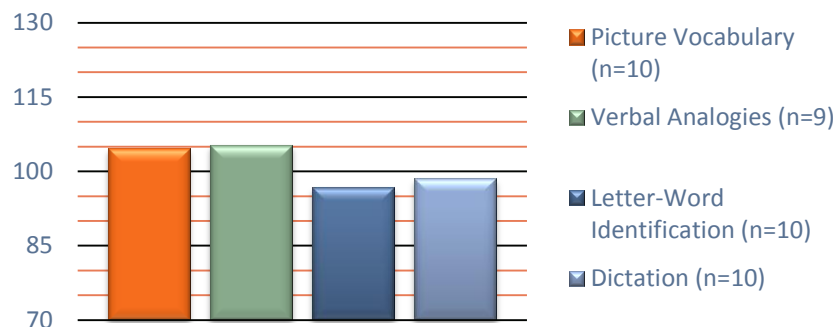
<sup>70</sup> Upper-Case:  $t=1.73$ ,  $df=45$ , n.s.; Lower-Case:  $t=1.37$ ,  $df=12$ , n.s.; Letter Sounds:  $t=.93$ ,  $df=12$ , n.s.; Print Word Awareness:  $t=1.48$ ,  $df=45$ , n.s.; Name Writing:  $t=.56$ ,  $df=45$ , n.s.

<sup>71</sup> Beginning Sound Awareness:  $t=2.40$ ,  $df=45$ ,  $p<.05$ ; Rhyme Awareness:  $t=2.21$ ,  $df=45$ ,  $p<.05$

bottom of the SDR. Children with another primary language scored slightly above 3 on average, which is below the SDR.

We examined whether children’s performance on the PALS-PreK differed by length of enrollment at Educare. This association was not significant for any of the PALS-PreK tasks, indicating that performance on the PALS-PreK was not systematically associated with length of enrollment in Educare.

**Figure 29: Woodcock-Muñoz Language Survey Scores for Kindergarten-Bound Children Enrolled HIPPY and Assessed in English, Spring 2010**

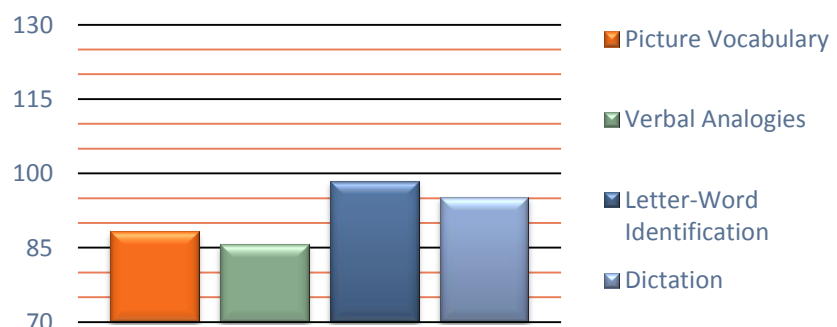


In sum, children tended to leave Educare with scores in the low average range on measures of receptive vocabulary and school readiness. Children who speak English primarily tended to have stronger scores than those whose primary language is Spanish or another language, who tended to leave the program with scores below the average range. With respect to their phonological awareness, there was a subgroup of children (30% of those assessed) with strong letter knowledge, but the average scores for upper-case letter naming for the sample as a whole were below benchmarks. Average scores for other phonological awareness tasks (rhyming, beginning sound awareness, and concepts of print) also fell below benchmarks. There was no evidence that performance on these assessments was associated with length of enrollment in Educare.

### HOME-BASED

Eighteen children enrolled in HIPPY were age-eligible to start kindergarten in fall 2010. Ten of these children spoke English as their primary language and 8 spoke Spanish as their primary language. Their mean scores on WMLS are presented in Figures 29 and 30. On average, kindergarten-bound English speaking children left the program with scores exceeding the national average of 100 by about a third of a standard deviation (see Figure 29). Average scores for

**Figure 30: Woodcock-Muñoz Language Survey Scores for Kindergarten-Bound Children Enrolled HIPPY and Assessed in Spanish, Spring 2010 (n=8)**



Letter-Word Identification and Dictation were slightly below the national average. Scores for Spanish speaking children enrolled in HIPPY were rather low, on average, for Picture Vocabulary and Verbal Analogies, near the bottom of the average range (see Figure 30). Scores for written Spanish were stronger. On average, children

scored near the national average on Letter-Word Identification and about a third of a standard deviation below the national average for Dictation.

