The Impact of United Way Bright Beginnings

The First 10 Years April 2012
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*United Way Bright Beginnings*, a partnership of United Way of Greater Houston and ExxonMobil, would like to thank and acknowledge Collaborative for Children for providing our curriculum and training, and the University of Houston - Institute for Urban Education for their evaluation and quality improvement recommendations.
Executive summary

A strong foundation not only prepares children to start and succeed in school, it gives them something solid to stand on as they pursue their dreams.

Compelled by overwhelming research indicating that investments in early childhood education yield tremendous returns through greater success in school and life, United Way of Greater Houston and ExxonMobil created United Way Bright Beginnings in 2002.

United Way Bright Beginnings is an innovative early education program designed to help children from lower-income families achieve social, emotional, physical and cognitive milestones and enter school ready to succeed. Bright Beginnings is committed to improving child care quality through intensive staff training, leadership development, comprehensive curriculum, appropriate indoor and outdoor equipment, parental involvement, wage supplementation and educational scholarships.

As we commemorate the 10-year anniversary of United Way Bright Beginnings, we celebrate the achievements of 5,000 Houston-area children who are on track to reach their full potential because Bright Beginnings gave them a strong foundation early in life.
Now is the time

According to neurological research, babies are born ready to learn with neural connections in place; lacking is the daily life experiences and activities to provide the stimulus. The first few years of a child’s life are a time of explosive brain growth. In fact, 90 percent of brain development happens before kindergarten (Gopnik, 2007).

Many children, especially those from low-income families, do not have access to the kind of quality care that creates a path to success. The High/Scope Perry Preschool Study shows that child care can be the single greatest difference between success and failure in our society. Without a strong base on which to build, many children fall behind long before they start kindergarten—with little chance of catching up.

Bright Beginnings reaches at-risk children during this critical time in their development, laying the groundwork for them to succeed.

Success in school and in life

As United Way Bright Beginnings students have entered elementary school, they have excelled, outperforming their peers on achievement tests and demonstrating greater language abilities, higher math and reading scores, and increased non-verbal reasoning and problem-solving skills.

For years 2008 through 2011, the University of Houston conducted research exploring how well Bright Beginnings alumni who entered public school scored on standardized tests compared with control groups.

Over four years, United Way Bright Beginnings students performed better than their peers on 45 of 51 achievement tests. During the most recent school year, 2010-2011, Bright Beginnings alumni scored better than their peers on all TAKS Reading and Math measures for grades three, four and five; nine out of 10 sittings of the Stanford 10 for grades one through five; and two out of four Aprenda measures for grades one and two. Additionally, more Bright Beginnings students achieved TAKS Commended Status, described by the Texas Education Agency as, “high academic achievement; considerably above state passing standard,” than district averages.

Achievement beyond school

The positive effects of high-quality early care follow children into adulthood. A study by Campbell, et al., found that long-term effects included: completion of more years of education, a greater likelihood of attending a four-year college, and a decreased likelihood of needing public assistance (2002).
Over four years, Bright Beginnings students performed better than peer groups on 45 of 51 achievement tests.

Children with the quality early education experiences that drive them to succeed in school also develop strong job skills, like problem solving, critical thinking and collaboration. They can expect higher employment and earning rates, and are more likely to own homes and positively contribute to their communities (Cunha and Heckman, 2007).

From an economic perspective, investments in early childhood development have yielded high public and private returns. A 2003 Federal Reserve Bank of Minneapolis report found that quality early care experiences yield a 16 percent annual rate of return on investment (4 percent to participants; 12 percent to public). A study from the Bush School of Government and Public Service (2006) found that every $1 invested in high-quality Pre-K in Texas returned $3.50 per participant to the community.

High-quality classrooms yield high-quality results

Unlike many child care centers, United Way Bright Beginnings classrooms are designed to spark interaction and curiosity and nurture children in realistic environments. Calming colors and natural furniture create a comfortable learning environment, while real photographs, learning stories and items from outdoors are placed at children’s eye-level to encourage discovery.

Bright Beginnings teachers work one-on-one with each child to understand his individual needs and interests and plan lessons and activities based on the child’s cues. Even the youngest Bright Beginnings students are actively engaged in learning, exploring their environments and motor skills by crawling and playing, rather than spending time in swings or cribs.

Nationally-accepted research from the University of North Carolina shows that higher quality child care classrooms lead to better outcomes for children, starting with increased readiness for school (1999). High-quality classrooms are led by well-trained and consistent staff who employ developmentally-appropriate curriculums, maintain a safe environment and provide warm and stimulating interactions with children. These classrooms maintain a low teacher to children ratio and a high rate of parental involvement (NAEYC).

Since its creation, United Way Bright Beginnings has seen a substantial improvement in classroom quality. All Bright Beginnings centers boast a classroom quality increase of more than 90 percent since entering the program, with most increasing by more than 100 percent.

Thirty-three percent of Bright Beginnings centers have received accreditation from the National Association for the Education of Young Children, recognizing excellence among educational programs for young children. Less than 2 percent of all child care centers in the four-county Greater Houston area are accredited.

TAKS: Texas Assessment of Knowledge and Skills, a Texas-only standardized test used to assess students’ attainment of reading, writing, math, science and social studies skills.

Stanford 10: A national norm-referenced achievement test used to measure students’ academic performance compared to a nationally representative sample.

Aprenda: A national norm-referenced achievement test that measures Spanish-speaking students’ academic performance compared to the performance of Spanish-speaking students from a nationally representative sample.
“My daughter isn’t the only one learning in her child care program. The teachers also help me learn to be a better parent. I’ve learned what kind of activities we can do at home and how I can help her grow and get ready to start school.”

~ parent of a United Way Bright Beginnings student
The right teacher makes all the difference

Excellent centers start with excellent teachers and directors who are trained and equipped to nurture children at this important stage in their development.

United Way Bright Beginnings centers benefit from a collaborative network of experts, mentoring and consulting from Collaborative for Children, support, training, and information sharing to help them provide the very best education and care to the children they serve. Teachers work hand-in-hand with experts to develop and refine lessons and activities that stimulate learning.

In its first 10 years, United Way Bright Beginnings has helped 288 center teachers earn Child Development Associate certificates; 29 teachers earn associate degrees in early childhood; 15 center teachers earn bachelor’s degrees in early childhood; and 12 center teachers earn master’s degrees in early childhood.

