

Minnesota Family Literacy and School Readiness study

Results through year 2

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March 2010

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Acknowledgments

We wish to thank the following Family Literacy program coordinators and their staff for their ongoing supports and contributions to the study: Nancy Kaczrowski and Katie Palmsten (Bloomington); Kristen Stuenkel (Columbia Heights/Fridley); Beverly Mountain (Mankato); Scott Helland and Karen Sturdevant (Metro East); Peggy O’Toole-Martin (Rochester); Kathy Hansen (Rosemount/Apple Valley/Eagan); Joyce Beaird and Emily Vener (Robbinsdale); Mary O’Brien and Cynthia Hanson (Saint Louis Park); Susan Harris and Deb Schmitz (Saint James/Madelia); Tara Thompson and Jerry Fiola (Worthington); Monica Potter and Jackie Johnston (Chaska); and Pati Richards (Shakopee).

We expressed our appreciation to the parents and children for their participation in the study and for their time to complete the parent surveys and participate in child assessments.

Important contributions in the initial stage of this research study also have been made by the following coordinators and managers from the Minnesota Department of Education: Dianne Dayton, Family Literacy and Workforce Preparation; Barry Shaffer, Adult Basic Education; and Wayne Kulkinski, Even Start.

This study is funded by the Minnesota Early Learning Foundation. The study’s principal investigator is Dan Mueller.

The following Wilder Research employees helped in collecting, processing, and analyzing data, and producing this report:

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Introduction

This report presents findings from the two-year Minnesota Family Literacy and School Readiness study. It provides information on the impacts of participating Family Literacy programs and on the first and second cohorts of children (and their families) enrolled in these programs. The Minnesota Early Learning Foundation provided the Amherst H. Wilder Foundation (Wilder Research) a two-year grant through its Innovation Projects to conduct the study.

Background and purpose of the study

School readiness is a critical issue in Minnesota as well as nationally. Many Minnesota children, especially poor, racial/ethnic minority, and immigrant or refugee children enter school at developmental levels that put them at risk for school failure. For example, the Minnesota School Readiness Study (2002, 2003, 2008) indicated that many children are not at expected skill levels in language and literacy and mathematics upon kindergarten entry. Low skill levels in these areas are strongly linked to low family income levels. Parent education levels are also linked to children's school readiness. However, in the latest Minnesota School Readiness Study (2008), the relationship between parent education levels and children's school readiness measures were not found to be statistically significant.

These differences or gaps in school readiness often result in academic achievement gaps that continue throughout the child's education career. Achievement gaps by family income and race are large and persistent nationally and in Minnesota (Mueller, 2006; National Center for Education Statistics, 2005; Thomas B. Fordham Institute, 2006; Editorial Projects in Education Research Center, 2007; Hall & Kennedy, 2006). These gaps threaten the futures of poor, minority, and non-native English-speaking children, and they are also a threat to the economic vitality of the United States (Kirsch, et al., 2007).

The children served in Family Literacy programs in Minnesota are those at-risk for poor school readiness and poor school performance – children from low-income, racial/ethnic minority, and immigrant or refugee families. A major focus of Family Literacy programs is increasing the developmental skills of children so they are prepared for school and equipping parents to support their children's learning.

Minnesota Family Literacy programs are intergenerational, comprehensive programs that provide intensive long-term literacy instruction for children and their parents. These programs pay attention to the adult participants because research shows that if parents' attitudes and behaviors are changed that will affect changes in their children.

The national comprehensive Family Literacy model that is used in Minnesota has four components:

1. Early Childhood Education – which provides licensed teachers that develop skills of pre-school children to prepare them for academic and social success in school.
2. Adult Education – which includes academic basic skills or English language instruction provided by certified teachers, life skills instruction, and skills necessary to prepare the learners for employment.
3. Parent Education and Support – which provides parents with an opportunity to share questions and concerns with a licensed Parent Education instructor who has an M.A. in Parent Education.
4. Interactive Literacy Activities – which provide structured opportunities for parent-child interaction and communication, and also reinforce the concept that parents are a child's first and most important teacher.

Family Literacy is an integrated program which focuses on each individual family member and concentrates on the context of the whole family. This program works with at-risk families and offers multifaceted services to meet both individual and family educational needs and goals. The four-component program of Family Literacy is unique in that, in addition to providing early childhood education, the other components help ensure support for the child's continued educational success by helping parents to: understand the importance of reading with their children, be active in their school community, participate in parent-teacher conferences, become advocates for their children's success in school, and understand the importance of their children regularly attending the Family Literacy program and continuing with regular attendance in elementary school. Furthermore, as parents participate as adult learners, they are role models for their children to understand the importance of education.

