



**United Way of Central Alabama  
Success By 6 (SB6)**

**PILOT PROGRAM**

**Research and Measurement Report**

**August, 2006**

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## Executive Summary of Findings

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The success of the three-year Success By 6 Pilot Program can be defined in two ways:

1. SB6 brought positive change to classrooms and children in UWCA service area.
2. The Pilot Program was designed and conducted to provide measurement and analysis to refine and improve the program in the future.

Improvements were achieved in the 13 classrooms included in the Pilot Programs, as measured by the ELLCO (Early Language and Literacy Classroom Observation) tool. All 13 classrooms improved in Literacy Environment, averaging 124.8%; 12 of 13 classrooms improved in Classroom Observation, averaging 57.2%; and 12 of 13 classrooms improved in Literacy Activities, averaging 44.6%.

Improvements were achieved in the average reading-readiness of 4-year olds who participated, as measured by the Peabody Picture Vocabulary Test III (PPVT). In each of the 3 years, children averaged a gain that exceeded the months in the program:

- Year 1, an average of 5.9 months caught up (range: -16.8 to +26.2 months)
- Year 2, an average of 1.7 months caught up (range: -14.3 to +18.7 months)
- Year 3, an average of 3.4 months caught up (range: -20.6 to +23.5 months)

The Pilot Program was measured and evaluated throughout, both quantitatively and qualitatively. The research indicates that situations which give children in SB6 the highest likelihood of success in reading readiness will:

- Provide qualified teachers, either educated professional teachers *or* teachers who have been well trained and coached in the Success By 6 curriculum
- Include teachers who are willing and enthusiastic about participating in the program
- Be in centers with relatively low turnover in teachers, assuring return on the time invested in training and coaching
- Be in centers that experience relatively low turnover in children throughout the program year
- Be in centers and programs located in rural communities
- Be in centers whose leadership supports the SB6 program
- Have parents who are involved with the child and the teacher, in programs such as the reading contest
- Focus on children who have low PPVT scores relative to chronological age
- Provide the child the longest possible exposure to the SB6 Program
- Provide the program, where possible, to younger 4-year-olds – those who have most recently reached the age of four
- Offer the child the opportunity to enter a Kindergarten that challenges the child to continue to learn at the SB6 pace and level, to make gains in reading readiness age equivalence that truly prepares the child for success by the age of 6.

## **Success By 6 Pilot Program Evaluation: 2003-2006**

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### **Introduction**

This report presents an evaluation of the United Way of Central Alabama (UWCA) Success By 6 (SB6) initiative for the Pilot Program, conducted from 2003-2006 and covering three school years.

### **About this Report**

This report serves two purposes:

- 1) to evaluate the experience of the UWCA SB6 program as a basis to continue and improve its performance and effectiveness, and
- 2) to serve as a guide for other organizations considering implementing SB6 programs in their service areas.

To meet these two purposes, we report the actual results, and also comment on what was learned from the process that might be of value to other organizations.

### **Background**

In 2003, the UWCA Success By 6 initiative embarked upon a challenging reading readiness pilot project to determine whether positive outcomes could be obtained through a four-pronged intervention strategy that included:

- 1) Implementation of a reading readiness enrichment curriculum in targeted pre-school centers that serve four year-olds;
- 2) Professional development training and monthly mentoring for childcare workers/teachers;
- 3) Parental/family engagement activities to include linking with community resources; and
- 4) Multiple assessments to quantify outcomes.

### **Measurement Process**

Measurements of the effectiveness of the program have been made throughout the three-year pilot. The following measurements were conducted:

Year 1 (2003-2004) Quantitative Measurement – Evaluation of the effectiveness of the first year program was completed following the first year.

Year 2 (2004-2005) Quantitative Measurement – Evaluation of the effectiveness of the second year program was completed following the school year. A new and different program analysis approach was applied to Year 2 and proved effective in communicating results to key constituents. As part of the Year 2 report, these measures were re-applied to Year 1 data to create comparative measurements and set the stage for Year 3.

In the quantitative analysis, for each year of the pilot, two key questions have been researched:

1. Do the targeted classrooms evidence increased literacy support activity, and an improved literacy-rich environment subsequent to the intervention, as measured by the Early Language and Literacy Classroom Observation (ELLCO)?
2. Do the children receiving the Success By 6 Reading Readiness intervention model improve in receptive vocabulary measured by the standardized and norm-referenced Peabody Picture Vocabulary Test III (PPVT)?

Year 3 Qualitative Measurement – During the third year of the program, Focus Groups and Interviews were conducted with teachers and parents of children in the SB6 settings. These provided additional insight and perspective on quantitative analysis of Year 1 and Year 2.

Pilot Program Report – This Pilot Program report combines the results of all three years’ quantitative and qualitative measures.

### **Two Time Frames for Analysis**

The three-year Pilot Program provides two types of time intervals for analysis:

1. ***Each program year*** brought new children, new centers, and new teachers into the SB6 Pilot Program. As a result, we are able to look at each program year and determine what can be learned from that year’s experience.
2. ***The three-year pilot program*** provided the opportunity to look at the program longitudinally to answer these questions:
  - What can be learned from a phased program that builds each year on the previous year’s experiences?
  - What can be learned from the six classrooms that were in place for all three years of the program, compared to those that were in the program for shorter periods of time?

**Comment:** *The Pilot Program was well designed from the beginning to provide a positive experience for the centers, the classroom teachers and the children in the SB6 program. Importantly, its design also created an excellent environment for SB6 constituents and stakeholders to evaluate the results on many levels.*

*The SB6 staff kept accurate and thorough records of all aspects of the program, allowing analysis of data with confidence in its accuracy. The SB6 staff made enhancements to the tracking and measurement process throughout the Pilot Program, as a means of improving the data accuracy and validity of results.*

## **Program Sites: 2003-2006**

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### **Sites Served During Pilot Program**

A total of 13 different center classroom settings were part of the pilot program. Sites were selected based on:

- 1) A variety of risk factors including median family income, reading scores of the local public schools, first grade retention rates, and school report card grades
- 2) The site's receptivity to project goals and interventions.

The sites represented a variety of 4-year-old learning environments, including:

- private pay day care center
- church-based day care center
- public school pre-kindergarten program
- public housing-based center
- special needs classroom
- government subsidized Head Start program.