Retaining the best of the best

Research points to another quality of care indicator, the length of job tenure for child care center directors and staff. When children, especially those who are at-risk, can build and maintain relationships with care providers, brain connections are formed. Healthy attachments provide a foundation for reaching developmental milestones in early childhood and beyond, making teacher and director tenure especially important.

By professionalizing child care, providing a variety of training and supports, offering salary incentives and paths to certification and higher education, United Way Bright Beginnings has successfully increased the tenure of its teachers and directors.

Between 2002 and 2011, the average tenure for United Way Bright Beginnings teachers increased by 46.5 percent. Teacher turnover has decreased dramatically, from a high of 47 percent in 2007 to a low of 24 percent in 2010. The tenure of directors whose centers have joined Bright Beginnings since 2007 is 100 percent. The average tenure of Bright Beginnings directors over 10 years is 87 percent. According to the National Association of Child Care Resource and Referral Agencies, the annual turnover rate in the child care workforce nationwide falls between 25 and 40 percent.

The future is indeed bright

No matter how you look at it—from an individual, community or economic perspective, early childhood education is critical to developing strong families, safe communities, and a thriving economy. What we do now will lay the groundwork for our children to become the doctors, scientists, engineers, civic leaders and teachers of tomorrow.

In its first 10 years, United Way Bright Beginnings has established a path to academic success for 5,000 children, creating a better future for them and their families, and improving the quality of child care in Houston.

Bright Beginnings is committed to continuing this important work, giving children a better chance of achieving their dreams—and lifting us all up with their success.
Lessons Learned

Like the children it serves, United Way Bright Beginnings is constantly learning, growing and developing. Some of the lessons from the past 10 years include:

1. Commitment from the top of the organization, whether it is a CEO, board of directors or child care center director, is an absolute necessity. The centers that did not succeed in United Way Bright Beginnings were those whose leadership lacked the vision and stamina essential for success.

2. The child care center director is key to the success of a center. The director must have skills, knowledge, support, resilience, and a firm commitment to the cause of improving the quality of child care, because the pay cannot adequately reward the amount of dedication and hard work required.

3. Require the leadership and staff of incoming centers to demonstrate their commitment to the program before installing new equipment and building playgrounds. New centers can demonstrate their commitment by working toward developing an action plan, taking part in training, and establishing relationships with personnel in other United Way Bright Beginnings centers.

4. Sustaining high quality care is difficult. Maintaining quality takes as much time and effort as achieving it. Quality care is expensive: it requires more training, more pay, and more teachers per student than the minimum requirements.

5. Teachers became more engaged after participating in two leadership tracks: leading cohort teacher training and taking part in training as a family engagement coordinator for their center.

6. A real strength of the program is the incorporation of leadership development throughout the system: for directors, program consultants, teachers, and even for child care directors outside of United Way Bright Beginnings through the outreach mechanism of quarterly leadership forums.

7. An unintended success of the program has been the transformation of teachers and directors who, as a result of United Way Bright Beginnings, now identify themselves as professionals, gaining knowledge of early childhood, developing their skills in working with children, and reassessing who they are in their key roles of helping children learn.

8. The whole is greater than the sum of the parts; a good team with strong leadership can do great work together. United Way of Greater Houston leads Bright Beginnings, working in close partnership with Collaborative for Children, which provides consultation, training and curriculum, the University of Houston, which provides program evaluation and quality improvement recommendations, and child care center staff. All are focused on moving forward positively, despite the inevitable bumps in the road.

9. Perhaps the greatest lesson of United Way Bright Beginnings is that dreams can come true. Because of Bright Beginnings, children from families which might otherwise have little hope for quality care are achieving developmental milestones, entering school ready to succeed and getting a glimpse of a future that is bright.
“United Way Bright Beginnings puts into practice what is important in supporting children to become successful early learners. We know the critical importance of nurturing relationships in determining optimal child development. Child development is nested within a set of nurturing relationships, parent-child, parent-provider, and provider-child. Parents are their children’s first teachers and children learn by watching and imitating what their parents do. United Way Bright Beginnings, with the support of Touchpoints, sustains the development of all these critical relationships and creates one seamless system of care where all participants can succeed.”

– Dr. T. Berry Brazelton
Chapter 1: The History of United Way Bright Beginnings

United Way Bright Beginnings was created in 2001 and launched in early 2002 with the goal of improving the education of children in the most formative period of their lives. In response to research pointing to the profound long-term impact of quality early childhood education, Bright Beginnings was designed to help children, especially those from at-risk families, achieve social, emotional, physical and cognitive milestones and enter school ready to succeed.

The Case for United Way Bright Beginnings

Zero to Three: National Center for Infants, Toddlers and Families cites neurological research which tells us that babies are born with brain hardware in place, but the software is in need of connections. These connections are formed through daily experiences and activities, the most important being language and relationships. Infants exposed to the richest environments form the strongest connections. In the first few years of life, children experience an explosion in brain growth. At birth, the brain is one-quarter the size of an adult’s brain; by age three, it is 80 percent; by age five, 90 percent.

Nationally-accepted research from the University of North Carolina shows that higher quality child care classrooms lead to better outcomes for children, starting with increased readiness for school. Children with high-quality early care experiences, like those in United Way Bright Beginnings, demonstrate greater language abilities, higher math and reading scores, and increased non-verbal reasoning and problem-solving skills (1999).
Studies have shown that high-quality early childhood education also has lasting positive effects later in life. These effects are seen as strongest in children born into poverty and at risk for failing in school. The effects cited include:

- Higher cognitive-academic achievement at age 15
- Increased likelihood of attending a four-year college
- Older when having their first child
- Less likely to be receiving public assistance
- Earning higher wages
- Experiencing a higher rate of employment
- Achieving a greater likelihood of eventually owning their own home

Research shows that high-quality child care inoculates a child from:

- Being retained in school
- Placement in special education
- Involvement in the criminal justice system
- Dropping out of school

The benefits of early childhood education extend beyond the child to the community as a whole. Several studies indicate that dollars invested in early childhood education yield high economic returns. Recent studies include:

- A 2003 Federal Reserve Bank of Minneapolis report found that quality early care experiences yield a 16 percent annual rate of return on investment (4 percent to participants; 12 percent to the public)

- A 2006 study from the Bush School of Government and Public Service found that every $1 invested in high-quality Pre-K in Texas returns $3.50 per participant to the State of Texas

“Teachers who know what they are doing make a difference, even to toddlers. My son loves the teachers at his United Way child care center. They read to him, teach him songs and show him how to express his needs. It’s so amazing to see him learn like that.”