The goals of comprehensive Family Literacy programs are to:

- Increase developmental skills so that preschool children will experience success in school
- Enhance the parenting skills of adult learners
- Strengthen the interactions between parents and their children
- Enhance the educational level of the parents or increase English language skills
- Provide adults with the skills necessary to become employed and become a self-supporting member of their community

Although individual Family Literacy programs routinely evaluate children’s progress while in the program, there has been no systematic statewide effort to measure Family Literacy programs’ success in preparing children for kindergarten. An issue of critical importance in this regard is what level of Family Literacy participation do children need to substantially benefit from the experience. Family Literacy programs vary widely across the state in level of intensity (i.e., number of hours of programming per week). Similarly, families participating in the program vary widely in their length of stay. To make the best use of resources, a better understanding of what is an effective “dosage” for children (and their families) in preparing them for kindergarten is important.

This focus for the study was determined in discussions with Family Literacy staff at the Minnesota Department of Education. It represents an important next step in understanding the impact of Family Literacy programs on participants. The statewide Even Start and Family Literacy evaluation efforts described earlier documented gains in skills of children and adults while in the program within the framework of participant performance standards for Family Literacy programs. However, program impacts have not been studied systematically after participants have left the program. Therefore, understanding how Family Literacy contributes to at-risk children’s readiness upon kindergarten entry would be a major advance in this evaluation work.

Overall study goals

The goals of the study are to answer the following questions:

1. What gains in developmental skills important for school readiness do children make at different levels of participation in Family Literacy?
2. What level of Family Literacy program dosage do children need to substantially benefit from the program with regard to preparation for kindergarten?
3. How is parents’ involvement in their children’s learning affected by level of participation in Family Literacy?

Contents of the report

This report presents findings through the second year of the study. The first section of the findings begins with a profile of the Family Literacy programs followed by a profile of the families including children and parents within these families, and family literacy dosage, including amount of participation (total hours) and attendance rate. The second section describes the child assessment results, parents’ involvement in their child’s learning and parents’ literacy outcomes. The relationships between demographic characteristics and participation levels and child and parent outcomes are examined. Before presenting the findings, a description of the study methods is provided.

Study methods

Study design and sample

The study questions were addressed through a two-year study of children and families participating in Family Literacy programs in Minnesota. Programs selected for the study ranged in the number of programming hours that they offered per week, allowing a good distribution in the program dosage that participants received. Programs in the study served low-income, culturally-diverse families, a large proportion of whom had a primary language that was not English. Generally speaking, the characteristics of families in this study match those of families served by Family Literacy programs in Minnesota (Mueller, et al., 2006).

The study focused on 4 year-old (and some 5 year-old) Family Literacy participants who would enter kindergarten the subsequent year, and their families. Two separate cohorts of children and their families were assessed in the fall of 2007 and fall of 2008 while they were participating in Family Literacy (baseline assessments). Children in each of these cohorts are assessed the subsequent fall when they enter kindergarten (fall 2008 for Cohort 1 and fall 2009 for Cohort 2). Figure 1 shows the numbers of children in each of two study cohorts and the timing of their assessments. The cohort sizes decrease over the one-year follow-up period due to attrition, which mostly caused by missing information from parents as to where their child would attend kindergarten the following year or child left the school or school district before the kindergarten assessments were conducted.¹ In the fall of kindergarten, a total of 56 Cohort 1 and 66 Cohort 2 children were assessed, representing 74 percent of the original cohort sizes.

1. Cohort 1 and Cohort 2 children and their assessment times

Cohorts	Fall 2007		Fall 2008		Fall 2009
Cohort 1	75	→	56 (Kindergarten)		
Cohort 2			90	→	66 (Kindergarten)
Total assessed	75		146		66

Note. The cohort sizes decrease over the one-year follow-up period (as indicated by the numbers in the chart) due to attrition.

¹ Parents completed a survey in the spring or toward the end of Family Literacy program. One of the questions in the parent survey asks if parents have registered their child for kindergarten and if so, where the child would attend the school.

Procedures and measures

This section describes data collection procedures and measurements used in the study. Before the study began, parents were asked to sign an informed consent form for their and their child's participation in the study. The consent form was also translated into Spanish based on programs' suggestions.

Child development/school readiness

Standardized instruments were used to assess children's early language and literacy, and early math skills. Trained Wilder Research staff administered one-on-one assessments with children using the Peabody Picture Vocabulary Test – Third edition and Woodcock-Johnson III Tests of Achievement (Letter-Word Identification, Spelling, and Applied Problems subtests). The Peabody assesses receptive vocabulary and the Woodcock-Johnson subtests assess early skills related to reading, writing, and math. The Peabody and Woodcock-Johnson were administered in the fall when the child was enrolled in Family Literacy (pretest) and upon kindergarten entry (posttest). Additionally, teachers assessed children's social skills, problem behaviors, and academic competence ratings in kindergarten. The study used the Social Skills Rating System.

Family Literacy dosage

The number of hours the child participated in the Family Literacy program and the percentage of days the child attended while she was enrolled (attendance rate) were used to measure family literacy dosage. Data were collected on these measures when the child was 4-5 years-old. Information on prior preschool experiences, including participation in Family Literacy programs was collected. The information was obtained from the records of each Family Literacy program participating in the study.