Sites were added each year based on several factors:

- what was learned from the previous year's evaluation
- availability of additional funding to add classrooms
- expanding the program into additional UWCA service area counties
- availability of staff to support steady growth, and
- creating new situations that would enhance what could be learned from the pilot program.

The table on the following page summarizes the level of involvement by county. The largest number of children served was in Jefferson County, UWCA's only urban county. The second largest number was in Shelby County, the fastest growing county in the UWCA service area, second in population to Jefferson. Shelby County provided a rural setting for the classes to initiate the pilot.

The table on the following page summarizes the Pilot Program sites by county.

**Pilot Program Sites: 2003-2006**

<b>Center</b>	<b>Location / County</b>	<b>Years in Program</b>	<b>Total Children Served in Pilot</b>
<b>BLOUNT COUNTY</b>			
First Bapt. Church – Oneonta - 1	Oneonta	1.5	26
First Bapt. Church – Oneonta - 2	Oneonta	1.5	27
Lester Memorial	Oneonta	1	16
<i>Total Blount</i>			<b>69</b>
<b>JEFFERSON COUNTY</b>			
East Lake United Methodist Church	Birmingham	3	32
St. John AME Church Day Care	Birmingham	3	32
Loveman’s Village	Birmingham	3	32
Bethel Baptist	Birmingham	1	7
Child Nurturing and Development	Birmingham	1.5	44
<i>Total Jefferson</i>			<b>147</b>
<b>SHELBY COUNTY</b>			
Vincent Elem. ECLIPSE Program	Vincent	3	39
Vincent Head Start	Vincent	3	50
Bright Beginnings Preschool	Vincent	3	31
<i>Total Shelby</i>			<b>120</b>
<b>WALKER COUNTY</b>			
ARC of Walker County *	Jasper	.5	16
West Jasper Elementary	Jasper	1	30
<i>Total Walker</i>			<b>46</b>
<b>TOTAL</b>	<b>13 Classrooms</b>		<b>382</b>

\* Note: One rural classroom (ARC of Walker County) was in the program for only one-half year of 2004-2005.

**Comment:** *The sites selected presented a wide variety of settings useful in a pilot situation. Initiating the program in Jefferson County and Shelby County allowed the staff to serve these key counties, while providing a foundation from which to branch out into the two smaller and more rural counties.*

## Children Served in SB6 Program: 2003-2006

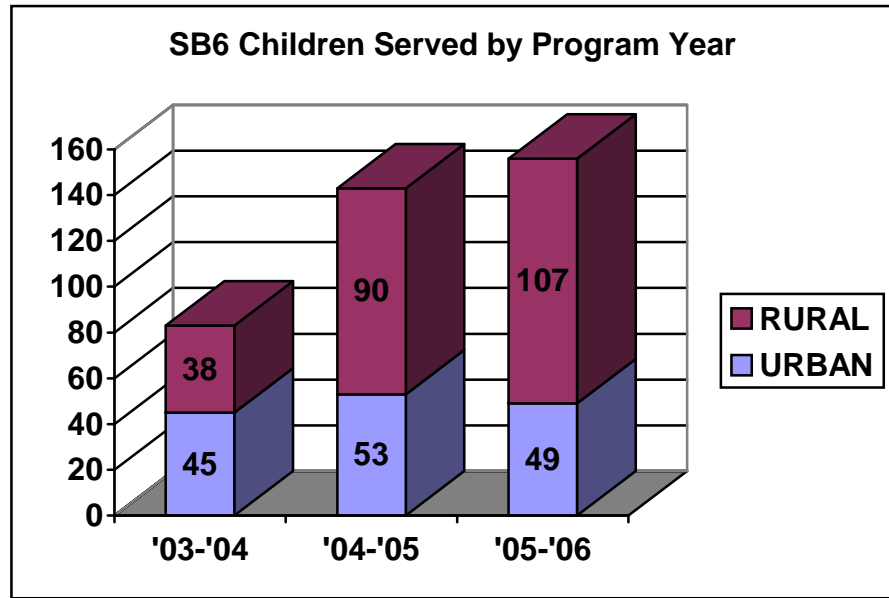
### Steady Program Growth Each Year

A total of 352 children were served during the three-year pilot program – with steady growth in the UWCA service area.

Centers in both Urban (Jefferson County) and Rural (other counties) settings within the UWCA service area were included.

In the first year, 2003-2004, 83 children were served. In the second year of the pilot, 2004-2005, 143

children were served. And in the third year, 156 children participated.



A total of 382 participants were involved in the three years, 30 of whom were involved in the program for 2 consecutive years, leaving 352 unduplicated participants.

It is noteworthy that most of the increased participation in Year 2 and Year 3 came from Rural settings.

The table on the following pages indicates these figures by county.

### Key County Statistics on the Pilot Program

	2003-2004	2004-2005	2005-2006	Total Pilot
<b>Blount Co.</b>	<i>Rural</i>			
Classes	-	2	3	5
Children	-	29	40	69
<b>Jefferson Co.</b>	<i>Urban</i>			
Classes	3	4	5	12
Children	45	53	49	147
<b>Shelby Co.</b>	<i>Rural</i>			
Classes	3	3	3	9
Children	38	45	37	120
<b>Walker Co.</b>	<i>Rural</i>			
Classes	-	1 *	1	2
Children	-	16	30	46
<b>TOTAL</b>				
Classes	6	10	12	28
Children	83	143	156	382

\* Note: One rural classroom (ARC of Walker County) was in the program for only one-half year of 2004-2005.

**Comment:** *It is important to note that each year (with the exception of 30 children who repeated), every child in the program started new and was involved for approximately 9 months in SB6. All screenings, activities, and measurements were concentrated in that one school year – after which the entire process was repeated with all new children the following year.*

*While there is a cumulative effect of the SB6 program in classrooms (as measured by ELLCO) over the Pilot Program, there is currently no way to measure the effect on a specific child for more than just the one year in the SB6 program.*

## **Program Screenings: 2003-2006**

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### **Children Served through Screenings During 2003-2006 Pilot Program**

During the three year pilot, screenings were conducted for children who participated in the program. The screenings provide information to Success By 6 staff and teachers to evaluate the level of children, and to provide for interventions where needed.

The following table summarizes the screenings by county for the Total Pilot Program. Detailed numbers are included in the appendix.

