



# THE IMPACT OF EARLY CARE AND EDUCATION PROGRAMS ON SCHOOL READINESS AND PARENTING IN LOW-INCOME FAMILIES

*The mission of the Child Care Resource Center is to promote optimal child development and family well-being through access to quality child care, family support, economic development and community education.*

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## ACKNOWLEDGEMENTS

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## EXECUTIVE SUMMARY

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The mission of the Child Care Resource Center (CCRC) is to promote optimal child development and family well-being through access to quality child care, family support, economic development and community education. CCRC offers a wide range of high quality programs that help children and parents attain the necessary skills that place them on a path for current and future success. Data were collected and summarized across a number of CCRC's early care and education programs to illustrate the impact on the following expected outcomes:

- 1) we will increase readiness for kindergarten in underserved children
- 2) we will increase parent's ability to support their children's readiness for kindergarten in order to sustain their success in school

The programs we evaluated against these two intended outcomes included our Parents as Teachers home visitation program and our Mommy and Me program where parents and children learn skills to enhance readiness for school, Enrichment and Family Child Care Home Education Network (subsidized child care combined with highly trained in-home child care providers), and our Head Start programs. 2,221 children and their parents participated in these programs and increased their school readiness and parenting skills.

*Participation in CCRC's early care and education programs leads to:*

- *Statistically significant developmental gains in areas that prepare children ages 0-5 years for their future in school: self concept, social interpersonal skills, self regulation, language, learning, cognitive competence, math, literacy, motor skills, and safety / health.*
- *Significant gains in school readiness for children: 94.7% of parents reported increases in their children's readiness for kindergarten.*
- *Significant gains in parent's ability to support their children's readiness for kindergarten and sustain their success in school: 89.1% of parents increased their parenting skills.*

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## CCRC'S PROGRAMS INCREASE SCHOOL READINESS FOR UNDERSERVED CHILDREN AND INCREASE PARENT'S ABILITY TO SUPPORT THEIR CHILDREN'S READINESS FOR KINDERGARTEN, SUSTAINING THEIR SUCCESS IN SCHOOL

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The mission of the Child Care Resource Center (CCRC) is to promote optimal child development and family well-being through access to quality child care, family support, economic development and community education. CCRC offers a wide range of high quality programs that help children and parents attain the necessary skills that place them on a path for current and future success. Some of the programs offered by CCRC are briefly described below.

***Enrichment*** CCRC's Enrichment program provides low-income children ages 0-5 years who have not previously had experiences in early care and education settings with 25 hours / week in high-quality, home-based programs. The providers participate in intensive in-home trainings as well as group trainings and support groups. The home environments are assessed using the FCCERS-R (Family Child Care Environmental Rating Scale-Revised) to ensure children are interacting in settings that promote age-appropriate development and school readiness.

***Family Child Care Home Education Network*** CCRC's Family Child Care Home Education Network (FCCHEN) program is very similar to the Enrichment program described above with the exception that the amount of care is based on the need of the parent (part-time or full-time). CCRC also works closely with the parents in this program to discuss child assessments, engage in case management, and ensure the family receives all community services that are needed.

***Head Start*** CCRC's Head Start program offers holistic and comprehensive services to low-income families. The child receives part-day center-based instruction and the family receives all needed services including medical, dental, mental health, nutritional, and intensive case management for all of their needs. Children who have been identified as having special needs are also supported within the regular classroom and their families are supported in navigating any system that is needed to ensure the child is able to reach their fullest potential.

***Mommy and Me*** Families in CCRC's Mommy and Me program engage in 3-hour weekly sessions where parents learn vital parenting skills and activities that prepare children for kindergarten. Children ages 0-5 years interact with one another and with highly trained professionals in order to learn vital academic and social skills that successfully prepare them for kindergarten. These low-income families participate in this program on elementary school sites which helps ensure a smooth transition when their child begins kindergarten.

***Parents as Teachers*** The families who participate in the Parents as Teachers (PAT) program are low-income and often find it challenging to attend programs outside of their home (no transportation, multiple young children, etc.). The highly skilled PAT educators bring vital trainings to these families in the comfort of their own home during monthly home visits. These educators engage the parents and children in activities that help their children ages 0-5 years learn skills needed to prepare them for kindergarten. These activities are simple and often consist of items commonly found in the home and yet foster age-appropriate development across various domains that ensure children become ready for school. Parents are also actively engaged in discussions regarding optimal parenting skills.

### ***Early Education and Parenting Programs***

Educational disparities start before kindergarten—low-income children are found disproportionately in less formal, less enriched settings, which have been found to yield lower school readiness and lower achievement throughout the school years.<sup>i</sup> Even within center-based ECE, low-income children are twice as likely as others to be in low-quality settings.<sup>ii</sup>

The results of the Early Childhood Longitudinal Study (ECLS-K) indicate that, among entering kindergartners:<sup>iii</sup>

- Eighteen percent cannot demonstrate familiarity with the conventions of print: they do not know that English print is read from left to right and from top to bottom or where a story ends.
- Thirty-four percent cannot identify letters of the alphabet by name: they are not yet at the first level of reading proficiency.
- Forty-two percent cannot count 20 objects, read more difficult single-digit numerals, and judge the relative lengths of several rod-like objects; however, most of these pupils (36 percent of all children) can count 10 objects and read easier numerals.
- Six percent cannot count 10 objects and identify simple numerals and shapes: they are not yet at the first level of mathematics proficiency.

These statistics look even grimmer for children who are considered “at risk.” Several family background characteristics have repeatedly been found to be associated with poor educational outcomes among school-aged children, such as low achievement test scores, grade repetition, suspension or expulsion, and dropping out of high school. These risk factors include having parents who have not completed high school,<sup>iv</sup> coming from a low-income or welfare-dependent family,<sup>v</sup> living in a single-parent family,<sup>vi, vii, viii, ix</sup> and having parents who speak a language other than English in the home.<sup>x, xi</sup>

Children from families who have multiple risks seem to be most in danger of achievement difficulties. The greater the number of risk factors, the lower the vocabulary and mathematics test scores<sup>xiii</sup> and the lower the verbal IQ and social adjustment.<sup>xiiii</sup> Additionally, direct relationships exist between cumulative risk and the chances of grade repetition or school suspension<sup>xiv</sup> and lower readiness skills upon kindergarten entry.<sup>xv</sup>

Given the increasing focus on the need for school readiness, particularly for those considered “at risk” it has become apparent that support and intervention is needed for the community, schools, parents, and the children. In a recent study, it was found that parenting skills and preschool attendance predicted school readiness.<sup>xvi</sup> There are many activities that parents undertake with young children that have a positive effect on their development and promote school readiness and these include reading with children, teaching them songs and nursery rhymes, playing with letters and numbers, and creating regular opportunities for them to play with their friends at home.<sup>xvii</sup> Parents can provide such experiences regardless of their educational or occupational levels: what parents do with their children is more important than their educational and occupational background. These activities create a positive home learning environment, which research shows leads to positive outcomes throughout elementary school.<sup>xviii</sup> These are the very activities that are promoted in our school readiness programs through PAT, Mommy & Me, Enrichment, FCCHEN, and Head Start. Studies showing positive effects of home learning environment regardless of parent background<sup>xix</sup> is



evidence that when our low-income, often mono-lingual parents are given the tools to support their children’s readiness for kindergarten, they will set their children on a path for long-term success in school.

In addition to home learning environment, high quality early educational experiences have enduring effects on educational attainment in English, Mathematics and Social / Behavioral outcomes in elementary school, particularly for boys, children with special educational needs, and disadvantaged children.<sup>xx</sup> Additionally, Cannon and Karoly’s <sup>xxi</sup> review of the rigorous evaluations of high-quality preschool programs demonstrates that serving children one or two years before kindergarten entry improves school readiness, raises performance on academic achievement tests in the early elementary grades, generates sustained effects on academic achievement into the middle-school years, and produces other education gains, such as reduced special-education use. These effects have been demonstrated for smaller-scale model programs, as well as for larger-scale, publicly funded programs currently operating in a number of states. Many of CCRC’s programs offer high quality child development programs to children, preparing them for future success in school. Children in our Enrichment, Mommy & Me, FCCHEN, and Head Start programs experience high quality early educational environments where they begin to experience supportive, academic environments that prepare them for kindergarten.