## OUTCOMES FOR PARENTS

The study design only included very limited information about parents and caregivers. The only source of information is from the parent interview, described above. In addition to the data points previously described, parents also provided information about their feelings about being a parent, reading with their children, and the frequency of other cognitively stimulating activities they did with their children.

A total of 116 parents in both the center-based/combination and HIPPY options completed a set of questions about their sense of competence as a parent.<sup>72</sup> They answered four questions (e.g., “You would make a fine model for a new parent to follow,” “If anyone can find the answer to what is troubling your child, you are the one.”) using a 5-point Likert scale (1=Strongly Disagree, 5=Strongly Agree). The items were averaged to create a total scale ranging from 1 to 5. Parents reported very high levels of competence (mean=4.2, SD=.6). Scores for parents of children enrolled in the center and those enrolled in HIPPY did not differ significantly.<sup>73</sup>

Parents in the Center-Based and Combination options also completed the Parenting Stress Inventory.<sup>74</sup> This inventory includes 22 items rated on a 5-point Likert scale (1=Strongly Disagree, 5=Strongly Agree), which comprise two subscales, Parent Distress (e.g., “I often have the feeling that I cannot handle things very well” and “I feel trapped by my responsibilities as a parent.”) and Parent-Child Dysfunctional Interaction (e.g., “When I do things for my child, I get the feeling that my efforts are not appreciated very much” and “My child is not able to do as much as I expected.”). On average, scores for Parental Distress (mean=1.8, SD=.6) and Parent-Child Dysfunctional Interaction (mean=1.4, SD=.5) were rather low, indicating that, on average, parents disagreed with these negatively worded statements.

Parents of 275 children enrolled in the Educare Center and HIPPY program reported on their frequency of reading to their children. Parents of 31% of these children reported reading every day to their children. There was not a significant difference by program option.<sup>75</sup> This low amount of daily reading does not appear to be due to a lack of books in children’s homes. Over half of parents (53%) reported having over 25 children’s books in their homes. The number of children’s books did vary by program option, however.<sup>76</sup> Thirty percent of families in the HIPPY program reported having 10 or fewer children’s books, compared with 18% of families with children enrolled in the center. An additional 34% of HIPPY families reported having between 11 and 25 children’s books, compared with 20% of families with children enrolled in the center.

Parents also reported on the frequency with which they did 11 cognitively stimulating activities (e.g., tell stories, work on arts and crafts, talked about what happened at school) during the past week with their child using

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<sup>72</sup> 4-item scale adapted from Parenting Sense of Competence Scale (Gibaud-Wallston, J. & Wandersman, L. (1978). Parenting Sense of Competence Scale. In Paper presented at the meeting of the American Psychological Association, Toronto, Canada.)

<sup>73</sup>  $T=0.75$ ,  $df=125$ , n.s.

<sup>74</sup> Adapted from the Parenting Stress Inventory Short Form, by Richard R. Abidin (1995), published by Psychological Assessment Resources, Inc.

<sup>75</sup> Center-Based or Combination option: 30% report daily reading; HIPPY: 35% report daily reading;  $\chi^2_1=.9$ , n.s.

<sup>76</sup>  $\chi^2_3=18.0$ ,  $p<.001$

a scale that ranged from 0 (did not do) to 2 (did 3 or more times).<sup>77</sup> Parents' ratings for the 11 items were averaged to yield a total score which ranged from 0 to 2. Parents of 274 children enrolled in the center and in HIPPY completed this section of the interview. On average, they reported rather high levels of involvement in these types of activities. The average score was 1.4 ( $SD=.4$ ), indicating that on average, parents engaged in these types of activities with their children between 1 and 3 times per week. There was not a significant difference between Center-Based and HIPPY families on this scale.<sup>78</sup>

## CONCLUSIONS

Clayton Educare serves a large number of families that are facing tremendous challenges in addition to poverty. Even though the program experienced a great deal of growth in this year, it was still able to provide high-quality classroom environments, as evidenced by classroom observation scores that were similar to last year. In spite of their backgrounds, which are characterized by risk, infants and toddlers in the program, on average, scored near national averages on the assessments given. This is particularly promising given previous research demonstrating that children living in poverty are at-risk for falling behind developmentally at ages as young as 2.<sup>79</sup> Preschool aged children in the center-based program started the year with rather low scores but made tremendous progress over the course of the year, far exceeding what would be expected by maturation alone.