#### **SB6 Total Screenings: Three-Year Pilot 2003-2006**

	<b>Speech</b>	<b>Language</b>	<b>Hearing</b>	<b>Vision</b>	<b>ASQ</b>	<b>Total SB6 Screenings</b>
Blount	38	38	37	52	22	157
Jefferson	111	110	103	104	64	492
Shelby	98	100	94	77	17	386
Walker	40	40	36	36	26	178
<b>TOTAL</b>	<b>287</b>	<b>288</b>	<b>270</b>	<b>269</b>	<b>129</b>	<b>1243</b>

### **Specific Instruments and Process for Screening**

Speech screenings were conducted by independent Speech/Language Pathologists using the appropriate segments of the Flu Hardy instrument to detect delays in a child's ability to speak clearly.

Language screenings were conducted by independent Speech/Language Pathologists using the appropriate segments of the Flu Hardy instrument to detect a child's ability to comprehend spoken language and express spoken language.

Hearing was assessed by an audiologist using Tympanometry to evaluate the functionality of the ear drum. Additionally, an otoscope was used to detect any fluid in the ear canal, blockage, or damage to the ear canal.

Vision was assessed using OSS-C Ocular Screening System, a state-of-the-art portable digital "photo-refraction" imaging system. The screening detects nearsightedness, farsightedness, factors leading to lazy eye, misalignment, and cataracts.

ASQ, the Ages and Stages Questionnaire looks at five different domains of the child's development: Gross Motor, Fine Motor, Communication, Problem Solving, and Social Skills.

## Use of Screenings

Screenings provided important information for teachers, administrators and parents. They were designed to allow the appropriate interventions for children whose learning and reading readiness development would be affected by factors identified in the screenings.

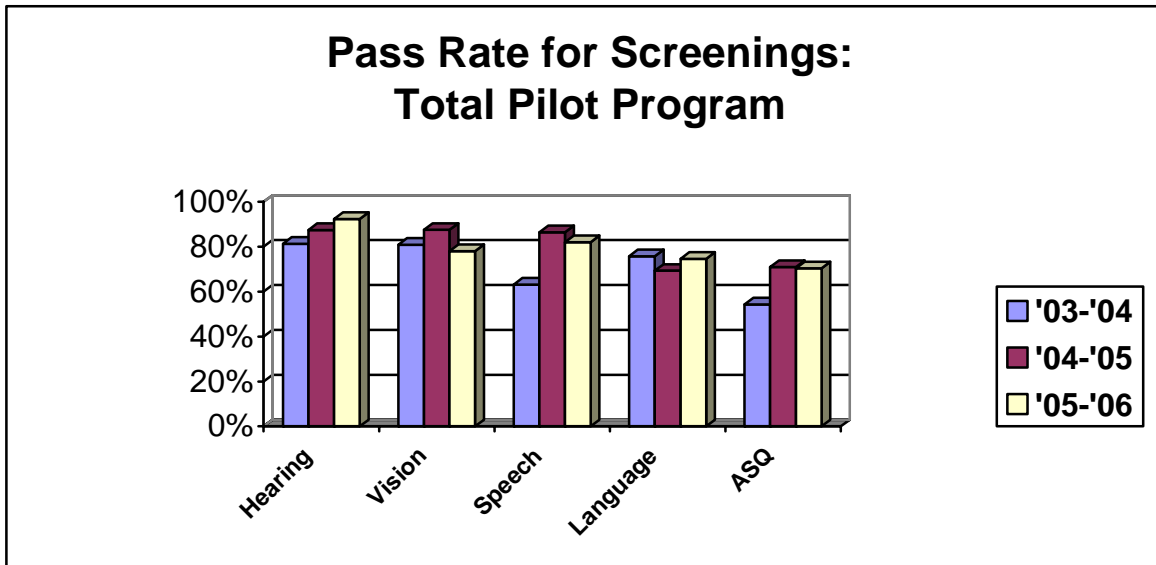
SB6 staff was able to provide referrals to available resources for children who had needs identified in the screenings, as well as needs observed by teachers and staff members.

The responses were mixed – in some cases, parents took action to remedy situations, about half, such as obtaining glasses for children with vision impairments. In other cases, no parental action was taken and the teacher had the opportunity to compensate for the child's challenge in the classroom setting.

## Pass Rate for Screenings

Overall, for the three years of the program, the following pass rates were achieved by children entering the program:

Hearing	87.0%
Vision	82.1%
Speech	77.2%
Language	73.2%
ASQ	72.1%



Pass rates for each of the screenings were fairly consistent throughout the three years of the pilot program.

- Hearing screenings had the highest pass rate overall, with an 87.0% overall pass rate. The pass rate increased slightly each year for entering children.
- Vision screenings had the 2<sup>nd</sup> highest pass rate with an overall 82.1% pass rate.
- Speech screenings were next with an overall pass rate of 77.2%. The very low pass rate on the first year is noteworthy – in subsequent years pass rates were higher.
- Language screenings were 4<sup>th</sup>, with an average of 73.2% pass rate for the program.
- The ASQ screening had the lowest average pass rate, at 72.1% for the program. Like the Speech screening, low pass rates the first year were followed by higher pass rates in subsequent years.

**Comment:** *Screenings were an important part of the process and very resource intensive to administer. We believe they were a key to setting the stage for the child's success and ability to learn to read in the classroom setting.*

*It is important to note that for each of the screenings, from 13% to 28% of children entering the program did not pass and that these issues may not have been identified in another childcare setting.*

*While some parents chose not to address the issue, others addressed it, providing a better opportunity for the child. A perceptive and informed teacher recognizes a child's learning challenges and compensates for them in the classroom, therefore providing the child a greater opportunity for success.*

## **Changes in SB6 Classrooms: 2003-2006**

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### **ELLCO Used as Measure of Change**

The ELLCO (Early Language and Literacy Classroom Observation) was the tool used to evaluate changes in the classrooms that resulted from involvement in the SB6 three-year pilot.

ELLCO is a 3-part classroom observation that enables schools to assess and strengthen classroom quality, build better literacy programs, and give children the best possible start in language and literacy development.

The three areas of the ELLCO measurement include:

#### **1. Literacy Environment**

The Literacy Environment section of the ELLCO includes 24 items related to:

- classroom book area
- book selection
- book use
- writing materials and
- writing around the room.