Because we were interested in parents' involvement in their child's learning and how the Family Literacy program might contribute to it, we also tracked the parents' participation in the program. As with the child, these data were obtained from the Family Literacy programs' records.

Parental involvement in the child's learning

Parents' involvement in their child's learning was assessed using Parenting Growth Inventory (parental support for early learning and literacy subscale). Parent educator ratings were completed on each parent in fall (pretest) and spring (posttest) when the study child was enrolled in Family Literacy. Also, in fall and spring, a parent self-administered survey was conducted with parents of the study children regarding their involvement in their child's learning. The parent survey was available in English and Spanish.

Parents' literacy gains

Changes in parents' literacy skills as a result of participating in Family Literacy were documented using the Comprehensive Adult Student Assessment Systems (CASAS) Reading assessment. For parents with higher reading levels, the programs administered the Tests of Adult Basic Education (TABE) Reading. Information from CASAS and TABE were gathered at regular intervals by program staff. The fall and spring data were used for this study.

Child and family demographics

Child and parent demographic information collected included age, gender, race/ethnicity, first language, child's special education status, and parent's education. Family demographics included income level and eligibility for free or reduced-price lunch. These data were obtained from the records of Family Literacy programs participating in the study.

Program information

Program information included the following: hours of programming offered per week, total hours of service received by all persons served by the program, program staffing, and early childhood education curriculum used for preschoolers. This information was obtained from staff of participating Family Literacy programs.

The data collection plan (measures, methods, time schedule) is summarized in Figure 2.

2. Data collection plan

Measure	Method of data collection and source	Data collection time schedule
<i>Child development/school readiness</i>		
Peabody Picture Vocabulary Test III and Woodcock Johnson III Tests of Achievement (Letter-Word Identification, Spelling, and Applied Problems subtests).	One-on-one administration with the child by Wilder Research staff	Fall of Family Literacy and fall of kindergarten year
Social Skills Rating System (social skills, problem behaviors, and academic competence).	Kindergarten teachers completes on each child	Fall of kindergarten year
<i>Parent involvement</i>		
Parenting Growth Inventory (PGI): Parental Support for Early Learning and Literacy subscale	Parent educator completes on each parent	Fall and spring in Family Literacy
Parent involvement survey (plus parent views of program impacts – spring only)	Self-administered parent survey	Fall and spring in Family Literacy
<i>Parent literacy</i>		
CASAS Reading or TABE Reading assessment	Adult education teacher administers to parent	Fall and spring in Family Literacy
<i>Family literacy dosage</i>		
Hours of Family Literacy participation and attendance (child and parent)	Family Literacy program records	Ongoing (reported at the end of each program year)
<i>Demographics</i>		
Child and family demographics (age, gender, primary home language, ethnicity/race, child's special education status, parent's educational level)	Family Literacy program records	Fall of program year (reported at the end of each program year).
<i>Program information</i>		
Program hours offered, total hours of service for all persons served, staffing, and curriculum	Family Literacy program records	End of each program year.

Study findings

Profile of Family Literacy programs

Ten Family Literacy programs participated in the study during the first year. Six programs are located in the Twin Cities metro area: Bloomington; Columbia Heights/Fridley; Robbinsdale; Rosemount/Apple Valley/Eagan; Mounds View/Roseville/North Saint Paul/Maplewood/Oakdale/Stillwater/Mahtomedi/St. Anthony/White Bear Lake (referred to as Metro East); and Saint Louis Park. The other four programs are located in the southern part of Minnesota: Worthington, Saint James/Madelia, Rochester, and Mankato.

One program lost its Family Literacy program funding and another program without eligible participants did not continue with the study in the second year. Wilder Research invited other Family Literacy programs to participate in the study. Shakopee and Chaska Family Literacy programs decided to participate in the second year of the study.

Six of the 10 programs in the first and second years of the study receive their primary operational funds from Minnesota Adult Basic Education and Family Literacy Programs, and the other four programs receive federal funds from the William F. Goodling Even Start Family Literacy Programs (P.L. 106-554). Both the Adult Basic and Family Literacy, and the Even Start grants are administered by the Minnesota Department of Education.

Staffing

Across the 10 programs in the first year, a total 56 staff worked with the 4-year-olds and 91 staff worked with their parents. Depending on the number of participants served, the number of staff working with the children and parents ranged from 6 to 33 per program. Programs in the second year of the study reported a total of 57 staff working with the 4-year-olds and 51 staff working with their parents, with a range of 5 to 20 staff per program working with the children and parents.