– parent of a United Way Bright Beginnings student
“Children with high-quality early care experiences, like those in United Way Bright Beginnings, demonstrate greater language abilities, higher math and reading scores, and increased non-verbal reasoning and problem-solving skills.”

Off the Ground and into the Classroom

Based on this research, United Way Bright Beginnings launched in 2002 with 13 participating child care centers across the Greater Houston area. Almost all of the centers served low-income families. One served children of homeless families and one served children in families experiencing domestic violence.

From the start, Bright Beginnings partnered with local nonprofit Collaborative for Children to provide curriculum and training, and with the University of Houston to monitor and evaluate the program.

United Way Bright Beginnings was designed with long-term sustainable changes as desired outcomes. To achieve these changes, the curriculum/training team immediately performed a needs assessment and developed a quality improvement action plan for each center. Following this initial assessment, United Way Bright Beginnings began with the following training, technical assistance and incentives:

• Development of a comprehensive staff development plan
• Business and leadership training for directors
• Innovative training opportunities for child care staff
• Twice a month consultation visits from training team mentors
• Developmentally appropriate equipment (playground and indoor) for each center
• Stipends to staff for higher education
• Wage supplementation for staff meeting experience and education levels

In the last decade, the program has grown and evolved, continually improving to best meet the needs of the children it serves.

As of 2012, United Way Bright Beginnings serves 18 nonprofit centers and more than 700 children from at-risk families, many of whom are experiencing homelessness, escaping domestic violence, or are led by a teen parent.
A little girl saw her teacher seated at a table, writing. She was curious about it and asked what the teacher was doing. “Writing a letter to my mother,” the teacher replied. The child decided to write a letter to her mother. Other children saw this and began to ask questions about sending letters. They had seen the mailbox next to the playground but hadn’t paid much attention to it before. When the letter carrier came by, the teacher asked him to speak with the children. They were so excited that many of them decided to write letters. The teacher suggested they write them to the younger children. Later they lined up and carried the letters over to the mailbox, anxious to see the response. This is an example of emergent curriculum, of a teacher responding to the interest of the child and giving encouragement at the proper moment. A series of letter writing activities stemmed from the impulse of one child observing a teacher, with the teacher listening, responding, and following the thread.
CHAPTER 2: PHILOSOPHY

United Way Bright Beginnings instruction is fluid by design, encouraging individualization and responsive learning, while adhering to the indicators of an effective curriculum (NAEYC):

• Children are active and engaged
• Goals are clear and shared by all
• Curriculum is comprehensive and evidence-based
• Valued content is learned through investigation and focused, intentional teaching
• Curriculum builds on prior learning and experiences
• Professional standards validate the curriculum’s subject-matter content

In its effort to meet the diverse needs of an at-risk population, the Bright Beginnings curriculum integrates tenets of four different schools of thought in human development: the adult learning theories of Paulo Freire, the child development theories of Dr. Emmi Pikler, Touchpoints of Dr. T. Berry Brazelton, and the Reggio Emilia approach to early childhood education.

Paulo Freire. United Way Bright Beginnings training is infused with the teachings of Paulo Freire, whose pedagogy places student and teacher side-by-side, encouraging both to become critical and independent thinkers. Freire’s theories promote an intrinsic love and curiosity for learning and treat each individual as an equal part of the teaching/learning process.

Dr. Emmi Pikler. Dr. Pikler’s optimal child development theories have influenced United Way Bright Beginnings to recognize the importance of privileged relationships between adults and children and to promote self-initiated activities among children from the youngest age.

Touchpoints of Dr. T. Berry Brazelton. The Touchpoints approach focuses on the power of strong and positive caregiving relationships in promoting the best developmental outcomes for children. Providers look for opportunities to “touch” into the family system to help parents learn to watch and understand their child’s behavior. Providers and families work together to meet the needs of the child.

The Reggio Emilia approach. The aim of the Reggio Emilia approach, based on the school system in Reggio Emilia, Italy, is to promote children’s education through the development of all their languages: expressive, communicative, symbolic, cognitive, ethical, metaphorical, logical, imaginative and relational. In this schema, parents, teachers, children and physical environment all play critical roles in the learning process.

To effectively stretch and develop each child, Bright Beginnings teachers continually adapt and adjust learning. By listening, observing, and asking questions, the teachers decide what materials and ideas they will pursue to expand the children’s understanding. The teachers create learning environments that support their own reflection and examination of the children’s activities to determine how best to support them. The curriculum develops out of the curiosity of the child.
Chapter 3: Measuring Success

In this section, the success of United Way Bright Beginnings will be looked at in terms of several measures:

1. Student achievement in elementary school
2. The quality of the learning environment
3. Tenure of child care center personnel

Student achievement in elementary school

As Bright Beginnings students have entered elementary school, their academic success has been measured against that of their peers. In 2008, 2009, 2010 and 2011, the University of Houston conducted four research studies exploring how well children from United Way Bright Beginnings centers scored on standardized tests when they attended public schools compared with control groups. For the first three studies, students were matched on grade, school, gender, ethnicity, and economic disadvantage. The school districts provided randomly selected matches or control groups so that students were compared to those at the same campus, grade level, gender, ethnicity, and socioeconomic status. For the 2010/2011 study, Bright Beginnings results were compared with Houston Independent School District (HISD) averages.

The University of Houston analyzed results of the Stanford, Aprenda and Texas-only Texas Assessment of Knowledge and Skills (TAKS) tests. Over four years, Bright Beginnings students performed better on 45 of 51 achievement tests than district averages or matched control group performance.

The following section chronicles these student achievement studies and concludes that United Way Bright Beginnings students consistently did better than district averages, national averages, and matched reference groups on state tests. This is remarkable, especially considering that children in United Way Bright Beginnings often come from backgrounds posing exceptional challenges, like extreme poverty, homelessness, domestic violence and teen parenting.
United Way Bright Beginnings students performed as well or better on nine of the 10 Stanford 10 measures in Reading and Mathematics than HISD averages reported for 2011.

Study of School Achievement of United Way Bright Beginnings Children, 2011

In the fourth and most recent study, Bright Beginnings students’ TAKS, Stanford, and Aprenda test scores were compared to the HISD district averages reported by the Texas Education Agency (TEA) for the 2010-11 school year.