#### **2. Classroom Observation**

The assessment includes two categories:

- general classroom environment includes organization, contents, presence and use of technology, opportunities for child choice and initiative, classroom management strategies, and classroom climate
- language, literacy and curriculum includes oral language facilitation, presence of books, approaches to reading, approaches to writing, approaches to curriculum integration, diversity, home support and assessment.

#### **3. Literacy Activities**

The Literacy Activities Ratings Scale includes two categories of evaluation that have 9 items in the areas of:

- book reading (i.e., number of full-group book readings)
- writing.

Note: ARC of Walker County was in the program for only ½ year during the second year, 2004-2005. While participation and other information are reported for this class, we do not include its results in the ELLCO analysis reported in this section.

## **ELLCO: Literacy Environment**

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### **Greatest Percent Change in Classroom was in Literacy Environment**

The Literacy Environment was the area that showed the greatest percent gain over the pilot program.

The Literacy Environment section of the ELLCO includes 24 items related to:

- classroom book area
- book selection
- book use
- writing materials and
- writing around the room.

The maximum score on the ELLCO Literacy Environment measure is 41.

### **Literacy Environment Responsibilities and Actions**

The following table summarizes the components of the SB6 program that were designed to have an impact on the children's Literacy Environment. These are identified as SB6 program responsibilities, center responsibilities and teacher responsibilities.

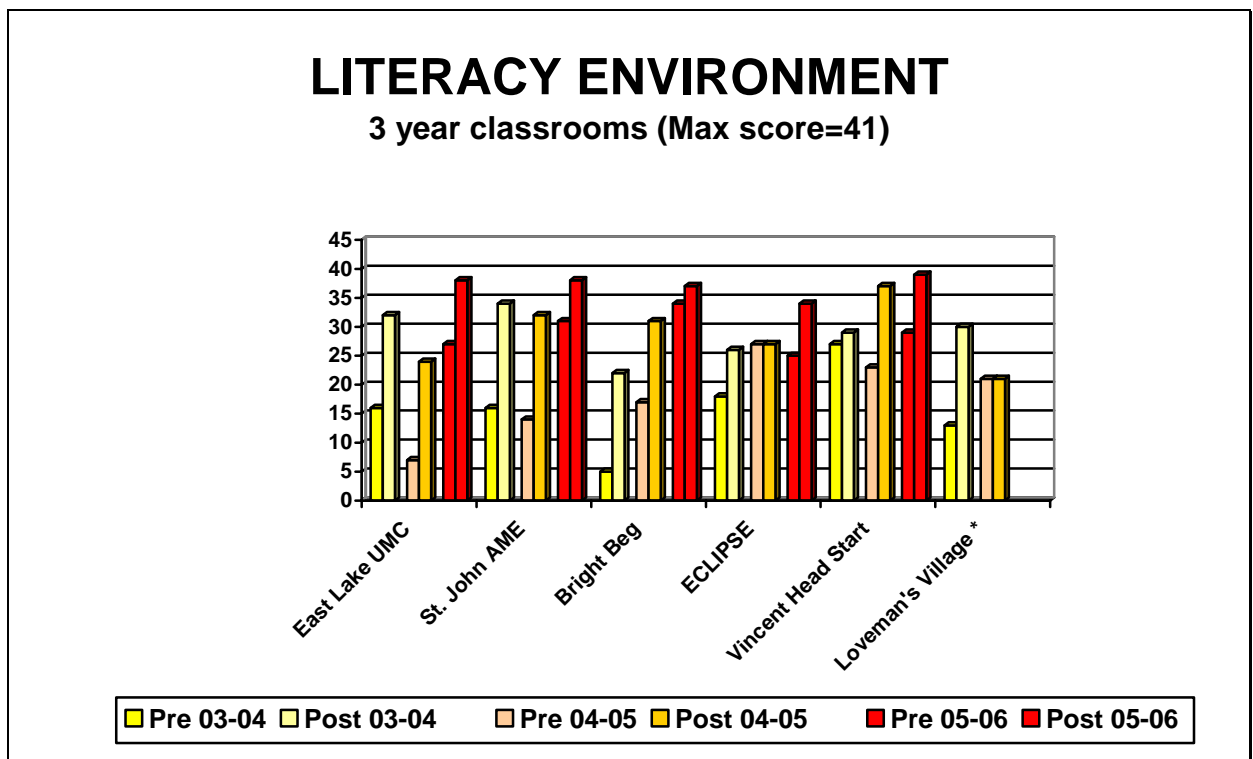
#### **Responsibilities for Literacy Environment In the SB6 Setting**

<b>SB6 Program</b>	<b>Childcare Center</b>	<b>Classroom Teacher</b>
Added shelves	Classroom with available space for SB6 furniture, shelves, centers and books	Keeping the physical set up in place throughout the school year
Added books, art materials, writing materials, manipulatives	Continuing the set-up into the next school year	Continuing the set-up into the next school year
Created learning centers, i.e. writing center, listening center, science center, etc. Provided Curriculum		

## Literacy Environment Outcomes

*Among the classrooms in the program all three years:*

- Among the three-year classrooms, the total percent gain over the first-year score averaged 117.9%. The average pre-test score in the first year was 15.8 (out of a possible 41), and the average post-test score at the end of the third year was 34.5 for the three-year classes. The range of changes among the individual classes was from +44.4% to +640.0%.
- The biggest increase in Literacy Environment generally occurred in the first year of the program. This is indicative of the intense initiative put into the center classrooms when they first become part of the SB6 program.
- The average three-year class declined from the end of Year 1 to the beginning of Year 2, losing some of the gains achieved during the first year. However, from the second to the third year, the gains were more likely to be sustained.



Note: Loveman's Village moved during the 2005-2006 school year, and only 2 children remained with the teacher in their new setting. ELLCO was not administered at the end of the 2005-2006 year.

*Among the classrooms in the program for less than three years:*

- For three classrooms in the program for 1-1/2 years, the gain was the highest at 212.1%. The three classes started at an average score of 11.0 and reached an average score of 34.3 out of 41 at the end of the 1-1/2 years.
- For the three classes that were in the program only one year (Year 3), the average gain was from 16.7 to 31.0, a 116.0% increase. All classes gained, from 66.7% to 442.9%.