The staff working with the children consisted of preschool teaching staff and paraprofessional staff. Most of the preschool teaching staff (80% in the first year and 81% in the second year) had at least a bachelor's degree, including 20 percent in the first year and 24 percent in the second year with a post-graduate degree. All programs in both years had at least one preschool teaching staff with a bachelor's degree or higher. Most of the preschool teachers (63-80% across both years) had a pre-kindergarten certification. The paraprofessional staff aiding the preschool teachers had a bachelor's degree (19-32%), some college, including a two-year degree (28-31%), or a high school diploma or GED (40-50%). The staff working with the parents consisted of adult basic education or

English Language Learners (ELL) instructors and parent educators. One program in the first year also had a vocational counselor. Across the 10 programs in the first year, a total of 56 licensed and 21 non-licensed adult basic education/ELL instructors and 13 licensed and 1 non-licensed parent educators worked with the parents. In the second year, 30 licensed and 9 non-licensed adult basic education/ELL instructors and 12 licensed parent educators worked with the parents. See Figures A1-A5 in the Appendix for further details in program staffing.

Preschool curriculum

Most of the programs (6 programs in the first year and 9 programs in the second year) reported that their Family Literacy programs used a specific curriculum in their preschool classrooms. The most common curriculum used by the programs in both years was *The Letter People*. Other curriculums used include an inquiry-based learning approach; a combination of *Creative Curriculum*, *Partners in Literacy*, and *Incredible Years* instructional approach; *Opening the World to Learning* curriculum; and *SPARK*.

Classroom program hours and days offered

The Family Literacy classroom programs ran from early or mid-September to late May or early-June. The 10 programs in each study year varied in the number of programming hours offered. During the first year, the number of classroom hours offered in a typical week ranged from 5 to 20 hours per program, with a median of 13 hours. The median classroom hours offered by the programs in the second year was slightly higher than the first year, with 16 hours. The average total number of classroom hours offered during the school year was 478 in both years, or about 53 hours per month from September to May. However, total hours offered varied widely, from 174 to 834 across the 10 programs in the first year and from 240 to 680 in the second year.

The average total number of days offered during the first year was 109 days, with a range of 69 to 141 days in the 2007-08 program year across the 10 programs. During the second year, the average was 117 days in the 2008-09 program year, with a range of 95 to 160 days (Figure A6).

Profile of children and parents

Number of children and parents

The total number of families who participated in the first year of the study (Cohort 1) was 73, including 75 children and 73 parents (Figure 3). The number of participating families from each program ranged widely, from 3 to 16, with an average of 7.3. The average

number of participating children per program was 7.5. The average number of participating parents per program was 7.3, indicating that one parent in each family participated.

Eighty-eight families participated in the second year of the study (Cohort 2), with 90 children and 88 parents. The number of participating families from each program ranged from 2 to 15. The average number of participating children per program was nine.

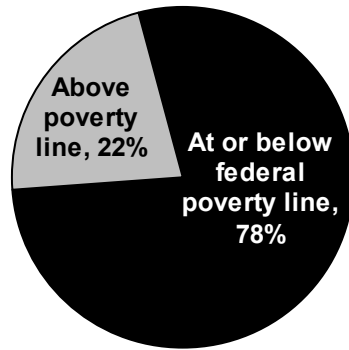
3. Number of families, children, and parents

Site	2007-08 (Cohort 1)			2008-09 (Cohort 2)		
	Families	Children	Parents	Families	Children	Parents
Bloomington	6	6	6	10	10	10
Columbia Heights/ Fridley	6	7	6	-	-	-
Mankato	3	3	3	-	-	-
Metro East	5	5	5	2	2	2
Robbinsdale	16	17	16	15	15	15
Rochester	9	9	9	10	10	10
Rosemount/Apple Valley/Eagan	7	7	7	15	17	15
Saint Louis Park	6	6	6	4	4	4
St. James/Madelia	5	5	5	4	4	4
Worthington	10	10	10	14	14	14
Chaska	-	-	-	9	9	9
Shakopee	-	-	-	5	5	5
Average	7.3	7.5	7.3	8.8	9.0	8.8
Total	73	75	73	88	90	88

Family income

The children and parents included in the study were of low-income background. Overall, 83 percent of Cohort 1 and 74 percent of Cohort 2 families were reported to have incomes at or below the federal poverty line (Figures 4 and A7). Furthermore, looking at the families who were eligible for free lunch (income at or below 135% of the poverty line) or reduced-price lunch (incomes between 135% and 185% of the poverty line), the percentage of such families rose to 96 percent for Cohort 1 and 94 percent for Cohort 2. Hence, only 4 to 6 percent had incomes above the 185 percent of poverty line.