***Methodology of Current Study***

To measure increases in school readiness in the children we serve we used the Desired-Results Developmental Profile-Revised (DRDP-R) and a parent report of their parenting skills and their children’s school readiness. Please see the Appendix for specific measurement information on these tools.

**Table A. Number of Children Served and Assessed with the DRDP-R and Retrospective-Pretest**

<b>Children Served</b>	<b>Assessed with DRDP-R</b>	<b>Assessed with Retrospective-Pretest</b>
<b>TOTAL: 2,221</b>	1168*	1,002** 289 (28.8% English) 713 (71.2% Spanish)
Head Start: 1459		
Parents as Teachers: 85		
Mommy and Me: 420		
Enrichment: 24		
Family Child Care Home		
Education Network: 233		

\* NOTE: Mommy and Me and Enrichment are not assessed using the DRDP-R; PAT uses a modified version for home-visitation; some children enroll late or drop early and do not receive 2 assessment points; some children move from the Infant/ Toddler to the Preschool version within the 6 month re-assessment window and therefore do not have 2 assessment points with the same tool.

\*\* NOTE: This resulted in a 45.1% response rate.

### ***Developmental Increases for Infants and Toddlers***

*CCRC's infant/toddler programs lead to statistically significant developmental gains in areas that prepare children for their future in school: self concept, social interpersonal skills, self regulation, language, learning, cognitive competence, math, literacy, motor skills, and safety and health.*

Areas of school readiness for young children show positive developmental growth in CCRC's FCCHEN program. Throughout their enrollment in the FCCHEN program children are assessed using the DRDP-R assessment tool for Infants and Toddlers on average every 6 months. One child was assessed at a 5-month interval, six were assessed at a 7-month interval and the remaining 21 children were assessed at a 6-month interval. The average age at the first assessment was 1.5 years (ranging from 2 months to 2 years 4 months) and the average age at the second assessment was 2 years (ranging from 8 months to 2 years 10 months).

Please see the Appendix for a listing of the specific areas of development that were measured. The Appendix also presents the Alpha Coefficient for each subscale of the DRDP-R. All are above .80, illustrating that each group of items measures the same underlying construct.

*All areas of development increased significantly across the 6 month assessment period.*

To evaluate and ensure positive developmental growth for infants and toddlers we conducted dependent-groups t-tests on all individual items as well as on all composites (groups of items that measure the same developmental construct). Twenty-eight (28) infants and toddlers were enrolled and assessed at 2 time points between September 2008 and August 2009. All areas of development increased significantly across the 6 month assessment period ( $p < .01$ ).

*All children showed an increase from pre- to posttest on the overall assessment average.*

Another method of assessing growth is to consider percent change from the first to the second assessment for each individual child. All 28 children (100%) showed an increase from pre to posttest on the overall assessment average. Table B below communicates the percentage of children who increased in their development in each of the domains of interest. Although it may appear that children are not progressing in literacy, some children were very young at the first assessment (i.e., 2 months of age), resulting in little change in literacy knowledge and some of the older children who did not change were at the upper end of the developmental spectrum at the first assessment. Detailed review of each child's progression revealed that the children are where they would be expected for their age. Unfortunately, the DRDP-R does not have age norms and therefore we use expert opinion (program and research) on whether the children are where they should be for their age. The children in this program are enrolled until there is no longer a need in the family for child care and therefore, the developmental progression seen here will only continue to rise.



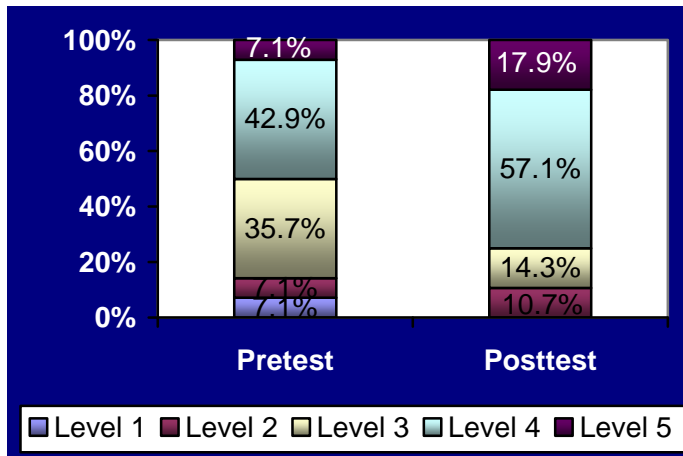
**Table B. Percentage of Infants / Toddlers Increasing in Each Domain of the DRDP-R**

Developmental Domain	Percent of Children Increasing in Ability
Children are Personally and Socially Competent	100.0%
Self Concept	78.6%
Self Regulation	89.3%
Language	89.3%
Children are Effective Learners	100.0%
Cognitive	96.4%
Math	92.9%
Literacy	53.6%
Children Show Physical and Motor Competence	85.7%
Children are Safe and Healthy	78.6%

Young children’s healthy social and emotional development is critical to school readiness and positive long-term outcomes.<sup>xxii, xxiii, xxiv</sup> The existence of early childhood behavior problems predicts well beyond the school years as well and is linked to social and mental functioning in adulthood.<sup>xxv, xxvi, xxvii, xxviii, xxix</sup>

Figures 1 through 5 show gains from pretest to posttest in domains of social and emotional development: personal and social competence, self concept, social interpersonal skills, self regulation, and language. Greater than 85% of children attained the top 3 developmental levels in Personal and Social Competence, Self Concept, Social Interpersonal Skills, and Self Regulation. Greater than 80% of children attained the top 3 developmental levels in Language by posttest.

**Figure 1. Developmental Change in “Children are Personally and Socially Competent”**



**Figure 2. Developmental Change in “Self Concept”**

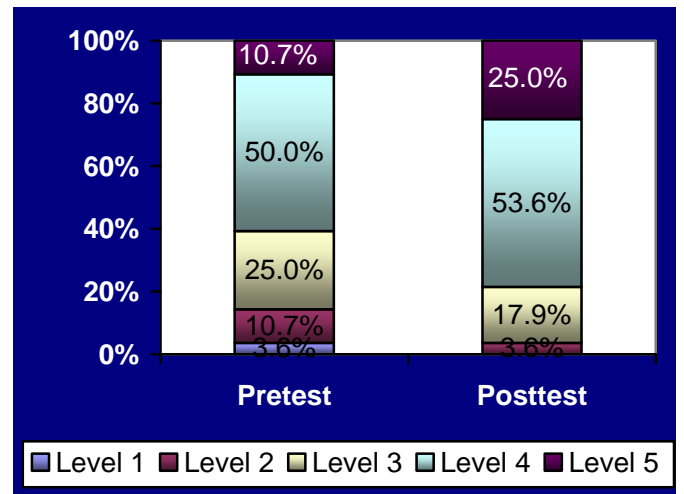


Figure 3. Developmental Change in “Social Interpersonal Skills”

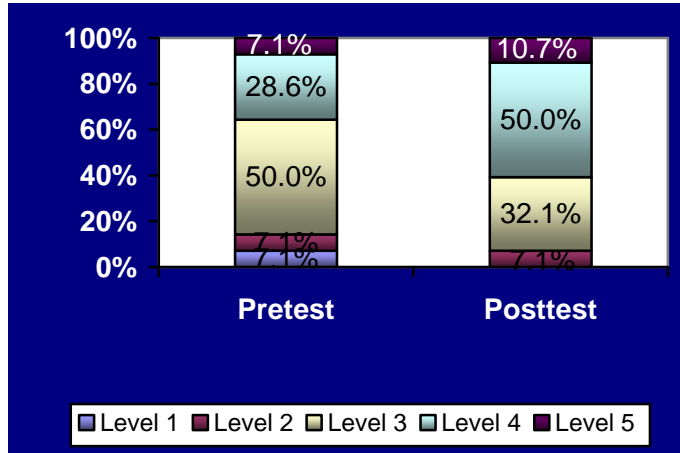


Figure 4. Developmental Change in “Self Regulation”