***Comment:*** *We attribute the fact that the Literacy Environment had the greatest percent gain because this area of the ELLCO primarily reflects the influence of the qualified SB6 staff. In the ELLCO Classroom Observation and Literacy Activities areas, the results depended upon the actions teachers took in the classroom in response to suggestions from the SB6 staff.*

## ELLCO: Classroom Observation

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### Classroom Observation Categories Showed Improvement

The assessment includes two categories:

- general classroom environment including organization, contents, presence and use of technology, opportunities for child choice and initiative, classroom management strategies, and classroom climate
- language, literacy and curriculum including oral language facilitation, presence of books, approaches to reading, approaches to writing, approaches to curriculum integration, diversity, home support, assessment.

The ELLCO Classroom Observation section carries score ratings from 1 to 5.

### Classroom Observation Responsibilities and Actions

The following table summarizes the components of the SB6 program that were designed to have an impact on the Classroom Observation results. These are identified as SB6 program responsibilities, center responsibilities and teacher responsibilities.

#### Responsibilities for Classroom Observation Activities In the SB6 Setting

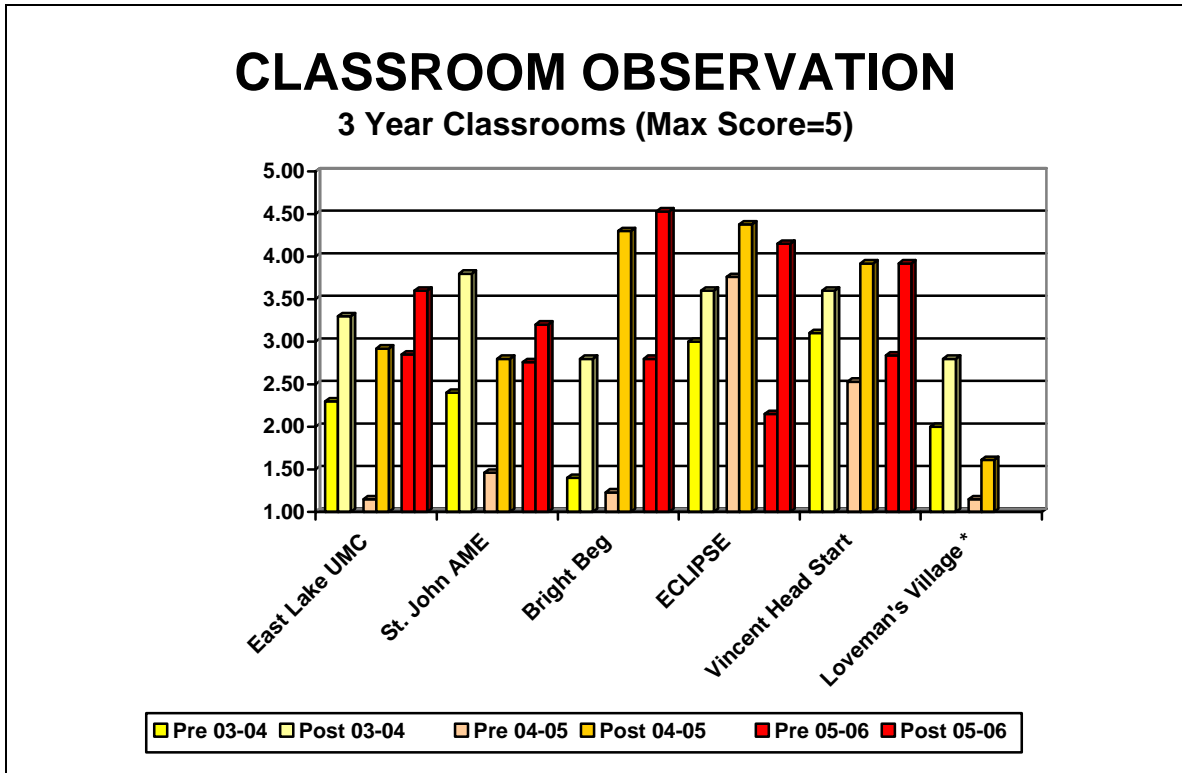
SB6 Program	Childcare Center	Classroom Teacher
Evaluating teacher abilities and need in areas above	Supporting teacher involvement	Professional development training
Coaching and counseling teachers	Scheduling and hosting parent/family engagement activities	Monthly mentoring by SB6 staff
Providing specific activities		
Workshops on literacy topics		

### Classroom Observation Outcomes

*Among the classrooms in the program for 3 years:*

- Among the three-year classrooms, the total gain over the three-year period was a change from 2.37 to 3.50 (out of a possible 5), an increase of 48.0% during the three years.

- As with Literacy Environment, the average three-year class declined from the end of Year 1 to the beginning of Year 2, losing some of the gains achieved during the first year. However, from the second year to the third year, the gains were more sustained.
- The improvement among the six classes varied from -20% to 224% change.



Note: Loveman's Village moved during the 2005-2006 school year, and only 2 children remained with the teacher in their new setting. ELLCO was not administered at the end of the 2005-2006 year.

***Among the classes in the program for less than 3 years:***

- The average gain for classes in the program for 1-1/2 years was a change from 2.00 to 3.36, an increase of 68.1% over the time in the program. All classes showed an improvement ranging from 61% to 84%.
- The total gain in the classes in the program for 1 year averaged 68.3% for the 05-06 classes, from an average of 2.38 to 4.00. The range of increase was from 31% to 270%.

**Comment:** *Classroom Observation appears to be an area where gains were not sustainable from year to year for the three-year classrooms. In virtually every case, there were instances where the previous year's Post-evaluation was improved, but by the fall, the next year's Pre-*

*evaluation slipped downward. This can be attributed to the following factors: classroom teacher turnover, SB6 staff changes, and new children interactions.*

## ELLCO: Literacy Activities

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The Literacy Activities Ratings Scale includes two categories of evaluation that have 9 items in the areas of:

- book reading (i.e., number of full-group book readings)
- writing.

The maximum possible rating is 13.

### Literacy Activities Responsibilities and Actions

The following table summarizes the components of the SB6 program that were designed to have an impact on the children's Literacy Activities. These are identified as SB6 program responsibilities, center responsibilities and teacher responsibilities.