4. Family income, Cohort 1 and Cohort 2 combined



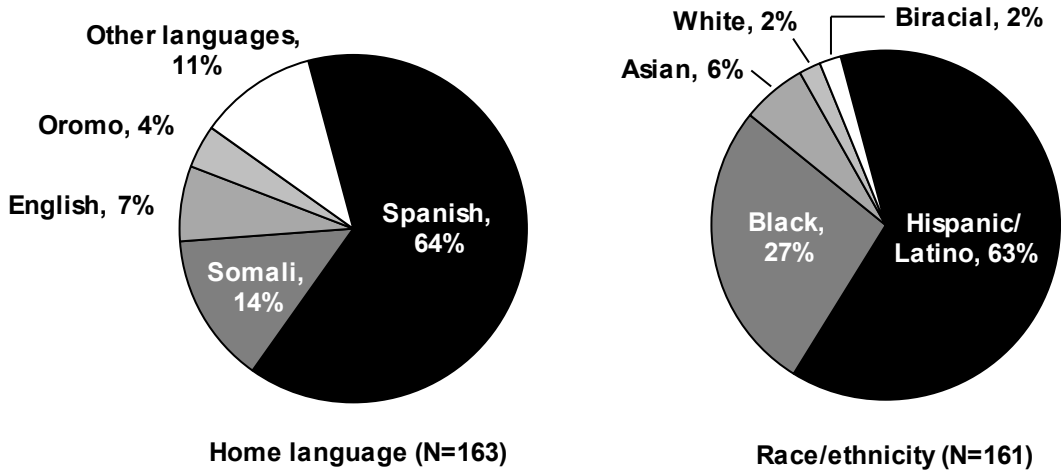
Income Status (N=158)

Demographic characteristics

Slightly more 4-year-old boys (55%) than girls (45%) participated in the study during the first year, and an equal number of them during the second year. Almost all of the children (92% of Cohort 1 and 94% of Cohort 2) were native speakers of languages other than English, with the majority of these children (69% of Cohort 1 and 68% of Cohort 2) having Spanish as their first language (Figures 5, A10 and A11). Consistent with this finding, 63 percent of Cohort 1 and Cohort 2 children combined were of Hispanic/Latino ethnicity. Other racial/ethnic groups included Black or African American (27%), Asian (6%), White (2%), and Biracial (2%). A few of the children were receiving special education services. At the end of the program year, nearly all of the children had their Early Childhood Screening completed, which is a requirement for enrolling in kindergarten.

The majority of parents in the study were 30 years or older. Nearly all of the parents were female. Most of the parents (85% of Cohort 1 and 93% of Cohort 2) were English Language Learners, with Spanish being the first language for most parents. Almost all of the parents in both cohorts (89-94%) were born outside of the United States. Only 25 to 28 percent had a high school diploma or GED, and the majority (63-70%) were not employed or minimally employed. See Figures A8-A11 in the Appendix for further details on demographic characteristics of parents and children.

5. Children’s home language and race/ethnicity, Cohort 1 and Cohort 2



Family Literacy dosage

As shown in Figures 6 to 8, the average (mean) number of total hours children had in the Family Literacy program during the first study year was 396 hours, which broke down into an average of 321 hours of early childhood education and 75 hours of interactive literacy activities. Average number of total hours children had in the program during the second year was slightly less than the first year, with 342 hours which includes an average of 271 hours of early childhood education and 71 hours of interactive literacy activities.

6. Total annual child hours (early childhood education plus interactive literacy activities)

Hours	Cohort 1 (N=75)	Cohort 2 (N=90)
Below 50	-	1%
50 to 99	1%	4%
100 to 199	9%	4%
200 to 299	25%	27%
300 to 399	27%	33%
400 to 499	7%	13%
500 to 599	13%	14%
600+	17%	2%
Total	100%	100%
Mean	396	342
Median	332	328

7. Annual hours of early childhood education

Hours	Cohort 1 N=75	Cohort 2 N=90
Below 50	-	2%
50 to 99	4%	4%
100 to 149	8%	3%
150 to 199	12%	17%
200 to 249	26%	17%
250 to 299	8%	22%
300 to 399	15%	19%
400 to 499	7%	13%
500 to 599	9%	2%
600 +	11%	-
Total	100%	100%
Mean	321	271
Median	249	258

8. Annual hours of interactive literacy activities for children

Hours	Cohort 1 N=75	Cohort 2 N=90
Below 10	-	6%
10 to 29	12%	8%
30 to 49	14%	28%
50 to 69	22%	18%
70 to 89	24%	10%
90 to 109	15%	15%
110+	14%	15%
Total	100%	100%
Mean	75	71
Median	73	56

Similar to children, the average number of total hours adult participants had in the program during the first year was 400. This broke down into an average of 269 hours of adult education, 55 hours of parent education, and 76 hours of interactive literacy activities. During the second year, the number of total hours adult participants had in the program was 345, including an average of 221 hours of adult education, 53 hours of parent education, and 71 hours of interactive literacy activities (Figures A12-A15).

Most children maintained continuous enrollment during the program year (2007-08 school year for Cohort 1 and the 2008-09 school year for Cohort 2). The majority of children (80% across both years) were enrolled for the full program year (8 months or more). Length of enrollment was counted through the end of the school year although many families continued in the program beyond this time. Additionally, most of the children (67% across both cohorts) were reported to have been enrolled in a preschool program prior to the year being studied (2007-08 school year for Cohort 1 and the 2008-09 school year for Cohort 2), including 60 percent who attended a Family Literacy program.