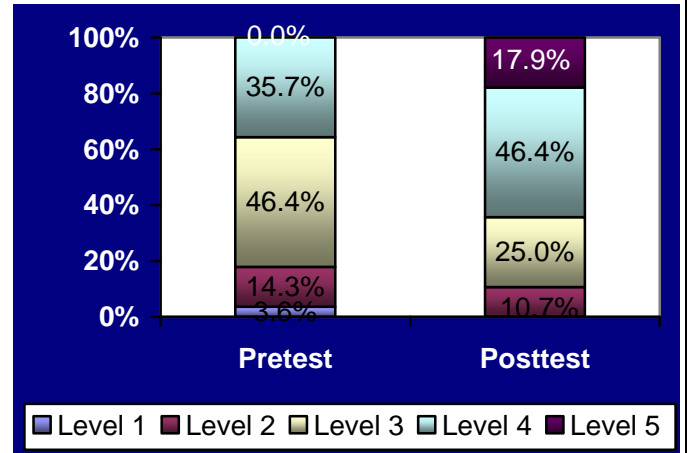
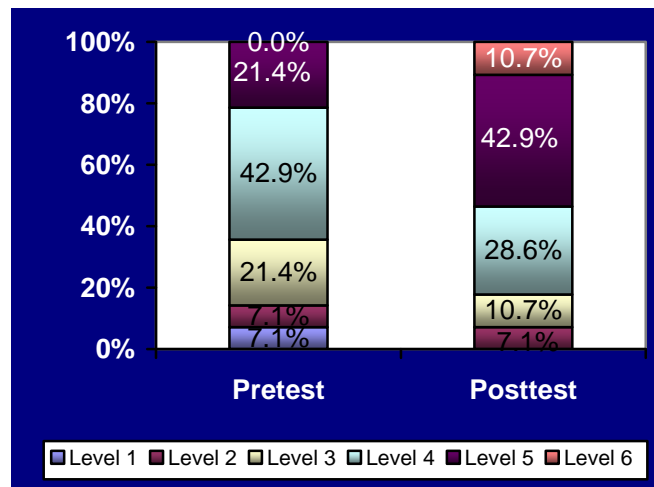


Figure 5. Developmental Change in “Language”



In addition to socio-emotional development, a foundation in early math and literacy skills is important for setting children on the path to success in elementary school. In fact, research has shown that early math and literacy skills have been found to be related to academic performance in these areas in later grades.<sup>.xxx, xxxi, xxxii</sup> Figures 6 through 9 illustrate the developmental increases in learning, cognition, math, and literacy. Greater than 85% of children attained the top 3 developmental levels in Effective Learning, Cognitive Competence, Math, and Literacy by posttest.

Figure 6. Developmental Change in “Children are Effective Learners”

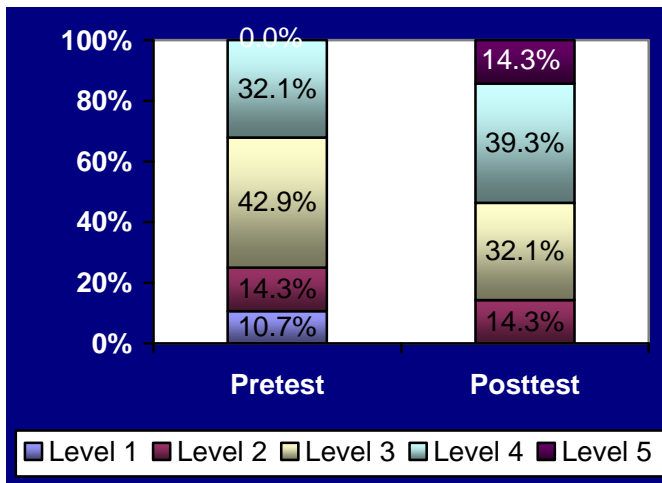


Figure 7. Developmental Change in “Cognitive”

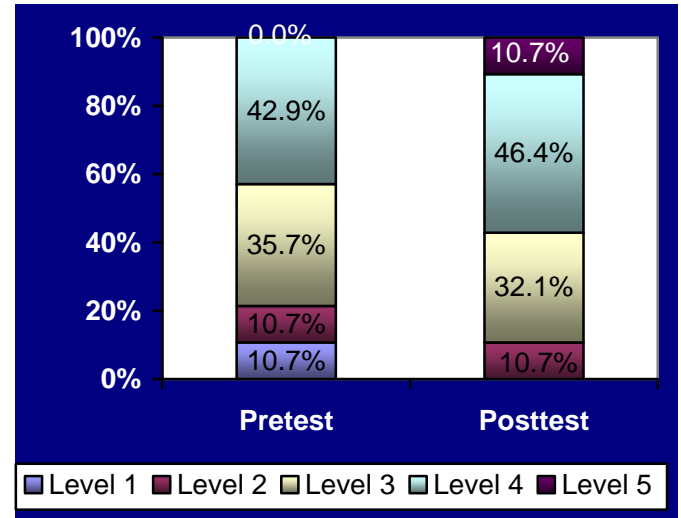


Figure 8. Developmental Change in “Math”

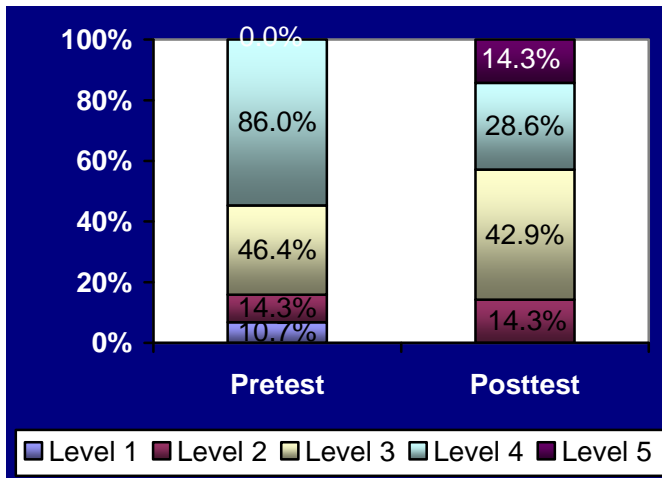
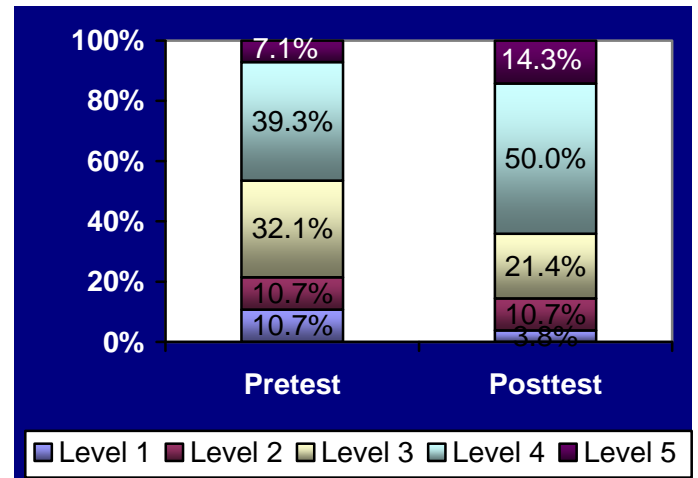


Figure 9. Developmental Change in “Literacy”



Although much research has neglected to examine the impact of physical health and motor development in relation to school readiness, one study examined these factors in conjunction with cognitive and socio-emotional development. Results showed that a combination of below-average language and cognition skills with poor health or a lack of social skills at kindergarten entry predicted the lowest scores on math and reading at the end of first grade.<sup>xxxiii</sup> This finding illustrates the importance of working to support the whole child prior to their entry into kindergarten. Figures 10 and 11 illustrate the developmental increases in physical / motor and health / safety. A vast majority of children attained the top the developmental levels by posttest in Physical and Motor Competence (89.2%) and Safe / Healthy behavior (92.8%).