#### Responsibilities for Literacy Activities In the SB6 Setting

SB6 Program	Childcare Center	Classroom Teacher
Evaluating teacher abilities and need in areas above	Supporting teacher involvement	Professional development training
Coaching and counseling teachers	Maintaining a developmentally appropriate environment	Monthly mentoring by SB6 staff
Modeling specific activities		
Placing writing materials and books throughout the classroom		

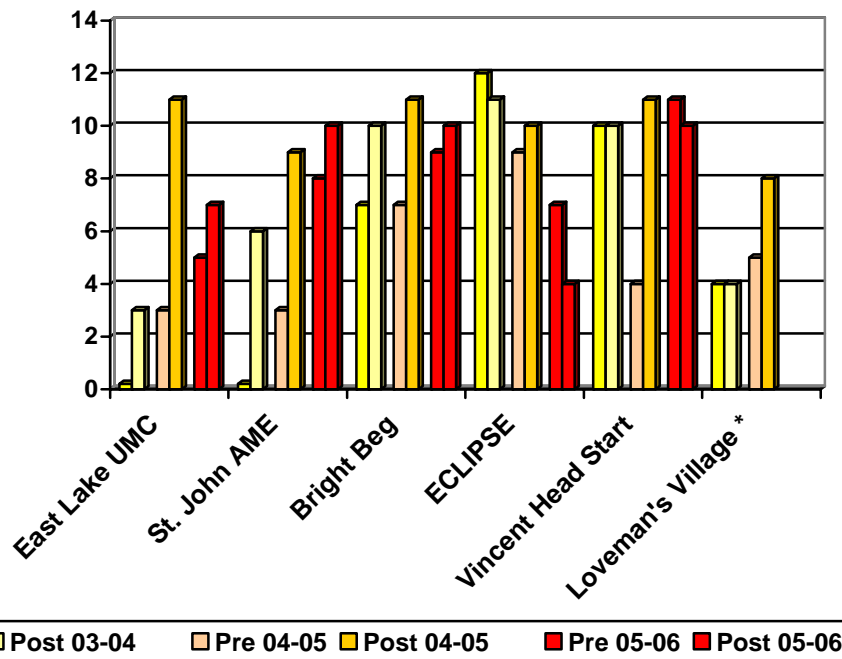
### Literacy Activities Outcomes

*Among the classes in the program for 3 years:*

- The improvement among the six classes varied from -67% to 100% change. Some percentage improvements could not be calculated because the class started at a score of 0.
- The average gain over the three-year period was a change from 5.5 to 8.2 (out of a possible 13), an increase of 48.5% during the three years.

## LITERACY ACTIVITIES

3 year classrooms (Max=13)



Note: Loveman's Village moved during the 2005-2006 school year, and only 2 children remained with the teacher in their new setting. ELLCO was not administered at the end of the 2005-2006 year.

### *Among the classes in the program for less than 3 years:*

- The average gain over the 1.5 year period was a change from an average of 5.3 to an average of 10.0 – an increase of 87.5%. All three classes showed an increase, ranging from 14% to 225%.
- The total gain in the classrooms in the program one year changed by an average of 29.2%. The increase was from an average of 8.0 to 10.3, of a possible 13. All classes showed an improvement, ranging from 0% (for a class already at 13) to 100%.

**Comment:** *Gains in Literacy Activities are dependent upon the teacher's commitment level, ability, and receptivity to suggestions made by SB6 staff.*

## **Change In Individual Child Reading Readiness: PPVT**

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### **Measurement Approach**

The PPVT (Peabody Picture Vocabulary Test) was chosen to create a measure of change at the individual child level over the course of the SB6 interventions. The PPVT was administered at the beginning of the school year and at the end of the school year.

PPVT measures the child's receptive vocabulary development, or ability to comprehend spoken words, which is one indicator of Reading Readiness on the early literacy development continuum. The PPVT is administered individually to each child by a qualified professional. The PPVT score is used to determine the child's *age equivalent* in months in terms of their readiness to respond to learning how to read.

The change in the child's *PPVT score* – reading readiness – is the key measure of change in the child's ability during the year. All measures related to the individual children are stated and evaluated in months, including:

- *age equivalent* at the beginning of the year (PPVT-A)
- *age equivalent* at the end of the year (PPVT-B)
- *gains in receptive language* during the year measured in months (PPVT-B minus PPVT-A)
- *chronological age* in months
- *months caught up* during the year (change in the child's indicated deficit)

### **Overall Program Results**

In previous years, we have evaluated the results of the children in that year's program – based on the change in PPVT score from the beginning to the end of the program. This report summarizes and compares the results of each of the three years.

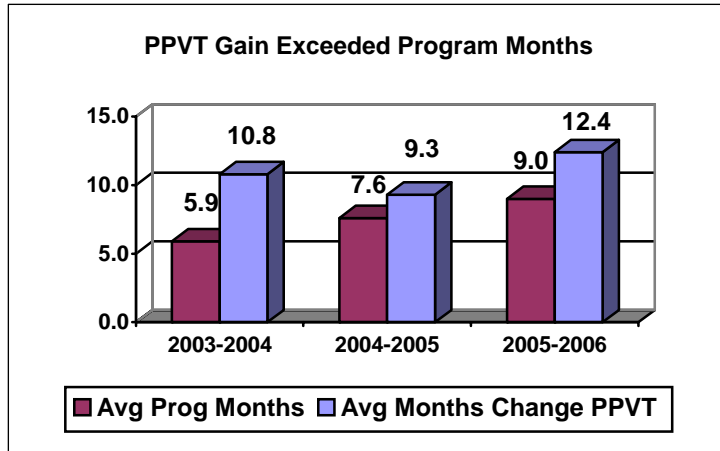
It must be noted that there is no *cumulative* effect of program participation – just the results of each of the three Pilot Program Years.

In the third year of the pilot, a total of 92 children (out of 139 in schools where PPVT was used\*) were given both the PPVT-A and PPVT-B. These children form the basis for evaluating the changes occurring during the 2005-2006 school year.

\*Note: The PPVT was not administered in the Vincent Head Start program.

**Positive Gain Each Year**

In each of the three years of the program, participating children averaged a gain in reading readiness (as measured in months) that exceeded the months they participated in the SB6 program.