Median attendance rate for children was 85 percent in the 2007-08 program year and 84 percent in the 2008-09 program year. The majority of children (71% of Cohort 1 and 61% for Cohort 2) had attendance rates of 80 percent or higher, including about one-third with rates of 90 percent or better. Figure A16 provides a detailed breakdown of child attendance rates. Parents' rates of attendance were similar to the children's (Figure A17).

Differences in dosage by demographic characteristics

In comparison to Hispanic children, non-Hispanic children had a significantly higher average number of total participation hours (395 hours vs. 343 hours). Other differences were not found to be statistically significant. Also, the levels of program participation by parent characteristics were not found to be statistically significant, except for ethnicity (Hispanic and non-Hispanic) (Figures A18 and A19).

Participant progress in Family Literacy study

Child developmental outcomes

This section addresses the first question of the study:

1. What gains in developmental skills important for school readiness do children make at different levels of participation in Family Literacy?

Changes in children's developmental status while in Family Literacy are calculated from fall of the Family Literacy program year to fall of the kindergarten year. For the first cohort of children, the baseline child assessments occurred in fall 2007 and the follow-up assessments occurred in fall 2008 (November-December 2008). Baseline child assessments for the second cohort were collected in fall 2008 and the follow-up collected in fall 2009 - early winter 2010. Results are presented for Cohort 1 and 2 children combined who have assessments both in fall of their Family Literacy program and fall of kindergarten.

Reading and math

The Peabody Picture Vocabulary Test III and the Woodcock-Johnson III Tests of Achievement III (Letter-Word Identification, Spelling, and Applied Problems subtests) were administered one-on-one to the children in English by Wilder Research staff. The Peabody and Woodcock-Johnson results were analyzed using standard scores. Standard scores have a mean of 100 (and a standard deviation of 15) in the national normative sample. Peabody and Woodcock-Johnson results are available for 119 children (72% of 165 children).

Figure 9 depicts Family Literacy children's progress during the program year. The analysis is based on test scores that are age-standardized. This means that no change in scores from one year to the next indicates normative progress, positive change indicates accelerated progress, and negative change indicates slower progress in comparison to one's peers nationally. Family Literacy children made substantial gains in academic skills during their program year. Compared to their peers nationally, children made accelerated progress in vocabulary, early reading, and early writing. In other words, on average they made faster progress over the course of the year in these areas than did their peers nationally. Results in early math suggested that, on average, children made slower progress than their peers nationally while they were in Family Literacy program (average score decreased slightly, but the difference was not statistically significant). It should be noted that math was not a strong focus of the Family Literacy program.

9. Academic test standard score change for Family Literacy children from fall of Family Literacy program to fall of kindergarten

Test	Number assessed	Mean standard scores ^a		
		Family Literacy	Kindergarten	Change ^b
Cohorts 1 and 2				
Peabody Picture Vocabulary Test III	119	82.8	90.6	+7.8***
Woodcock-Johnson Tests of Achievement III				
Letter-Word Identification (reading)	117	103.7	107.0	+3.3**
Spelling (writing)	119	100.1	109.2	+9.1***
Applied Problems (math)	111	97.1	95.3	-1.7

** $p < .01$

*** $p < .001$

^a Standard scores have a mean of 100 and a standard deviation of 15 in the national normative sample. These scores are age-standardized, meaning that no change in scores from one year to the next indicates normative progress, positive change indicates accelerated progress, and negative change indicates slower progress in comparison to one's peers.

^b Fall of kindergarten score minus fall of Family Literacy score.

Dosage and progress in reading and math

This section addresses the second question in the study:

2. What level of Family Literacy program dosage do children need to substantially benefit from the program with regard to preparation for kindergarten?

Children’s progress in reading and math is examined in relation to the amount of participation in the program and children’s characteristics. For this analysis, children’s progress is defined as accelerated (change score of +6 or more in standard score points), normal (change score of -5 to +5), and slower (change score of -6 or more). The Peabody (vocabulary) result shows that children who attended more than 400 total hours of early childhood education and parent-child interactive literacy were more likely to make accelerated progress than children who attended fewer hours (fewer than 400 hours) (Figure A20). This result was found to be statistically significant for children who scored below average at baseline (Figure 10). Similarly, children who had higher attendance rate while in the program (80% or more of the days attended) tended to make more progress in vocabulary than those with lower attendance rate (below 80% of the days attended) (Figure 10 and A20).

10. Change in Peabody standard scores during Family Literacy program for children scoring below average at baseline

		N	Change score ^a		
			Slower progress	Normal progress	Accelerated progress
Amount of participation while in Family Literacy	Fewer than 300 total child hours	32	9%	41%	50%
	300-400 total child hours	37	5%	43%	51%
	More than 400 total child hours	34	8%	15%	76% ^b
	0% – 79% of days attended	32	13%	34%	53%
	80% – 100% of days attended	71	5%	32%	62%

Note: Includes cohort 1 and 2 children who have assessments in the fall of Family Literacy and fall of kindergarten and scored below 100 in standard score at baseline.