Figure 10. Developmental Increases in “Children Show Physical and Motor Competence”

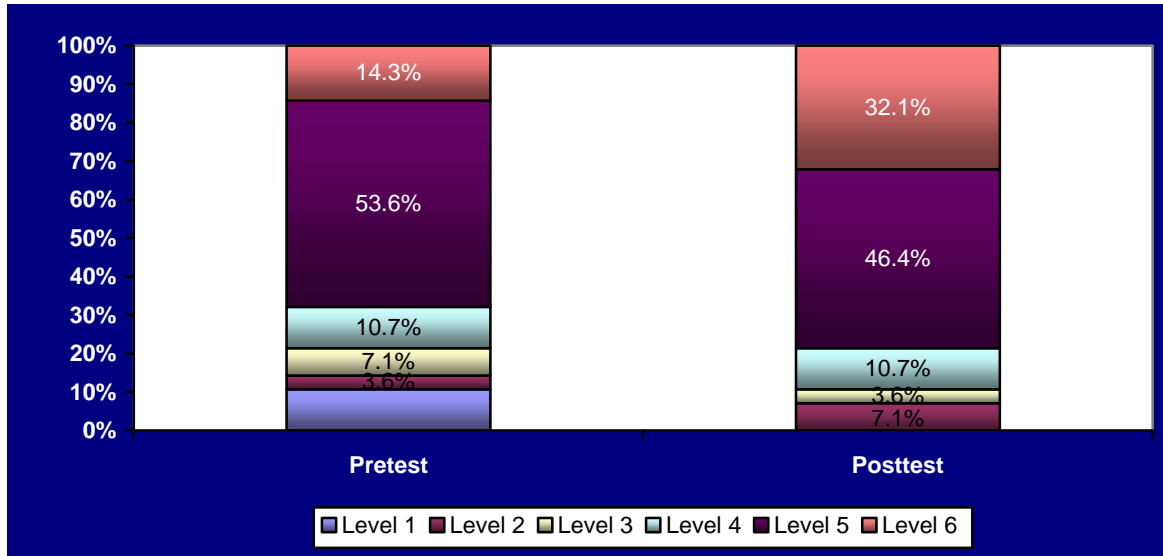
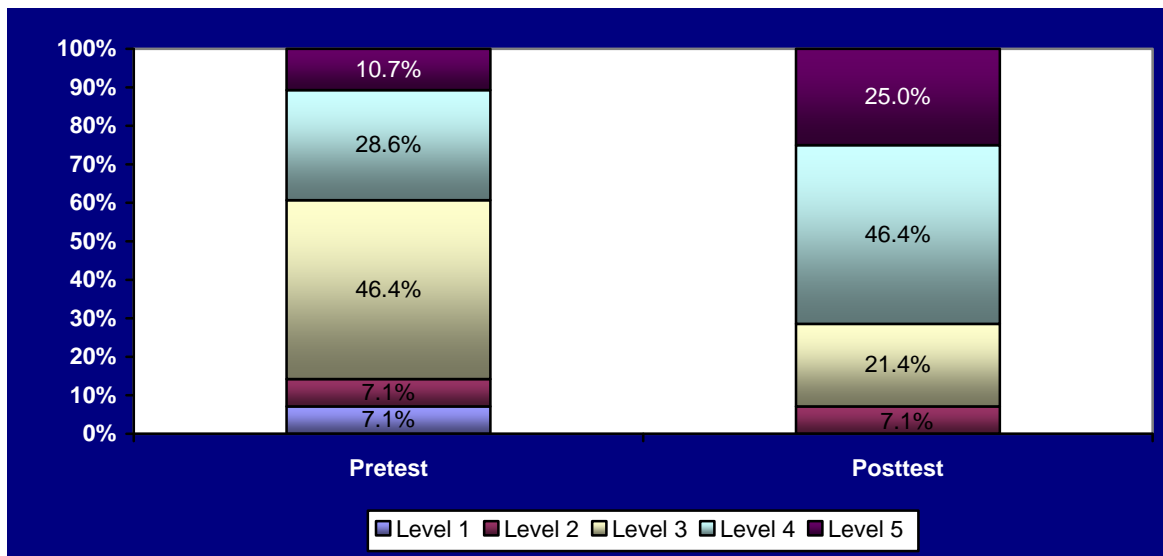


Figure 11. Developmental Increases in “Children are Safe and Healthy”



## ***Developmental Increases for Preschool-Age Children***

*CCRC's pre-kindergarten programs lead to statistically significant developmental gains in areas that prepare children for their future in school: self concept, social interpersonal skills, self regulation, language, learning, cognitive competence, math, literacy, motor skills, and safety / health.*

Areas of school readiness for young children show positive developmental growth in CCRC's Head Start and FCCHEN programs. Throughout their enrollment in the FCCHEN and Head Start programs children are assessed using the DRDP-R assessment tool for children age 3 years to kindergarten at a minimum of 6 month intervals (more frequently in Head Start). There were differences in ages at the initial assessment period for the two programs because Head Start has a greater number of 4-year-old children (Head Start Average: 4.13 years; FCCHEN Average: 3.88 years),  $p < .01$ . There were also differences in age at the final assessment point used in these analyses with Head Start children again being older (Head Start Average: 4.66 years; FCCHEN Average: 4.38 years),  $p < .01$ . Finally, the time between assessments was slightly greater in Head Start. We selected the very first and the very last assessment conducted for the year because these were most comparable to the FCCHEN group (Head Start: slightly over 6 months between assessments; FCCHEN: 6 months between assessments),  $p < .001$ . For the combined groups, the average age at the initial assessment was 4 years, 1 month (ranging from 2 years, 6 months to 5 years, 7 months). For the combined groups, the average age at the final assessment used in these analyses was 4 years 7 months (ranging from slightly over 3 years to 6 years, 2 months). Finally, for the combined groups, the average time between assessments was slightly over 6 months (ranging from 2 months to 1 year, 3 months).

Please see the Appendix for a listing of the specific areas of development that were measured. The Appendix also presents the Alpha Coefficient for each subscale of the DRDP-R. All are above .80, illustrating that each group of items measures the same underlying construct.

### ***All areas of development increased significantly across the 6 month assessment period.***

One method used to evaluate and ensure positive developmental growth for pre-k children is to look at change by each area of development. We conducted dependent-groups t-tests on all individual items as well as all composites (groups of items that measure the same developmental construct). Over 1,100 (1,102) preschool children were enrolled and assessed at 2 time points between September 2008 and August 2009 in Head Start and FCCHEN. All areas of development increased significantly across the 6 month assessment period ( $p < .001$ ).

### ***99.6% of the children showed an increase from pre- to posttest on the overall assessment average.***

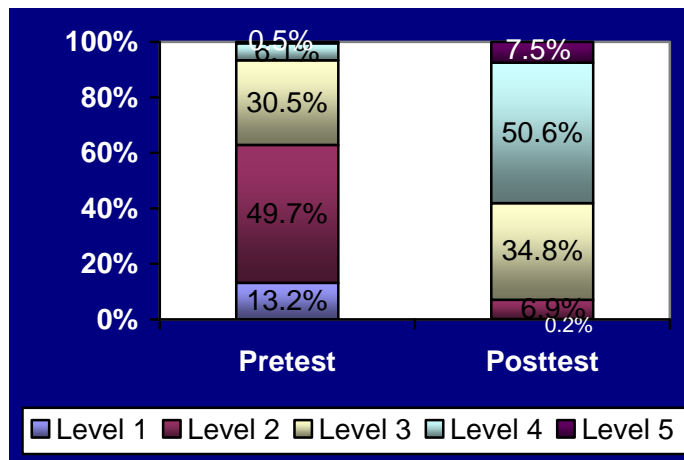
Another method of assessing growth is to consider percent change from the first to the second assessment for each child. Most of the children (99.6%) showed an increase from pre to posttest on the overall assessment average. Table C below communicates the percentage of children who increased in their development in each of the domains of interest.

**Table C. Percentage of Preschoolers Increasing in Each of the DRDP-R Domains**

Developmental Domain	Percent of Children Increasing in Ability
Children are Personally and Socially Competent	99.0%
Self Concept	94.6%
Social Interpersonal Skills	98.3%
Self Regulation	94.6%
Language	95.5%
Children Are Effective Learners	99.4%
Learning	93.3%
Cognitive Competence	97.1%
Math	98.5%
Literacy	98.5%
Children Show Physical and Motor Competence	94.9%
Children Are Safe and Healthy	94.5%

To further illustrate the growth achieved by the children in these programs, Figures 12 through 16 show developmental gains from pretest to posttest in the areas of personal and social competence, self concept, social interpersonal skills, self regulation, and language. In each of these domains, greater than 90% of children achieved the top 3 developmental levels by posttest.