TAKS. The Texas Assessment of Knowledge and Skills (TAKS) is the state criterion-referenced exam that measures student achievement in relation to a set of standard instructional targets aligned with the Texas State Curriculum. TAKS tests were completed by third, fourth, and fifth graders in HISD.

In 2011, United Way Bright Beginnings students performed better on all 18 TAKS Reading and Mathematics measures (Met Standard, Commended Rate, and Scale Scores) for grades three, four and five than HISD district averages as reported by TEA.

<table>
<thead>
<tr>
<th>Grade 3 TAKS</th>
<th>Reading Scale Score</th>
<th>Reading Met</th>
<th>Reading Commended</th>
<th>Math Scale Score</th>
<th>Math Met</th>
<th>Math Commended</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISD District Average (N=10,401)</td>
<td>594</td>
<td>87%</td>
<td>39%</td>
<td>589</td>
<td>85%</td>
<td>32%</td>
</tr>
<tr>
<td>Bright Beginnings Average (N=28)</td>
<td>618</td>
<td>93%</td>
<td>46%</td>
<td>614</td>
<td>93%</td>
<td>39%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 4 TAKS</th>
<th>Reading Scale Score</th>
<th>Reading Met</th>
<th>Reading Commended</th>
<th>Math Scale Score</th>
<th>Math Met</th>
<th>Math Commended</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISD District Average (N=12,614)</td>
<td>645</td>
<td>83%</td>
<td>34%</td>
<td>661</td>
<td>88%</td>
<td>39%</td>
</tr>
<tr>
<td>Bright Beginnings Average (N=26)</td>
<td>674</td>
<td>95%</td>
<td>42%</td>
<td>695</td>
<td>92%</td>
<td>58%</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>Grade 5 TAKS</th>
<th>Reading Scale Score</th>
<th>Reading Met</th>
<th>Reading Commended</th>
<th>Math Scale Score</th>
<th>Math Met</th>
<th>Math Commended</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISD District Average (N=14,521)</td>
<td>704</td>
<td>90%</td>
<td>34%</td>
<td>706</td>
<td>92%</td>
<td>41%</td>
</tr>
<tr>
<td>Bright Beginnings Average (N=15)</td>
<td>751</td>
<td>93%</td>
<td>53%</td>
<td>736</td>
<td>93%</td>
<td>60%</td>
</tr>
</tbody>
</table>
Stanford 10 achievement tests. Students in HISD were assessed with a nationally norm-referenced test, the Stanford 10. The Stanford 10 is an English language test of Reading, Mathematics, and general achievement (Complete Battery). On the Stanford tests for grades one to five, United Way Bright Beginnings students performed better than HISD averages on nine of the 10 measures in Reading and Mathematics, as shown in the tables below.

NCE=Normal Curve Equivalent, the United States Department of Education’s way of standardizing test scores.

<table>
<thead>
<tr>
<th>Grade 1 Stanford</th>
<th>Reading NCE</th>
<th>Math NCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISD District Average (N=10,457)</td>
<td>48</td>
<td>53</td>
</tr>
<tr>
<td>Bright Beginnings Average (N=31)</td>
<td>50</td>
<td>54</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 2 Stanford</th>
<th>Reading NCE</th>
<th>Math NCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISD District Average (N=10,210)</td>
<td>46</td>
<td>51</td>
</tr>
<tr>
<td>Bright Beginnings Average (N=30)</td>
<td>46</td>
<td>52</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 3 Stanford</th>
<th>Reading NCE</th>
<th>Math NCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISD District Average (N=10,099)</td>
<td>49</td>
<td>58</td>
</tr>
<tr>
<td>Bright Beginnings Average (N=25)</td>
<td>52</td>
<td>61</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 4 Stanford</th>
<th>Reading NCE</th>
<th>Math NCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISD District Average (N=11,997)</td>
<td>49</td>
<td>59</td>
</tr>
<tr>
<td>Bright Beginnings Average (N=26)</td>
<td>59</td>
<td>65</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 5 Stanford</th>
<th>Reading NCE</th>
<th>Math NCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISD District Average (N=13,584)</td>
<td>47</td>
<td>56</td>
</tr>
<tr>
<td>Bright Beginnings Average (N=16)</td>
<td>56</td>
<td>62</td>
</tr>
</tbody>
</table>

Aprenda achievement tests. The Aprenda is the Spanish language equivalent of the Stanford 10. The comparison is shown between the HISD district averages and United Way Bright Beginnings students’ scores in the tables below:

<table>
<thead>
<tr>
<th>Grade 1 Aprenda</th>
<th>Reading NCE</th>
<th>Math NCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISD District Average (N=6,034)</td>
<td>78</td>
<td>76</td>
</tr>
<tr>
<td>Bright Beginnings Average (N=28)</td>
<td>75</td>
<td>81</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Grade 2 Aprenda</th>
<th>Reading NCE</th>
<th>Math NCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HISD District Average (N=5,801)</td>
<td>76</td>
<td>76</td>
</tr>
<tr>
<td>Bright Beginnings Average (N=21)</td>
<td>76</td>
<td>81</td>
</tr>
</tbody>
</table>

On the Aprenda tests for grades one and two, United Way Bright Beginnings students’ scores were as good as or better than HISD reported averages on three out of four measures.

TAKS tests results for United Way Bright Beginnings students were higher than HISD averages in all 18 categories for 2011.
Study of School Achievement of United Way Bright Beginnings Children, 2010

The third study examined the records of United Way Bright Beginnings students in 2010. The school district provided a random selection of reference group students matched on grade, school, gender, ethnicity, economic disadvantage and special education.

**TAKS.** Scores for 44 United Way Bright Beginnings students on the TAKS Math and Reading tests in grades three and four are shown, compared to the control group, in the following table.

<table>
<thead>
<tr>
<th>Group</th>
<th>2010 TAKS</th>
<th>Reading Vertical Scale Score</th>
<th>Math Vertical Scale Score</th>
<th>Reading Met Std.</th>
<th>Math Met Std.</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Way Bright Beginnings</td>
<td></td>
<td>650</td>
<td>637</td>
<td>0.93</td>
<td>0.91</td>
</tr>
<tr>
<td>Control</td>
<td></td>
<td>640</td>
<td>588</td>
<td>0.92</td>
<td>0.85</td>
</tr>
</tbody>
</table>

TAKS test scale scores and pass rates were higher among the United Way Bright Beginnings group than the control group. A t-test for statistical significance on the Math Vertical Scale Scores for grades three and four indicated statistically significantly higher scores among the United Way Bright Beginnings students than the control group (p < .01).