^a Change in standard score: Fall of kindergarten score minus fall of Family Literacy score. Slower progress is defined by change score of -6 or below, normal progress is -5 to +5, and accelerated progress is change score of +6 or above.

^b Significant differences between more than 400 hours and 300-400 hours and fewer than 300 hours categories (76% vs.50-51%).

Woodcock-Johnson results in Spelling (early writing) also show that children who attended more than 400 total hours of early childhood education and parent-child interactive literacy tended to make more progress than children who attended fewer hours (fewer than 400 hours) (Figure A22). Below-average children who had higher attendance rates while in the program (80 percent or more of the days attended) made significantly more progress in early writing than those with lower attendance rates (below 80% of the days attended) (Figures 11 and A24).

11. Change in Spelling standard scores during Family Literacy program for children scoring below average at baseline

Spelling	N	Change score ^a			
		Slower progress	Normal progress	Accelerated progress	
Amount of participation while in Family Literacy	400 total child hours or below	41	7%	20%	73%
	More than 400 total child hours	17	12%	6%	82%
	0% – 79% of days attended	23	13%	26%	61%
	80% – 100% of days attended	35	6%	9%	88% ^b

Note: Includes cohort 1 and 2 children who have assessments in the fall of Family Literacy and fall of kindergarten and scored below 100 in standard score at baseline.

^a Change in standard score: Fall of kindergarten score minus fall of Family Literacy score. No progress is defined by change score of -6 or below, normal progress is -5 to +5, and accelerated progress is change score of +6 or above.

^b Significant differences between groups (88% vs. 61%).

Results on Woodcock-Johnson on Letter-Word Identification and Applied Problems did not indicate that dosage (total hours) in the program was related to the children’s progress in early reading and math (Figures A21, A23 and A24). As mentioned earlier, on average, children made slower progress in math.

Demographics and progress in reading and math

Looking at children’s characteristics, children who received special education services made slower progress in vocabulary than other children (Figure A20). However, the number of children with special needs was small. Hispanic children made significantly larger gains than non-Hispanic children in early reading (Figure A21).

Social skills

Children’s kindergarten classroom behaviors are assessed using the Social Skills Questionnaire. The Social Skills Questionnaire consists of social skills and problem behaviors domains. For each item in the social skills and problem behaviors, teachers rate how often the child exhibits the behavior described using the categories “never,” “sometimes,” or “very often.” A total social skill score is calculated along with scores for three subscales: cooperation, assertion, and self-control. For problem behaviors, two subscales are calculated: externalizing and internalizing. Higher scores in social skills subscales indicate higher social skills. Higher scores in problem behavior subscales indicate more problem behaviors. In addition to rating child behaviors, the Social Skills Questionnaire asks teachers to rate child’s academic competence. Results for social skills, problem behaviors, and academic competence are reported in standard scores, with a mean of 100 and standard deviation of 15. The subtests for social skills and problem behaviors (cooperation, assertion, self-control, internalizing, and externalizing) results are calculated in raw scores.

Results are presented for study children in the fall of their kindergarten year (Figures A26 and A27). Family Literacy children were at average level in their social skills. Their average scores were comparable to their peers in the national sample. Looking at the individual social skills scales, children received higher average ratings in cooperation and self-control than assertion. Children scored lower on problem behavior scores, on average. This means that, compared to their peers nationally, they exhibited fewer behavioral problems in the classrooms, according to their kindergarten teachers. Children had higher scores (more problems) in hyperactivity than in externalizing and internalizing behaviors.

Teachers also rated children’s academic competence. Results showed that, on average, children scored slightly below their peers in the national sample at the fall of their kindergarten.

Parent outcomes

Parents’ literacy

To assess parents’ progress in literacy, Family Literacy adult basic education or ELL instructors administered the Comprehensive Adult Student Assessment Systems (CASAS), and for selected participants with higher language and reading skills, the Tests of Adult Basic Education (TABE). Figures A28-A31 show the results in reading performance for parents with both pre- and post-assessments in either CASAS or TABE. CASAS results show that nearly all of the parents (82%) improved from pre-test to post-test, including 61 percent of the parents who improved at least 5 points.

Another analyses looking at the CASAS functional levels indicated that the majority of parents improved one or more skill levels from pre- to post-assessments (Figure A32).

Similarly, 11 of the 21 parents who took the TABE improved their reading scores from pre - to post-assessments, including 10 parents who gained 10 or more points. Of the 10 parents gaining 10 or more points, 6 were ELL and four was non-ELL.

Changes in CASAS scores from pretest to posttest for ELL parents were also analyzed by their characteristics (age, ethnicity, education, employment) and participation level (dosage). Results did not show significant differences among the groups (Figure A33).

Parenting skills

The following two sections describe parents' progress in their parenting skills and their involvement in their children's learning. These sections address the third question of the study:

3. How is parents' involvement in their children's learning affected by level of participation in Family Literacy?

The quality of parent-child interactions during interactive literacy activities were assessed using the Parenting Growth Inventory (PGI). The PGI addresses three domains: parental nurturance, parental guidance, and parental support for early learning and literacy. Only the six items in the parental support for early learning and literacy domain were collected for this study. The PGI items are scored on a 5-point scale, ranging from "very low levels of skills" (1) to "very high levels of skills" (5).