**Figure 12. Developmental Change in “Children are Personally and Socially Competent”**



**Figure 13. Developmental Change in “Self Concept”**

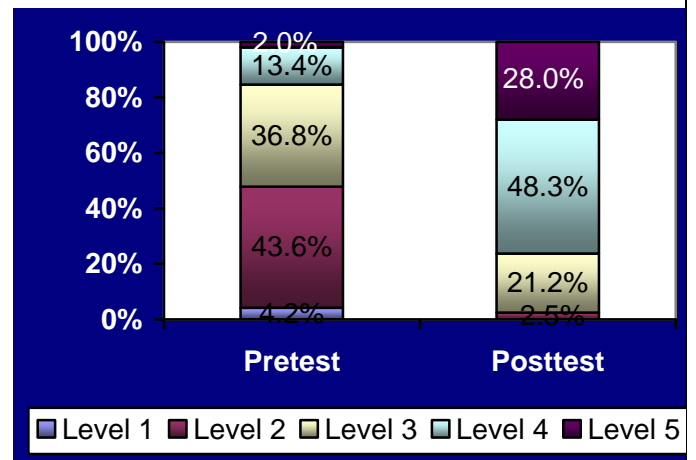




Figure 14. Developmental Change in “Social Interpersonal Skills”

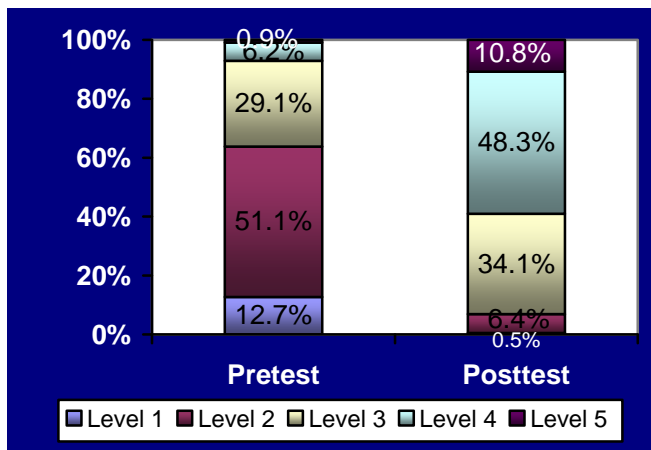


Figure 15. Developmental Change in “Self Regulation”

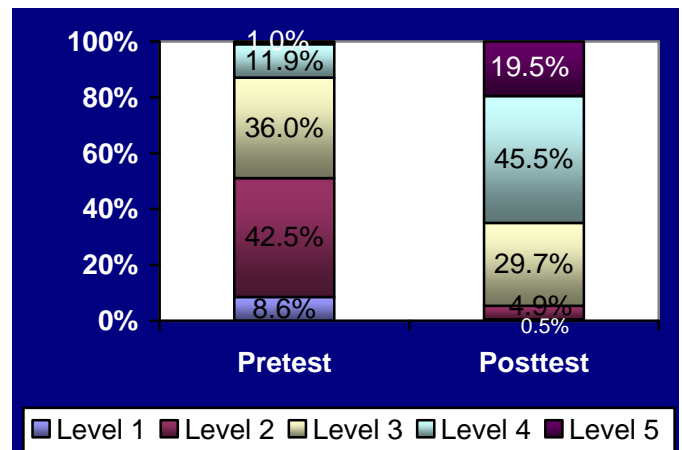
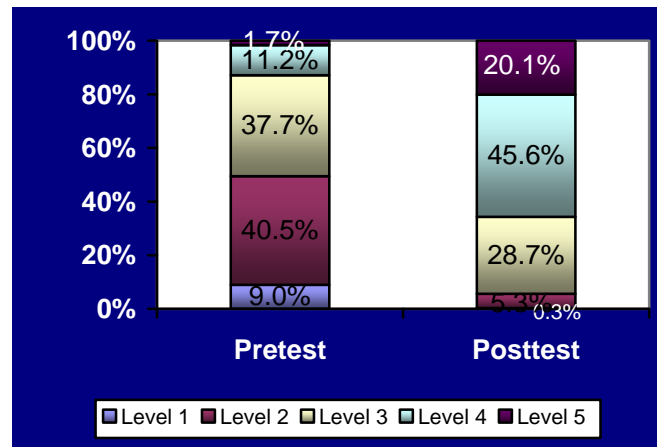


Figure 16. Developmental Change in “Language”



Figures 17 through 21 illustrate the developmental increases in learning, cognition, math, and literacy. Greater than 90% of children reached the top 3 developmental levels in Learning and Cognition and greater than 85% of all children reached the top 3 developmental levels in Math and Literacy at posttest.

Figure 17. Developmental Change in “Children are Effective Learners”

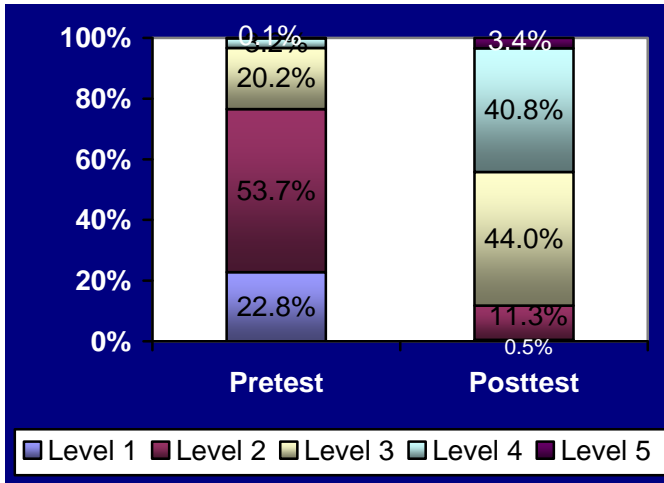


Figure 18. Developmental Change in “Learning”

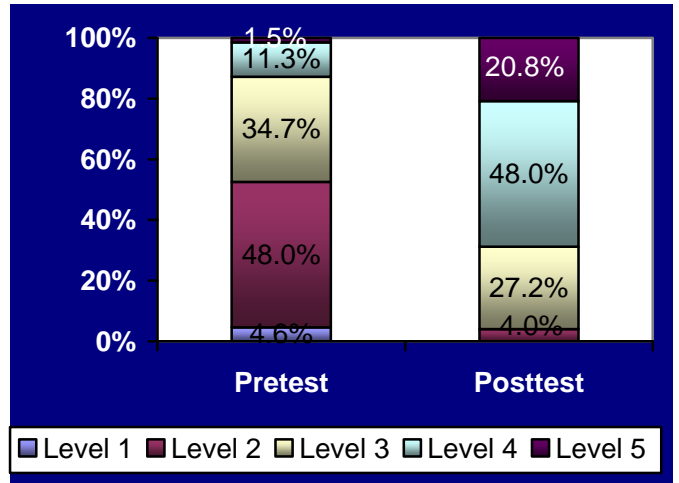


Figure 19. Developmental Change in “Cognitive”

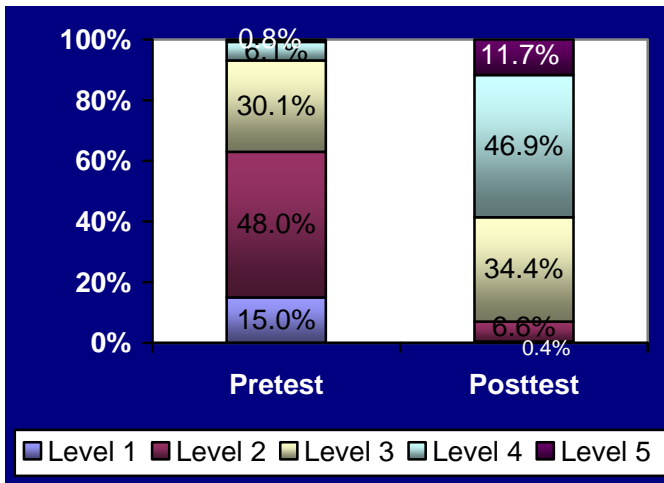


Figure 20. Developmental Change in “Math”