**Stanford 10 achievement tests.** A comparison of the United Way Bright Beginnings students and the reference group for 2010 Stanford test results is presented in the table below.

<table>
<thead>
<tr>
<th>Group</th>
<th>Stanford 10 Mean NCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Reading</td>
</tr>
<tr>
<td>United Way Bright Beginnings</td>
<td>53.1</td>
</tr>
<tr>
<td>Control Group</td>
<td>51.5</td>
</tr>
</tbody>
</table>

In both Reading and Math, the United Way Bright Beginnings group scored consistently higher than the control group.

**Aprenda achievement tests.** 23 United Way Bright Beginnings students had Aprenda test results, the Spanish equivalent of the Stanford 10 tests. The results of the Aprenda testing are summarized in the following table.
Comparison of Groups for Aprenda Test Results (n=23 UWBB students)

<table>
<thead>
<tr>
<th>Group</th>
<th>Reading</th>
<th>Math</th>
<th>Complete Battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>United Way Bright Beginnings</td>
<td>718</td>
<td>704</td>
<td>688</td>
</tr>
<tr>
<td>Control Group</td>
<td>700</td>
<td>633</td>
<td>669</td>
</tr>
</tbody>
</table>

The United Way Bright Beginnings students had consistently higher mean Aprenda NCE scores than the control group.

Study of School Achievement of United Way Bright Beginnings Children, 2009

The second study, conducted by the Institute for Urban Education in 2009, was based on a sample of 107 students in Houston ISD. The school district matched randomly selected students to each United Way Bright Beginnings student in the same grade, school, gender, ethnicity, economic disadvantage and special education.

TAKS. The table below compares United Way Bright Beginnings students to the matched control group on three TAKS measures: Scale Score, Met Standard (passing), and Commended Status. United Way Bright Beginnings students had higher scores in Reading than the control group.

| 2009 Third Grade TAKS Results: UWBB Students and Control Group (n=107 each group) |
|-------------------------------------------------|---------------------------------|-----------------|-----------------|-----------------|
| Group                                           | Reading Scale Score | Math Scale Score | *Reading Met Std | *Math Met Std | **Reading Commended | **Math Commended |
| United Way Bright Beginnings                    | 2360               | 2314            | 0.89            | 0.86           | 0.57              | 0.45            |
| Control Group                                   | 2312               | 2341            | 0.88            | 0.88           | 0.44              | 0.45            |

* Percentage of students who Met Standard for test passage (scale score of 2100).
**Commended Status reflects percentage of students who excelled (scale score of 2400 or more).

United Way Bright Beginnings scores were higher than those of the reference group for both 2009 TAKS testing Met Standard and Commended Status for Reading. 89 percent of United Way Bright Beginnings students Met the Reading standards set by the state for their respective grade levels (grades three, four, five, and six). More than half (57 percent) of the United Way Bright Beginnings students achieved Commended Status compared to the reference group (44 percent).

Mathematics Scale scores were comparable with those in the reference group. 86 percent of United Way Bright Beginnings students Met the Standards for Mathematics achievement and 45 percent excelled and achieved Commended Status, rates similar to the reference group.
Study of School Achievement of
United Way Bright Beginnings Children, 2008

The first study by the Institute for Urban Education analyzed achievement scores of children who had attended Bright Beginnings centers between 2001 and 2007 and subsequently attended Pasadena or Houston Independent School Districts.

TAKS. Results from the Texas TAKS tests are summarized in the table that follows.

<table>
<thead>
<tr>
<th>Third Grade TAKS Results for UW Bright Beginnings Students, 2007</th>
</tr>
</thead>
<tbody>
<tr>
<td>Houston and Pasadena ID</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>Reading</td>
</tr>
<tr>
<td>Math</td>
</tr>
</tbody>
</table>

Stanford 10 achievement tests. These data were compared to a random sample of students who attended HISD schools. The sample was collected from a pool of students at the same grade levels in the same schools, and with similar socio-economic characteristics as the United Way Bright Beginnings students. The difference between the scores of the two groups was tested for statistical significance using a t-test. Results of the comparison between United Way Bright Beginnings students and their matched reference group on Stanford 10 tests are found in the following table. It shows that the United Way Bright Beginnings children scored better in both Reading and Math than the control group.

<table>
<thead>
<tr>
<th>Stanford 10 Comparison Group Statistics (n=156 each group)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group</td>
</tr>
<tr>
<td>United Way Bright Beginnings</td>
</tr>
<tr>
<td>Control Group</td>
</tr>
</tbody>
</table>

Scores reported using the Normal Curve Equivalent (NCE) scale (scores from 1 to 99 with a median of 50 NCE).

The students served by United Way Bright Beginnings centers outperformed the randomly selected control group on each of the Stanford measures. United Way Bright Beginnings students scored an average of 54.39 NCE in Reading, 56.86 NCE in Math, and 54.28 NCE on the Complete Stanford Battery. All three scores were higher than those of the control group students and were also higher than the national norm (50.00).
The quality of the learning environment

Unlike many child care centers, *United Way Bright Beginnings* classrooms are designed to spark interaction and curiosity and nurture children in realistic environments. Calming colors and natural furniture create a comfortable learning environment, while real photographs, learning stories and items from outdoors are placed at children’s eye-level to encourage discovery.

Bright Beginnings teachers work one-on-one with each child to understand his individual needs and interests and plan lessons and activities based on the child’s cues. Even the youngest Bright Beginnings students are actively engaged in learning, exploring their environments and motor skills by crawling and playing, rather than spending time in swings or cribs.

Nationally-accepted research from the University of North Carolina shows that higher quality child care classrooms lead to better outcomes for children, starting with increased readiness for school. High-quality classrooms are led by well-trained and consistent staff, who employ developmentally-appropriate curriculums, maintain a safe environment and provide warm interactions with children. These classrooms maintain a low teacher to children ratio and a high rate of parental involvement.