It is noteworthy that parents in both program options report high levels of concern about their children's behavior. This was especially pronounced among parents of children in the HIPPY program option. It is also interesting that these same parents report a relatively positive view of their experiences as a parent. Parents in both program options report high levels of parenting competence. Parents in the center-based option were also asked about their parenting stress and reported low levels. This seems like a good area to investigate further with parents to understand why scores are so high and to guide efforts to support them in addressing this issue, so children leave the program ready to learn in school.

Children began the year with rather low language and literacy skills, on average. The results of the study indicate that they made great progress over the course of the school year. While this is good news, their scores at the end of the school year are still lower than desired. The results of this study suggest areas for improvement in both the home environment and the classroom environment that could potentially bolster support for children's language and literacy skills. With respect to the home environment, a rather small proportion of parents report reading daily to their children. Research has demonstrated the benefits of frequent shared book reading for

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<sup>77</sup> U.S. Department of Education, Institute of Educational Sciences, National Center for Educational Statistics, NHES:96 Parent and Family Involvement In Education and Civic Involvement Interview.

<sup>78</sup> Both groups had the same mean and standard deviation.

<sup>79</sup> Ryan, R. M., Fauth, R. C. & Brooks-Gunn, J. (2005). Childhood poverty: Implications for school readiness and early childhood education. In B. Spodek & O. N. Saracho (Eds.) *Handbook of Research on the Education of Young Children* (2<sup>nd</sup> ed., pp. 323-346). Mahwah, NJ: Erlbaum.

Halle, T., Forry, N., Hair, E., Perper, K., Wadner, L., Wessel, J. & Vick, J. (2009). *Disparities in Early Learning and Development: Lessons from the Early Childhood Longitudinal Study—Birth Cohort (ECLS-B)*. Washington, DC: Child Trends.

children’s language and literacy development.<sup>80</sup> Supporting parents to make reading to their children a daily habit may lead to improvements in children’s scores on these assessments of language and literacy. This may be particularly true for children in the home-based program because they are not routinely exposed to book reading in a classroom environment. Similarly, it might be good to focus on parents of children enrolled in part-day preschool, particularly during the summer months when they do not attend the center.

Preschool classrooms were observed this year using the CLASS Observation, which focuses on teacher-child interactions. This tool has been used in several large-scale research studies, which demonstrate that, on average, classrooms tend to score fairly low on the area of Instructional Support. Scores for our program were higher than national averages but scores were not high. Making improvements in this area may result in greater language and literacy skills for children, as prior research has demonstrated that classrooms that score high in this area tend to do a good job supporting children’s language and literacy development.<sup>81</sup>

This study is descriptive in nature and does not include a comparison group. This limits our ability to unequivocally attribute the results described here to the Educare program. As a result, one should exercise caution when interpreting the results. This study is ongoing, however, affording us the opportunity to replicate results across program years, which could lend strength to our conclusions.

The results of the study are promising. Clayton Educare is providing a high-quality program for the families it serves. Children come to the program with a number of factors that put them at risk for falling behind developmentally. Nonetheless, there is evidence that they make progress while in the program. This study has identified areas the program could bolster to build on this solid base to provide an even higher-quality program which will result in even better outcomes for children and families.

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<sup>80</sup> Saracho, O. N. & Spodek, B. (2010). Parents and children engaging in storybook reading. *Early Child Development and Care, 180*, 1379-1389.

<sup>81</sup> Burchinal, M., Vandergrift, N., Pianta, R., & Mashburn, A. (2010). Threshold analysis of association between child care quality and child outcomes for low-income children in pre-kindergarten programs. *Early Childhood Research Quarterly, 25*, 166-176.