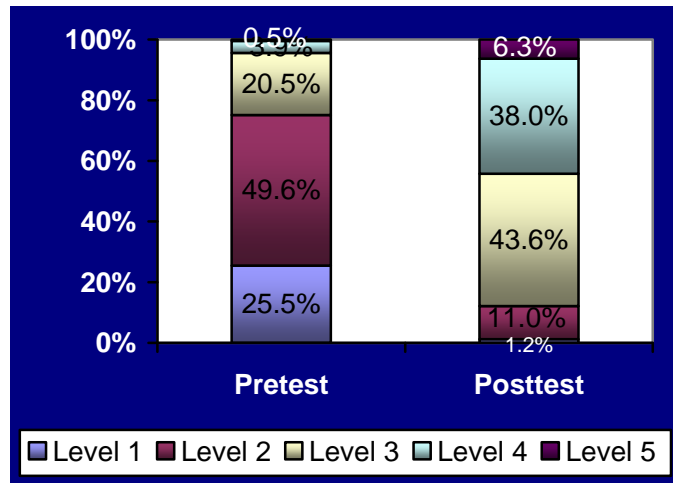
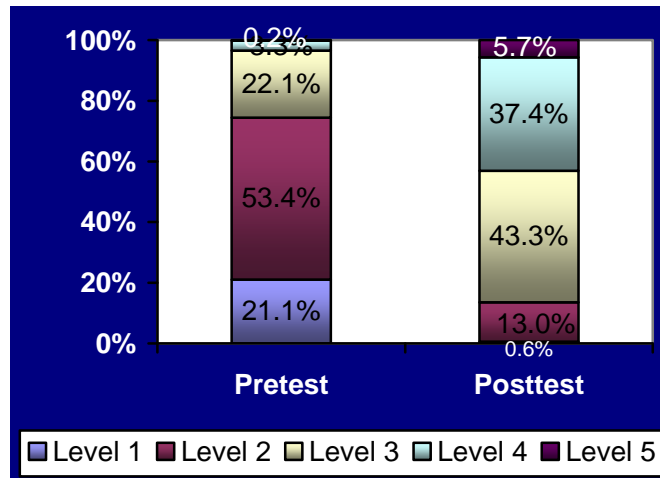
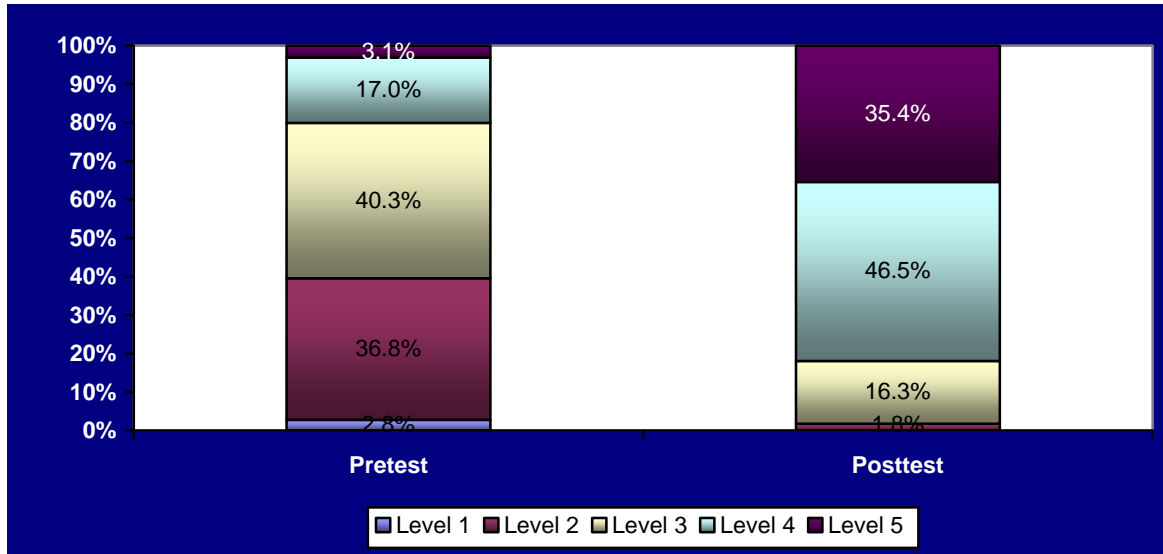


Figure 21. Developmental Change in “Literacy”

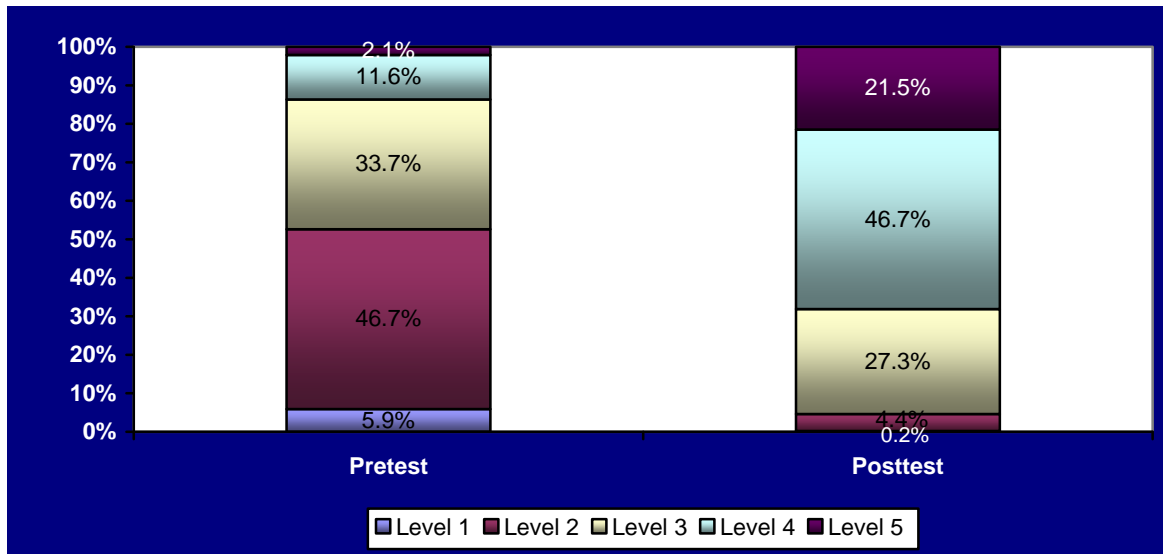


Figures 22 and 23 illustrate the developmental increases in physical / motor and health / safety. Greater than 95% of children achieve the top 3 developmental levels in Motor Skills and Safety / Health at posttest.

**Figure 22. Developmental Increases in “Children Show Physical and Motor Competence”**



**Figure 23. Developmental Increases in “Children are Safe and Healthy”**



### ***Impact of CCRC's Parents As Teachers Home Visitation Program***

CCRC's School Readiness program uses a truncated version of the Desired Results Developmental Profile (DRDP) to assess child progress in the PAT program because many of the items are not appropriate for a home visitation program. Comparison data for children who were 0 to 17 months during this program year is not available as the majority of these children were at ages that required a different tool at post-test. One drawback to use of the DRDP as a pre-post assessment measure is that there are different versions of this measure, and the measure used depends on the age of the child at the time of administration. Data used to evaluate progress toward the performance target are for children who were tested on the same measure at both time points.

Agency experience with trying to use the full DRDP for in-home programs found several items that were difficult to measure accurately with the instrument. Of the 21 themes in the DRDP, the following 11 themes were included in CCRC's truncated version: *Self Regulation, Language Comprehension, Language Expression, Interest in Learning, Cognitive Competence, Number Concepts, Measure, Order, and Time, Math Concepts, Reading Skills, Interest in Books, and Writing.*

The performance indicator for the DRDP child data was an increase in skills in academic/school readiness areas. There were 19 18-to-35-month old children with both pre and posttest data available within the same measurement tool and 16 (84.2%) showed an increase from pre to posttest on the overall assessment average. There were also 19 3-to-5-year old children with both pre and posttest data available within the same measurement tool and 15 (78.9%) showed an increase from pre to posttest on the overall assessment average. The areas of greatest growth included *Interest in Books and Other Written Materials, Cognitive Competence, Language Comprehension, and Math Concepts* for the 18-to-35 month old children. *Interest in Books, Number Concepts, Math Concepts, and Language Comprehension* were the areas of most growth for the 3-to-5 year old children.