*United Way Bright Beginnings* has used nationally-accepted observation tools to measure improvement in the quality of care provided in the centers: the Infant/Toddler Environmental Rating Scale-Revised (ITERS-R) and the Early Childhood Environmental Rating Scale-Revised (ECERS-R).
Based on the scores from the Early Childhood (ECERS-R) and Infant and Toddler (ITERS-R) rating scales, *United Way Bright Beginnings* child care centers have improved their practices enormously over time. The scales, based on formal classroom observations, measure the effectiveness of the centers’ delivery of high-quality child care and learning experiences. Observations by trained observers have been conducted annually since the beginning of the program. Each observation required up to three hours per classroom to conduct the comprehensive analysis. The six subscale categories include:

- **Program Structure** (Schedule; free play; group; provisions for children with disabilities)
- **Interaction** (Supervision; peer interaction; staff-child interactions; discipline)
- **Activities** (Fine motor; art; music/movement; blocks; dramatic play; sand and water play; nature/science; use of TV, video, and/or computers; promoting acceptance of diversity)
- **Listening and Talking or Language-Reasoning** (understanding and use of language; books)
- **Personal Care Routines** (Greeting/departing; meals/snacks; nap; diapering/toileting; health practices; safety practices)
- **Space and Furnishings** (Indoor space; furniture for routine care and play; provision for relaxation; room arrangement)

When a child care center joins *United Way Bright Beginnings*, a baseline measure is made before training is conducted. As shown in the chart below, the initial scores were low; out of a possible seven points, the average baseline score was 2.76. By 2011, the overall average score had risen to 6.44. The following chart shows the average scores of the combined centers on each of the six subscales.

**Centers’ Growth on the Subscales: Baseline to 2011**
The baseline measures show the strongest scale was *Interaction* (3.75 on the 7.00 scale). The lowest rating was *Space and Furnishings* (2.32). By 2011, *Activities* was rated highest (6.79), but all scales were rated over 6.40 with one exception, *Personal Care Routines* (5.75).

Every two to three years, a new group of centers has been added to the program; the groups are referred to as tiers. In the chart below, the scores of the child care centers have been tracked by tier.

Comparing the baseline measure to the levels achieved in 2011, all of the centers have made significant progress. As new centers have been added, they have sped up their improvement time dramatically, as shown in the longitudinal chart below.

Tier I centers started in 2002 at the 2.7 level; it took seven years to reach six points on a seven point scale. Tier II centers reached six points in five years, and Tier III reached it in three years. The fastest improvement was seen in the Tier III centers, progressing from a baseline level of 2.9 to the 6.7 level in four years (an improvement of 4.8 points). The last group of centers to join, Tier IV, has only been in the program two years, but within that time, has more than doubled its starting score (from 2.5 to 5.4). All *United Way Bright Beginnings* child care centers are now providing high-quality care and education for children.

Additionally, 33 percent of Bright Beginnings centers have received accreditation from the National Association for the Education of Young Children, recognizing excellence among educational programs for young children. Less than 2 percent of all child care centers in the four-county Greater Houston area are accredited.
Tenure of child care center personnel

Research points to another quality of care indicator, the length of job tenure for child care center directors and staff. When children, especially those who are at-risk, can build and maintain relationships with care providers, brain connections are formed.

Why is this important?

Research suggests that attachment with primary care givers outside the home is important to child development (Cummins, 1980; Goosens & van Ijzendoorn, 1990; Howes & Hamilton, 1992). According to a study by Raikes (1993) of infants and toddlers who were with the same outside caregiver between nine to 12 months, 67 percent had secure attachments. In contrast, only 50 percent had formed attachments if they were with the same caregiver for only five to eight months. Healthy attachments provide a foundation for reaching developmental milestones in early childhood and beyond.

Teacher tenure. The child care center teachers in United Way Bright Beginnings have increased their tenure significantly over the time their centers have participated in the program.

Each group of centers joined United Way Bright Beginnings at different times and with teachers of varying tenure. The table below provides data for each group of centers from the time they joined United Way Bright Beginnings to the fall of 2011.

<table>
<thead>
<tr>
<th>Average Number of Months of Teacher Tenure by Year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>Tier I</td>
</tr>
<tr>
<td>Tier II</td>
</tr>
<tr>
<td>Tier III</td>
</tr>
<tr>
<td>Tier IV</td>
</tr>
<tr>
<td>Average Months of Staff Tenure in Centers</td>
</tr>
</tbody>
</table>

The average tenure for teachers at the United Way Bright Beginnings centers increased at the rate of 46.5 percent between 2002 and 2011.

Teacher turnover. To provide a different perspective on teacher longevity, the table below compares the number of new teachers added to the program to the total number of staff in the child care centers between 2006 and 2011.

<table>
<thead>
<tr>
<th>Teacher Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
</tr>
<tr>
<td>2006</td>
</tr>
<tr>
<td>2007</td>
</tr>
<tr>
<td>2008</td>
</tr>
<tr>
<td>2009</td>
</tr>
<tr>
<td>2010</td>
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</tbody>
</table>

Over time, the percentage of new teachers in United Way Bright Beginnings centers has decreased dramatically, from a high of 47 percent in 2007 to a low of 24 percent in 2010.
How does this compare to national figures?

While statistics on teacher turnover rates in child care centers are scarce, a 1989 study of child care centers in five major cities found that average staff turnover was 41 percent per year (Whitebook, Howes, & Phillips). According to the National Association of Child Care Resource & Referral Agencies (2010), the annual turnover rate in the child care workforce nationwide falls between 25 and 40 percent. With a turnover rate of 24 percent in 2010, the United Way Bright Beginnings centers are doing better than the national average.

Why have the teachers stayed?

The findings of a series of extensive interviews with teachers over multiple years reveal that Bright Beginnings teachers are treated like professionals; their self-image has changed from babysitter to professional. The amount and kind of training and support they receive on a regular basis help them develop a sense of community and, in many cases, results in a change of their self-image. Although the salary for these professionals is low, United Way Bright Beginnings teachers can earn salary incentives based on longevity, obtain a Child Development Associate certification, and complete higher education coursework and degrees in the field of Early Childhood Education. This combination of support has contributed to their loyalty, professionalism and self-esteem.

Director tenure. The table below shows the average number of years Bright Beginnings center directors have stayed with the program by tier.