**Change in Child Age Equivalent Deficit**

Another way to look at the child’s progress is to compare the child’s chronological age to the *age equivalent* age of the child. For the 2005-2006 year, the average child’s chronological age at the time of the PPVT-A was 4 years, 6 months, and at the time of the PPVT-B, it was 5 years, 0 months.

The average child began the school year with a 10.5 month deficit (the child’s age minus the PPVT age equivalent at the time of PPVT-A). The average child ended the year with a 7.1 month deficit (at the time of the PPVT-B), with the result that children *caught up* 3.4 months over the period between PPVTs. Although the time elapsed between PPVT evaluations averaged 6.9 months, the amount of time caught up was attributed to the full nine-month program.

**Categories of Children’s Results**

Children in the three years of the Pilot Program can be categorized into three types of change – gains, no change, and declines.

**Months Change in Child Age Equivalence Compared to Months Change in Chronological Age**

Category	2003-2004		2004-2005		2005-2006	
	#	%	#	%	#	%
Gain – at least 5% improvement	28	62.2%	14	51.9%	50	54.3%
No Change - ± 5% change	2	4.4%	0	-	7	7.6%
Decline – at least 5% decline	15	33.3%	13	48.1%	35	38.0%
<b>TOTAL</b>	<b>45</b>	<b>100%</b>	<b>27</b>	<b>100%</b>	<b>92</b>	<b>100.0%</b>

During the 2005-2006 year, 32 children showed a decline of at least 5%. In reviewing these cases, the data showed that 14 of 35 were in the same center. Another 2 children in this center showed no change.

The two classes at this center were identified as locations where the program was not implemented according to the training and instruction provided by SB6 staff. This center is no longer a part of the SB6 program.

**Comment:** *Overall, the program evidences an improvement in the average reading readiness of the children involved in each of the three years. Each year of the program, the percent who gained ranged from 51.9% to 62.2%.*

*While certainly the desire of the program constituents would be for 100% of children to show an improvement, the Pilot Program included children from a wide variety of backgrounds, in a wide variety of settings, and with a wide variety of teacher and classroom situations.*

*As mentioned above, during the 2005-2006 year, a disproportionate number of children with declines were concentrated in two classes in one center. This experience confirmed that a key criterion for success was enthusiastic participation of center management and each teacher.*

*As stated previously, the great value of the Pilot Program was to not only improve the reading readiness of the children included, but also to determine the settings in which the SB6 program could have the greatest positive impact and return on the funders' investment in the initiative.*

## Case Studies of Two Children

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We saw a wide variation in children's progress – looking at and comparing screenings, PPVT scores, reading readiness deficits, classroom situations, teacher qualifications, and involvement of parents – and all other factors attributable to the individual child. The following two children's experiences illustrate very different situations and outcomes:

1. **Child A** was in a rural setting, and passed all the health screenings. The teacher has an AA degree in computer science, not in Child Development. However, she immersed herself in knowledge of developmentally appropriate practices for 4-year olds by attending all workshops as well as extra conferences sponsored by SB6. This teacher used the Building Language for Literacy curriculum exclusively. Child A's classroom made the greatest ELLCO gains over the 3 years in the program.

This child was a repeat child from the previous year. The child's mother was active in assisting in the classroom, as well as attending all meetings requested by the SB6 staff. This child, age 4 years 7 months, began the year with a receptive vocabulary of less than a 2.5 year old child, or over 2 years behind. At the end, this child's PPVT score equated to a 4 year old child or only 13 months behind. This means the child improved over 1.5 years, a 111.1% improvement.

2. **Child B** was in an urban setting and passed the hearing, speech, and language screenings but was absent for the vision screening. The teacher has a Child Development Associate (CDA) certification; however, this teacher did not attend any workshops offered by SB6. Success By 6 staff observed that the curriculum and classroom suggestions were implemented to a lesser degree than the teacher of Child A. This child's mother met with the SB6 Family Resource Coordinator to review screening results, but otherwise had minimal involvement in the program.

This child, age 4 years 8 months, began the year with an initial PPVT age equivalence of 2.5 years, or again over 2 years behind. At the post-test, Child B ended the year with an age equivalence of 3 years 7 months or almost 2 years behind in receptive vocabulary development. This equates to a gain of 13 months or a 44% improvement.

Differences in measurements and results were seen throughout the Pilot Program – these two cases illustrate some of the significant differences in the experiences of individual children and in their results. These unique differences formed the basis for analyzing the Pilot Program further to determine factors having an effect on the individual child.

## **Impacts of Intervention Strategies on Individual Child**

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### **Measurement Approach**

To determine the effectiveness of the SB6 intervention strategy, we looked for statistical correlations between the change (improvement or decline) in each individual child's PPVT scores and the numerous individual and classroom factors that have been identified by the United Way SB6 program.

It is clear that all changes in the classroom and with teachers were the keys to the SB6 program's success. For the program as a whole, and for all children, classroom and teacher interventions clearly had an impact. However, *at the individual child level*, regression factors show what was associated with a greater difference in the progress of the individual child enrolled in the SB6 program.

Each year, we included the following factors to measure the effectiveness of the SB6 Program:

- The education level of the teacher
- The location of the classroom (rural or urban)
- The change in the child's PPVT score
- The child's PPVT score at the start of the year
- The change in the three ELLCO scores during the year
- The length of time in the SB6 Program
- The child's age at the start of the year
- The language, hearing, speech and vision screenings passed
- The number of referrals made
- Previous involvement in the SB6 Program
- Participation in the Reading Contest

Each year, these factors were taken into account in combination to see what effect they have on the change in PPVT score when evaluated together. A linear regression model was used to determine this total effect. Taken together, these factors account for roughly 39% of the change in the PPVT scores.

In the 2005-2006 school year only, we added the factor of starting score for the school year on each of the ELLCO evaluations. We included this factor in the model to determine whether this classroom level would have an influence on the year's results as measured in the children's improvement.

However, starting ELLCO scores were shown to be insignificant and highly correlated with other factors which biased the results of the model. As a result, we went back and used the same model used in 2003-2005 to assess the effectiveness of the SB6 Program.