Nine of the 11 developmental areas measured for the preschool age group (3-5 years) showed statistically significant growth at the end of the program year: *Self Regulation, Language Comprehension, Language Expression, Interest in Learning, Number Concepts, Measure, Order, and Time, Math Concepts, Reading Skills, Interest in Books and Other Written Materials, and Writing Skills.* *Cognitive Competence* was the only theme that did not have statistically significant growth, but it should also be noted that this was the highest scored theme at both time points, averaging at 3.37 at pretest and 3.47 at posttest (approaching Fully Mastered).

Ten of 11 developmental domains measured for toddlers showed statistically significant growth at the end of the program year: *Self Regulation, Language Comprehension, Language Expression, Interest in Learning, Number Concepts, Math Concepts, Reading Skills, and Interest in Books and Other Written Materials, and Writing Skills.* *Self Regulation and Measure, Order, and Time* were the only two themes that did not have statistically significant growth.

*CCRC's infant / toddler and pre-kindergarten programs lead to statistically significant developmental gains in areas that prepare children for their future in school: self concept, social interpersonal skills, self regulation, language, learning, cognitive competence, math, literacy, motor skills, and safety / health.*

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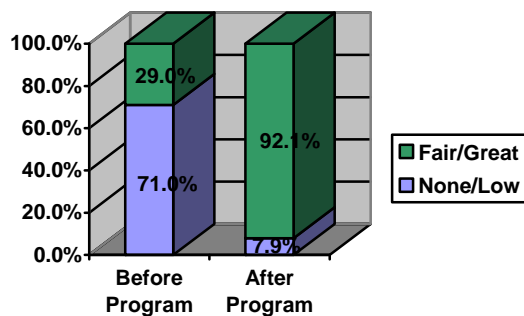
## INCREASES IN SCHOOL READINESS FOR UNDERSERVED CHILDREN AS REPORTED BY PARENTS

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*CCRC's programs lead to significant gains in school readiness for children:  
94.7% of parents report increases in their children's readiness for kindergarten.*

Parents from our Head Start, FCCHEN, Enrichment, PAT, and Mommy and Me programs completed the same instrument measuring school readiness in their child and measuring their own parenting skills. This measurement tool was a retrospective-pretest posttest asking parents to rate their children's school readiness interest and skills before and after the program in the following domains: *My child's interest in going to school, My child's interest in singing and dancing, My child's interest in books, My child's interest in the alphabet, My child's interest in art, My child's interest in numbers, My child's interest in learning, My child's readiness to start school, My child's ability to speak English, My child's vocabulary, My child's self-confidence, and My child's independence.* For ease of presentation, the scores on these items were averaged to create one "School Readiness" score. Children's school readiness skills changed dramatically from before to after the program. Prior to the program 29% of children were rated as ready for school whereas after the program 92.10% were rated as ready (See Figure 24). Overall, 94.7% of children increased their level of school readiness skills from before to after their participation in CCRC's school readiness programs.

**Figure 24. Change in School Readiness Skills from Before to After Program**



Additionally, we tested to see if the increases in each of the school readiness domains were statistically significant by conducting dependent t-tests comparing the scores before and the scores after the program. All items as well as the overall *School Readiness* composite score showed statistically significant gains from before to after the program,  $p < .001$ .

In conclusion, CCRC's programs result in statistically significant increases in *School Readiness* skills in children in the areas of: interest in school, dancing, books, the alphabet, art, numbers, learning, school readiness, ability to speak English, vocabulary, self-confidence, and independence.

### ***Parents remark on how CCRC's programs have impacted their children's readiness for school...***

*"The Head Start program has really helped my child to learn, speak, and to know how to communicate."*

*"To write his name. To wash his hands before going to the restroom. To brush his teeth."*

*"She has learned to use her words when upset. She has taken on responsibility for herself (her actions). She is now more ready to go to kindergarten."*

*“He talks with us about what he learned in the program that you helped us obtain. He now knows letters, numbers, and is more prepared for kinder.”*

*“He is asking me a lot of questions and we talk a lot.”*

*“My son's self confidence has increased very much. He knows more about school and understanding the English language.”*

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## **INCREASES IN PARENTS' ABILITY TO SUPPORT CHILDREN'S SCHOOL READINESS TO SUSTAIN THEIR SUCCESS IN SCHOOL**

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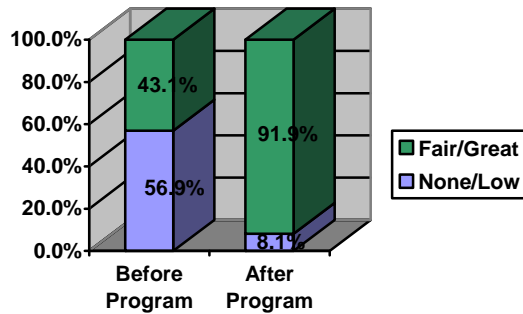
*CCRC's programs lead to significant gains in parent's ability to support their children's readiness for kindergarten and sustain their success in school: 89.1% of parents increased their parenting skills.*

Early home learning environments where parents are knowledgeable about supporting their child's cognitive development are linked to children's English, Math, and Self-regulation 6 years later <sup>xxxiv</sup>. Parent participation in play activities with their children is important for their social and emotional development <sup>xxxv</sup>. Specifically, children who play at home and whose parents understand the importance of play in children's development demonstrate prosocial and independent behavior in the classroom <sup>xxxvi</sup>. Additionally, parent participation in activities such as arts and crafts is associated with children's literacy development <sup>xxxvii</sup>. These findings illustrate the importance of helping parents learn how to support their children's cognitive development prior to entering school, which is what many of our CCRC programs are designed to accomplish.

As with the assessment of school readiness, the measurement tool for parenting skills was a retrospective-pretest posttest asking parents to rate their ability before and after the program in the following domains: *My knowledge of how to help my child learn, The amount of time I spend playing with my child, The amount of time I spend reading to my child, My knowledge about how children grow and learn, My ability to handle concerns with my child, My comfort in talking to school staff or teachers about my child, My confidence in my parenting skills, My confidence that I can support my child's transition to Kindergarten, How often my child and I talk to each other, and My knowledge of community services and agencies.* The scores on these items were averaged to form one “Parenting skills” score. Parenting skills changed dramatically from before to after the program. Prior to the program 43.1% of parents had fair or great parenting skills whereas after the program 91.9% were rated as such (See Figure 25). Overall, 89.1% of parents increased their parenting skills from before to after the program.



**Figure 25. Change in Parenting Skills from Before to After Program**



Additionally, we tested to see if the increases in each of the parenting domains were statistically significant by conducting dependent t-tests comparing the scores before and the scores after the program. All items as well as the overall *Parenting* composite score showed statistically significant gains from before to after the program,  $p < .001$ .

In conclusion, CCRC's programs result in statistically significant increases in Parenting Skills in the areas of: Knowledge of how to help their children, time playing with their children, knowledge of how to help them grow, ability to handle concerns, comfort in talking with teachers / providers, confidence in parenting, transitioning to kindergarten, frequency of talking with their child, knowledge of positive discipline techniques, knowledge of community services, and overall parenting skills.

***Parents reflect on how CCRC's programs have impacted their parenting skills...***

*"To help us better understand the children's needs. To prepare them for elementary school."*

*"With the homework, I learned to share more time with my child and I learned how to teach him in a more positive way."*

*"I have received support at every level."*

*"I have learned how to play with him, how he learns while he has fun."*

*"With the preparation and knowledge that you have on how to educate children from their first years of life, now my son is more independent and has overcome many fears, he is more confident and more dynamic, he has an interest in learning."*

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## APPENDIX: METHODOLOGY

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Table 1 illustrates the breakdown of which measurement tool was utilized in each of our programs. The DRDP-R (Desired Results Developmental Profile-Revised) measures development across a number of domains and is currently available in 2 separate tools for children ages 0-5 years: one for Infant/ Toddler and one for 3 years – kindergarten. Our Parents as Teachers program uses a modified version of the DRDP (a former version of the DRDP-R) that is more appropriate for home visitation programs. Our Retrospective Pretest instrument asks parents to compare their children before and after the program on various dimensions of school readiness and also asks to compare themselves before and after the program on various dimensions of parenting skills.