<table>
<thead>
<tr>
<th>Summary of Bright Beginnings Director Retention rate by Tier and Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Since</td>
</tr>
<tr>
<td>-------</td>
</tr>
<tr>
<td>2002</td>
</tr>
<tr>
<td>2005</td>
</tr>
<tr>
<td>2007</td>
</tr>
<tr>
<td>2009</td>
</tr>
<tr>
<td>All (17)</td>
</tr>
</tbody>
</table>

The current Tier I directors have been with United Way Bright Beginnings 83 percent of the 10-year time period during which the program has been operating. Tier II directors have remained with the program 89 percent of the time over the past seven years, and Tier III and IV directors have remained with the program since joining. The average tenure of Bright Beginnings directors overall is 87 percent. To look at director turnover, the number of new directors in each tier by year is shown in the table below.

<table>
<thead>
<tr>
<th>Director Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tier</td>
</tr>
<tr>
<td>I</td>
</tr>
<tr>
<td>II</td>
</tr>
<tr>
<td>III</td>
</tr>
<tr>
<td>IV</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>
Chapter 4: Professional Development

Excellent child care centers start with excellent teachers and directors who are trained and equipped to nurture children at this important stage in their development. The training for United Way Bright Beginnings staff and directors is intense and ongoing, and is a cornerstone of the program. It is evaluated regularly, both formally at trainings and informally among the program manager, the consultants, and others. Evaluations and reflections are systematically incorporated to make training better fit the needs of staff and directors. The four major elements for United Way Bright Beginnings training are:

1. Relationships and continuity. All training is created on the basis of developing meaningful relationships, supporting the learner to find and use his strengths within the safety of a long-term commitment from nationally recognized Early Childhood educators to nurture growth.

2. Support networks at all levels. Quarterly trainings are followed up in the classroom with side-by-side consultation for teachers. Teachers are observed in their own setting, after which they meet with the consultant outside of the classroom to create a plan for improvement.

3. Expanding life experiences. For directors, participation in professional development takes the form of attending national conferences and leadership training. Peer-to-peer learning gives directors an opportunity to compare their experiences with those of others at the same level in their field. Reflecting with colleagues about their own work helps directors view themselves from a different perspective and builds high-order thinking.

4. External consultants. Nationally-known experts in Early Childhood Education have been hired to co-develop and facilitate training specifically formulated to:

   • Help directors develop and hone their leadership capacities
   • Assist teachers in learning best practices in the field and upgrading their professional skills
   • Work with parents to increase their awareness about the pivotal role they play in their children’s learning and development
Teacher training

United Way Bright Beginnings teacher training has evolved with the program. Today, teacher training is conducted in five basic ways:

1. Side-by-side mentoring in the classroom

2. Quarterly teacher training events

3. Cohort lead teacher training

4. Family engagement

5. Obtaining certification

Teachers are supported in their work with children through individual mentoring by program consultants from Collaborative for Children. Each teacher receives four hours of observation and mentoring per month. Together, the teacher and consultant reflect on what the teacher learned, review new practices to apply, and discuss how to implement them, resulting in a written action plan. On subsequent visits, the consultant will restart the process of observation and reflection, noting the progress made. This iterative process reinforces best practices.

2. Quarterly training events.
United Way Bright Beginnings teachers engage in all-day training events each quarter. The training is designed for four distinct groups of teachers: teachers of infants, teachers of toddlers, pre-school teachers, and new teachers. Each group experiences a different set of learning activities that are developmentally appropriate for the children in their care.
“I’ve never seen a child care program like this before. My daughter is just a baby, but she is already learning so much. The teachers help the kids develop language skills and learn how to communicate their needs. It’s really incredible.”

– parent of a United Way Bright Beginnings student

3. Cohort leader training.
A leadership track for teachers was created to provide in-depth training. A teacher from each cohort level (infant, toddler, and pre-school) is chosen from each center to take part. The goal is for the participating teachers to teach their peers what they learn and to serve as models of best practices within their centers. The teachers learn how to develop theory through the creation of “learning stories” as a way to document a child’s development. Examples of learning stories, or teacher-written stories that document a child's learning and growth, can be found in the Appendix.

4. The family engagement initiative.
Because communication between staff and parents of children in the centers had been identified as a weakness of the program, a group of staff were selected to serve as family engagement coordinators and receive training to improve communication skills and increase their self-confidence in working with parents. The family engagement coordinators developed their leadership skills as they helped their center’s staff include families in meaningful ways. Teachers learned to address the parents on a first-name basis and engage with them regularly about the progress of their child. Family engagement training helped teachers discover different activities they could use to engage both children and their families.

5. Obtaining certification.
United Way Bright Beginnings helps teachers earn the Child Development Associate certification (CDA), a nationally-recognized basic credential for child care staff, by offering special programs at convenient times and locations, paying tuition for the training, providing classes in Spanish, if needed, and providing financial incentives. The vision for certification, as described by the Council for Professional Recognition, is “to ensure that all professional early childhood educators and caregivers meet the developmental, emotional, and educational needs of our nation’s youngest children.” The number of teachers in United Way Bright Beginnings who have received certification, or are in the process of obtaining it, rose from 21 percent in 2002 to 68 percent in 2011. Bright Beginnings has also helped 29 teachers earn associate degrees in early childhood, 15 teachers earn bachelor’s degrees in early childhood and 12 teachers earn master’s degrees in early childhood.
**Director training**

The key to the success of *United Way Bright Beginnings* child care centers implementing changes has been the directors. Improving quality in a child care center is a difficult job that takes vision, patience, stamina, and leadership. Bright Beginnings centers provide services to families in dire circumstances (victims of abuse, homelessness, first-generation immigrants, poverty). Many Bright Beginnings clients require extra services that go beyond directing a “regular” child care center. Directors need to be able to comfort staff and families in crisis and help resolve conflicts. The job requires a high level of commitment to the cause, especially considering the low salaries of these directors. To aid the directors’ self-care and leadership development, training was designed to focus on four major areas:

1. **Leadership development**

2. **Community outreach through leadership forums and geographically-based leader groupings (“Geo-groups”)**

3. **Self-care**

4. **Pedagogical leadership**

**1. Leadership training.**

A framework of leadership capacities was introduced to help the directors build the skills necessary for effective leadership. Early in the program, management recognized that the directors could benefit from forming relationships with each other rather than working in isolation and coming together only for training. The directors were assigned to work with a partner in a series of activities.