All children who were exposed to SB6 regardless of the length of time in the program and year that SB6 was introduced are included in this analysis. This includes 208 children who had both the PPVT-A and PPVT-B administered:

- 92 full-year 2005-2006 children
- 27 full-year 2004-2005 children
- 44 partial-year 2004-2005 children
- 45 full-year 2003-2004 children

**Factors Evaluated for Association  
With Change in the Individual Child’s PPVT Score:  
2003-2004, 2004-2005 and 2005-2006 Participants**

<b>Factors Associated with Positive Change in a Child’s PPVT Score</b>	<b>Factors <i>NOT</i> Associated with Change in a Child’s PPVT Score</b>
Being in a rural classroom	Having a teacher with a higher level of education
Being exposed to the SB6 program for a longer period of time.	Passing the Speech, Language, Hearing and Vision Screening at the Beginning of the Year
Having a lower PPVT score at the start of the school year	SB6 Referrals
Child’s age at the time of the SB6 intervention	Previous participation in an SB6 Classroom
Participating in the Reading Contest	Change in the ELLCO Score on Literacy Activities, Literacy Environment or Classroom Observations

It is important to note that this analysis *does not* say any factor was unimportant – collectively, all aspects of the program contributed to its success.

However, this analysis does suggest that the same SB6 interventions, applied with different children in different settings, will have a greater impact in children for whom these factors were present.

So, the child that was in a rural classroom, further behind, younger, had more time in the program, participated in reading contest.... *that child* showed relatively more improvement from being in the program than other children for whom these factors were not present.

### Factors Associated with Change in PPVT Score for the Individual Child

We identified these factors that are associated with an improvement in the individual child's PPVT score:

1. Rural Classrooms: Rural classrooms are associated with a greater positive change in the child's PPVT scores, while urban classrooms are associated with less positive or even negative change in the children's PPVT scores.
2. SB6 Program Exposure: Children who were in classrooms that implemented the SB6 program for the full school year showed a greater increase in their PPVT scores than classrooms in which children were exposed to SB6 for a shorter length of time.
3. Lower PPVT score at the start of the school year: There was a greater increase in the PPVT score for children who start with a lower PPVT score relative to their age. This seems to indicate that less reading-readiness developed children benefited more from the exposure to SB6.
4. Age of Child: We identified the birth date for each child and computed their age at the beginning of the year. The younger the four-year-old child, the greater the change in the child's PPVT score during the school year. Our evaluation did not provide data to determine whether even younger children (for example, 2 or 3 year olds) would benefit from early involvement in the SB6 program.
5. Participating in Reading Contest: Children who participated in the Reading Contest exhibited a higher change in their PPVT scores between the beginning and end of the school year. We consider this to be a measure of the parent's involvement in the child's experience, since the reading contest required work at home.

### Factors with No Association with Change in PPVT Score for the Individual Child

These factors were not associated with a change in the individual child's PPVT Score:

1. Teachers with Higher Educational Levels: The educational level of the teachers varied from a High School Education to a Master's Degree. We found that a higher level of education for the teacher is not associated with change in the individual child's PPVT score. Children in classrooms of non-degreed teachers, who studied and applied the SB6 program, made gains as well as those on classrooms of degreed teachers.
2. Passing Speech, Language, Hearing and Vision Screenings: Passing the Speech, Language, Hearing and Vision screenings provided by SB6 is not associated with a change in the PPVT score. The results for the Speech and Language screenings,

however, indicate that with additional cases in the analysis, these would be the ones most likely to be potentially associated with changes in PPVT score.

3. *SB6 Referrals:* The number of referrals that were made for a child experiencing problems did not show a relationship with a change in the child's PPVT scores. Parents were asked to follow up on these referrals, and SB6 staff endeavored to follow up on actions taken by parents. However, information was not always provided to staff on those outcomes. Analysis indicated that making a referral did not affect the child's change in PPVT score.
4. *Previous Participation in SB6 Classroom:* Children who participated in the SB6 program for the second year did not show a related change in their PPVT score.
5. *Change in ELLCO Literacy Activity, Literacy Environment and Classroom Observation Scores:* The change in ELLCO Literacy Activity, Literacy Environment, and Classroom Observation scores during the school year was not related to the change in the individual child's PPVT score. However, the changes in the classrooms affected all children positively.

## **Comparing Rural and Urban Results**

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Throughout the program, we have consistently looked at the differences between results achieved in Rural and Urban settings. Results have varied from one year to the next between these two types of settings served by SB6.

Further, the relationship of rural/urban setting to results was correlated each year to different quantitative factors influencing the child's achievement – teacher education, length of time in the program, or the child's deficiency in reading readiness at the beginning of the year.

To explore this issue in a qualitative manner, focus groups and interviews were conducted in both rural and urban settings. We discussed differences with the parents and teachers, spoke with the SB6 staff about these differences, and attempted to find a clear pattern for this finding.

The end-of-program analysis of results indicates that being in a Rural setting was a major positive influence on the child's progress during the Pilot Program. There are several explanations from the qualitative, quantitative and anecdotal information:

- Parental involvement with the children in SB6 may have been higher in the rural settings. More rural parents were available and willing to participate in the qualitative research. They were more active in the discussions, and seemed more tuned into the SB6 program.
- Centers in rural settings may have fewer enrichment opportunities offered to them than centers in Jefferson County (such as corporate sponsorship of schools and other programs), and may embrace the opportunity for such a program more readily and enthusiastically.
- Most of the classes added in Year 2 and Year 3 were Rural classes. It is possible that the additional staff and program experience represented in each program year contributed to better results among Rural children.

## Conclusions

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The United Way of Central Alabama's Success By 6 initiative resulted in a very successful Pilot Program. It provided a positive experience for teachers, children, parents and childcare centers throughout the UWCA Service Area.

The program was planned and executed in a manner designed to maximize the opportunity to make a positive impact with the program. Measurement and evaluation were conducted and improved throughout the program.

We observed numerous variations in results among the individual classrooms in terms of reaching and maintaining improvement in the classroom. Likewise there was a great deal of difference in reading readiness changes among individual children.

Over the three years, the data collected provided a wealth of opportunity to quantitatively and qualitatively measure outcomes and changes resulting from the program.

We believe that the Pilot Program has, after three years, identified the types of situations in which a child has the best opportunity to make measurable improvement in his or her reading readiness.

By focusing funding, staffing and center efforts on children in the situations described in the Executive Summary, we believe that the program will continue to show results and to show improved results when applied in these settings.

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