**Table 1. Measurement Tools Used**

Measure	Participant Group
DRDP-R (3 years-Kindergarten)	Head Start + FCCHEN Preschool Age
DRDP-R (Birth-36 Months)	FCCHEN Infants and Toddlers
DRDP-R (internally modified for Home Visitation)	Parents As Teachers
Retrospective Pretest (School Readiness & Parenting Skills)	Head Start FCCHEN Parents As Teachers Mommy & Me Enrichment

To measure changes in school readiness due to participation in our programs, we asked parents’ about their children’s school readiness interest and skills before and after participating in the program by employing a retrospective-pretest posttest evaluation method. We measured this construct with the following items: *My child’s interest in going to school, My child’s interest in singing and dancing, My child’s interest in books, My child’s interest in the alphabet, My child’s interest in art, My child’s interest in numbers, My child’s interest in learning, My child’s readiness to start school, My child’s ability to speak English, My child’s vocabulary, My child’s self-confidence, and My child’s independence.* Alpha coefficients are reported in Table 2 for these items before the program and after the program (Alpha is a statistic that measures how well a set of questions asks a central construct or theme and any value over .70 is considered acceptable). All Alphas show a good level of consistency (the questions are measuring the same construct of “School Readiness”).

To measure changes in parenting skills we asked parents to evaluate their parenting skills before and after the program on the following dimensions: *My knowledge of how to help my child learn, The amount of time I spend playing with my child, The amount of time I spend reading to my child, My knowledge about how children grow and learn, My ability to handle concerns with my child, My comfort in talking to school staff or teachers about my child, My confidence in my parenting skills, My confidence that I can support my child’s transition to Kindergarten, How often my child and I talk to each other, and My knowledge of community services and agencies.* Alpha coefficients for these items are reported in Table 2 for before and after the program. All Alphas show a good level of consistency (the questions are measuring the same construct of “Parenting.”

**Table 2. Alpha Coefficients for “Parenting” and “School Readiness” for All Programs**

Program Component	Alpha for “Parenting”		Alpha for “School Readiness”	
	Pretest	Posttest	Pretest	Posttest
All programs combined	.94	.91	.92	.91
PAT	.91	.90	.90	.87
Mommy & Me	.96	.95	.94	.93
Enrichment	.97	.90	.93	.76
Head Start	.92	.89	.95	.92

***Infant / Toddler Developmental Assessments***

To measure changes in school readiness of children ages 0-3 years we assessed children using the observational tool, the Desired Results Developmental Profile-Revised for Infants / Toddlers. These observations are conducted by highly trained observers in our Family Child Care Home Education Network (FCCHEN) program. The specific measures, indicators, and desired results of the Infant/ Toddler version of the DRDP-R that was used in our FCCHEN program are presented in Table 3. We conducted alpha statistics to ensure that each indicator and desired result has measures that are measuring the same underlying construct. Any Alpha statistic above a .70 is considered acceptable). All Alphas of the pretest and posttest of the DRDP-R show a good level of consistency (the questions are measuring the same construct of development [see Table 4]).

**Table 3. Infant and Toddler DRDP-R Measures, Indicators, and Desired Results**

Desired Result	Indicator	Measure
<b><i>Children are Personally and Socially Competent</i></b>		
	<b>Self Concept</b>	Identity of self and connection to others Recognition of ability Self expression Awareness of diversity
	<b>Social Interpersonal Skills</b>	Empathy Interactions with adults Relationships with familiar adults Relationships with familiar peers Interactions with peers
	<b>Self Regulation</b>	Impulse control Seeking other’s help to regulate self Responsiveness to other’s support Self comforting Attention maintenance
	<b>Language</b>	Language comprehension Responsiveness to language Communication of needs, feelings, and interests Reciprocal communication

*Children are Effective Learners*

**Cognitive**

Memory  
Cause and effect  
Problem solving  
Symbolic play  
Curiosity

**Math**

Number  
Space and size  
Time  
Classification and matching

**Literacy**

Interest in literacy  
Recognition of symbols

*Children Show Physical and Motor Competence*

**Motor Skills**

Gross motor  
Fine motor  
Balance  
Eye-hand coordination

*Children are Safe and Healthy*

**Safety and Health**

Personal care routines  
Safety

**Table 4. Alpha Coefficients for the Scales of the Infant / Toddler DRDP-R**

Desired Result	Indicator	Pretest Alpha	Posttest Alpha
<i>Children are Personally and Socially Competent</i>		.99	.98
	<b>Self Concept</b>	.95	.93
	<b>Social Interpersonal Skills</b>	.96	.92
	<b>Self Regulation</b>	.95	.93
	<b>Language</b>	.93	.92
<i>Children are Effective Learners</i>		.98	.97
	<b>Cognitive</b>	.97	.92
	<b>Math</b>	.96	.89
	<b>Literacy</b>	.89	.90
<i>Children Show Physical and Motor Competence</i>		.98	.95
<i>Children are Safe and Healthy</i>		.91	.84

### ***Preschool Developmental Assessments***

To measure changes in school readiness due to participation in our pre-K programs, we used the observational tool, the Desired Results Developmental Profile-Revised for Preschool for children ages 3 years to kindergarten. These observations are conducted by highly trained observers in our Family Child Care Home Education Network (FCCHEN) program and by our highly trained teachers in our Head Start program. The specific measures, indicators, and desired results of the preschool version of the DRDP-R that was used in our FCCHEN and Head Start programs are presented in Table 5. We conducted alpha statistics to ensure that each indicator and desired result has measures that are measuring the same underlying construct. Any Alpha statistic above a .70 is considered acceptable). All Alphas of the pretest and posttest of the DRDP-R show a good level of consistency (the questions are measuring the same construct of development (see Table 6)).

**Table 5. Preschool DRDP-R Measures, Indicators, and Desired Results**

<b>Desired Result</b>	<b>Indicator</b>	<b>Measure</b>	
<b><i>Children are Personally and Socially Competent</i></b>	<b>Self Concept</b>	Identity of self and connection to others Recognition of own skills and accomplishments	
	<b>Social Interpersonal Skills</b>	Expressions of empathy Building cooperative relationships with adults Developing friendships Building cooperative play with other children Conflict negotiation Awareness of diversity in self and others	
	<b>Self Regulation</b>	Impulse control Taking turns Shared use of space and materials	
	<b>Language</b>	Comprehends meaning Follows increasingly complex instructions Expresses self through language Uses language in conversation	
	<b><i>Children are Effective Learners</i></b>	<b>Learning</b>	Curiosity and initiative Engagement and persistence
		<b>Cognitive Competence</b>	Memory and knowledge Cause and effect Engages in problem solving Socio-dramatic play

**Math**

- Number sense: understands quantity and counting
- Number sense: math operations
- Shapes
- Time
- Classification
- Measurement
- Patterning

**Literacy**

- Interest in literacy
- Letter and word knowledge
- Emerging writing
- Concepts of print
- Phonological awareness

***Children Show Physical and Motor Competence***

**Motor Skills**

- Gross motor movement
- Fine motor skills
- Balance

***Children are Safe and Healthy***

**Safety and Health**

- Personal care routines
- Personal safety
- Understanding healthy lifestyle

**Table 6. Alpha Coefficients for the Scales of the Preschool DRDP-R**

Desired Result	Indicator	Pretest Alpha	Posttest Alpha
<b><i>Children are Personally and Socially Competent</i></b>		.97	.97
	<b>Self Concept</b>	.88	.88
	<b>Social Interpersonal Skills</b>	.94	.94
	<b>Self Regulation</b>	.93	.92
	<b>Language</b>	.94	.94
	<b>English Language Learner</b>	.95	.92
<b><i>Children are Effective Learners</i></b>		.97	.98
	<b>Learning</b>	.87	.87
	<b>Cognitive Competence</b>	.91	.91
	<b>Math</b>	.94	.95
	<b>Literacy</b>	.91	.92
<b><i>Children Show Physical and Motor Competence</i></b>		.89	.87
<b><i>Children are Safe and Healthy</i></b>		.92	.91



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