*Visits to other centers.* First, the pairs were assigned to visit each other’s center, shadow each other while observing and taking notes, and to give feedback about what they saw, without interpretation or judgment. The directors had to battle their own defensiveness, insecurities and fears of being judged; however, as they became more comfortable, relationships developed and the dyads were replaced by triads.
Sensory-emotional activities and sharing as a group. Then, the directors began taking part in sensory-emotional activities, like drawing timelines of their lives, and sharing critical episodes from their pasts. By working to represent their personal stories and sharing these self-representations and personal accounts with the group, the directors built a platform of trusting relationships and self-awareness. These activities have prompted the directors to participate in local and national professional conferences and publish articles together in early childhood education journals.

2. Community outreach through leadership forums and Geo-groups.
In the sixth year, directors began to reach out to the wider Houston community, facilitating a series of community-wide leadership conferences three times a year. Led by experts in early childhood education, attendance at these meetings has exceeded 200, reaching far into the Houston area child care community. From these all-day events, small groups of directors in the same geographic area were formed. Known as Geo-groups, these informal group meetings have supported connections with other directors in the community, resulting in friendships, visits to each other’s child care centers, resource sharing, and sharing of ideas that have strengthened the professional practice of child care center directors across the Houston area.

Bright Beginnings child care centers serve families of low socio-economic levels, who struggle on many levels. And, many of the centers work with families in crisis. A number of the child care centers are located inside high schools and serve the children of teen parents trying to graduate. Other centers serve children and families living in challenging situations, such as homelessness, parents recovering from drug or alcohol addiction, and families who have experienced domestic violence. Directors needed help dealing with the stress related to working with these special populations.

Seminars. Three-day seminars offer a refuge for directors where they are led in activities conducive to the open sharing of experiences and perspectives. As participants identify their stressors and the ways in which the levels of stress impact them, they begin to understand the commonality of their experiences, forming trust and relationships with one another.

Professional meetings. Bright Beginnings directors have spent time together travelling as a group to professional meetings. Exposure to new ideas and presentations by leaders in the field simultaneously facilitated a better understanding of the larger context of early childhood education and increased their sense of professionalism.

Talking through concerns. As part of professional development, Bright Beginnings directors have had opportunities to discuss topics of concern with a clinical psychologist. Directors have reported that these sessions have helped them express themselves, build confidence, cope with stress and create balance, all of which help them better serve the children in their care.

4. Becoming pedagogical leaders.
As a result of being exposed to high-quality early childhood education nationally and internationally, Bright Beginnings directors have systemically accelerated improvement in the quality of care for children. They have become more involved in the training of teachers, resulting in a deeper understanding of the process. Bright Beginnings directors are prepared to assist teachers in implementing learning activities with the children by anticipating the need for additional tools and materials, and anticipating the joys and frustrations of children in the learning process. Because of their deeper understanding of the activities, the directors are able to support teachers and students in the learning process and clearly convey to the community the value of the teachers’ work.
Appendix:
United Way Bright Beginnings Learning Stories

The following are examples of learning stories written by United Way Bright Beginnings teachers. Using their observations and insights, the teachers wrote these stories to document the children’s learning to share with the child and his/her parents. A copy is kept in the child’s file at the child care center as a record of their growth.
The Meaning of Babble

What happened?

Caleb, what a name, what a sound? For three months, you have a very large vocabulary. When your teacher, Ms. Kenessa was reading to you, you were very attentive. You watched the book as Ms. Kenessa read the words. When you saw something that was interesting to you, you reached out towards the book to feel the objects. With every word she read, you watched and responded to Ms. Kenessa. After reading “The Very Hungry Caterpillar,” Kenessa put you on the star-filled boppy to share a little more time with you on the floor. She began to talk to you. She must have given you all the words you wanted to hear because you began to talk back. With every smile she gave you, you responded with another. Your eyes lit up and a twinkle filled the room. Everyone smiled to see your conversation go on for so long. You were really engaged in the moment.

What does it mean?

What were you trying to say? What was the message you were trying to convey? With every babble and sound you make, you are preparing your mouth and mind for the multitude of word and conversations you will hold in the future. Ms. Kenessa was building your language and vocabulary through conversation with you. She is building your literacy skills by introducing you to books and words.

What are other possibilities?

The key is to build your vocabulary and expose you to lots of language. You enjoy connecting with others through conversation. Next time, I will find books from other cultures and have different languages. I will expose your ears and mind to other cultures and languages.
Exploring with Water

What happened?
Leah, it was great to see how you just opened yourself to this new experience with water. You explored how each item worked, but I could see that filling the cups was one of the things that really captured your interest. You focused so closely on this, pouring water into every cup. I can’t help but wonder what was going through your active mind.

What does it mean?
Leah, I can see that you are full of confidence and willingness to learn. Your exploration in filling the cups is sharpening your understanding of measurements. You exercised your fine motor skills, you watched the water change colors, and you experimented. These actions are vital to your development.

What are other possibilities?
Your exploration of filling the cups is showing me that you are working on understanding how measurements work. For the next water play, I’ll bring in containers of various sizes and measuring cups for you to fill, compare, and experiment with.
Changing Forms and Creating Art

What happened?

We conducted an experiment turning a solid object into a liquid and watching it become solid again. Matthew, first you wrote your name on the back of the cardboard. You stopped to admire it. You were very proud that you wrote it by yourself. Then, you took the glue gun, squeezed with all your might, and put a lot of glue on your cardboard. You started to cover the glue with crayons. You made sure you added some green, your favorite color! Once all the crayons were glued into place, you threw your arms up in the air and said, “I did it! I glued them all on!” Then you asked, “Can I melt it now?”

Matthew, while you were using the blow dryer, you noticed that your voice sounded different when you talked into it. You were making all kinds of noises! As your crayons started to melt, you got really excited! Then, you saw something happen. Your white and red crayons started running together. You exclaimed, “I made a new color!” Ms. Michelle responded, “Wow, Matthew! Look at how the colors are all running together and you are creating many new colors.”

What does it mean?

Matthew expressed joy and pride in his work. He seemed to have fun melting his crayons and watching them become solid again. He was very talkative and energetic. He observed the colors mixing together and even described what was happening to them.

What are other possibilities?

Tomorrow, more students might be interested in creating works of art and learning about liquids and solids by melting crayons. We can try to create new and different colors and look for other objects we can safely use to melt crayons.
References


United Way of Greater Houston would like to give special thanks to the following individuals who, from the very beginning, have helped make a tremendous difference for United Way Bright Beginnings:

Marcela Clark
Dr. Robert Houston