Parent educators conducted the PGI assessments in fall and spring of the Family Literacy program years (i.e., 2007-08 for Cohort 1 parents and 2008-09 for Cohort 2 parents). Figures A34-A35 presents results for 142 parents for whom assessments were completed in both fall and spring (88% of 161 parents). On average, parents improved in all items in the parental support for early language and literacy domain from fall to spring. In spring, the average score for each of the items approached a high level of skills, ranging from 3.5 to 3.7. The majority of parents (53%) improved at least one point from pretest to posttest on 75 percent or more of the items on the parental support for early learning and literacy domain.

Changes in PGI scores from pretest to posttest were also analyzed by parents' characteristics and participation level (dosage). Results showed that parents who attended more programming days (80-100% of days attended) during the program year made gains on significantly more items on the PGI parental support for literacy and learning. Parents with higher levels of education also made more gains on PGI scores.

Results did not differ significantly by the total parent attendance hours and other parents' characteristics (age, ethnicity, and employment) (Figure A36).

Parent involvement in their children's learning

Parents of 4-year-olds were asked to complete a survey in fall and spring of the Family Literacy program year. Survey questions addressed parents' involvement with their child's learning. Survey questions were also translated into Spanish. Results are presented for 124 parents (77% of 161 parents) who completed both the fall and spring surveys.

Parents reported that they were involved in their child's learning at home in a variety of ways. By the end of the program year, most parents reported that every day or most days they asked their child about what the child was learning in school (84%); they monitored their child's TV viewing (79%); taught their child new words (73%); provided their child with writing materials (73%); read to or looked at books with their child (70%); and helped their child write letters or words (60%). Fewer parents (26%) indicated that they talked to their child's teachers about what their child is learning every day or most days. Since parents were also attending the programs, perhaps they felt they were aware of their child's learning and therefore, did not need to discuss their child's progress with the teachers every day or most days. Almost 60 percent of the parents reported that at least once a week ("every day or most days" or "once a week") they talked to their child's teacher. Also, while 8 percent reported that they took their children to a library every day or most days, 39 percent of the parents reported that they did so "once a week."

Items with the most increase in frequency from pretest to posttest were helping their child write letters or words and providing their child with writing materials. On these items respectively, 17 percent and 12 percent of the parents improved, changing from less frequently than everyday or most days at pretest to every day or most days at posttest (Figure 12).

12. Parent involvement survey

	Percent responded “everyday/most days”		
	Pretest	Posttest	Difference ^a
Reads or looks at books with child.	63%	70%	+7%
Teaches child new words.	65%	73%	+8%
Helps child write letters or words.	43%	60%	+17%
Provides child with writing materials.	61%	73%	+12%
Takes child to a library. ^b	26%	39%	+13%
Monitors what kind of shows child watches on TV.	78%	79%	+1%
Asks child about what he/she is learning in the preschool class.	83%	84%	+1%
Talks to child’s teacher about what child is learning. ^b	45%	59%	+14%

Note: Parents responded: everyday/most days, once a week, once a while, or never.

^a Posttest minus pretest. The difference was calculated using non-rounded numbers; therefore, the difference may not equal the posttest minus the pretest using the numbers in the figure.

^b Percent responded “once a week” or “everyday/most days.”

Changes in frequency of parent involvement activities from fall to spring were examined by parents’ demographic characteristics and level of participation (dosage). Results were not significantly different by levels of participation in the program (Figure A36).

Researchers also examined the relationships between changes in parenting skills (PGI) and parent involvement with changes in children’s academic progress. Results were not found to be statistically significant.

Program impacts on families

As part of the spring parent survey, parents were also asked about the impacts of Family Literacy programs on their parenting skills and their children’s development. By the end of the program year, all or nearly all parents in both years indicated that they enjoy spending time and playing with their child (100% indicating “strongly agree” or “agree”); feel more comfortable with teachers and schools (99-100%); understand more about the skills their child needs to be successful in school (97-100%); understand their child better (their needs, interests, and abilities) and have more patience (97-98%); feel comfortable talking to the teachers at Family Literacy program (97-98%); understand more about how children grow and develop (97-98%); feel more confident as a teacher or model for their child (90-98%); understand more about their parenting style and skills (93-97%); make new friends and feel comfortable getting and giving support in the parent group (93-97%); talk with and listen to their child more (90-97%); spend more time reading to their child (85-94%); and make progress toward their educational goals (92-93%) (Figure A37).

Summary and discussion

This report presents findings from the two-year Minnesota Family Literacy and School Readiness study. The goal of the study was to examine the impacts of program participation levels (dosage) on preparing children for kindergarten.

Ten Family Literacy programs in Minnesota participated in the first year of the study. In the second year of the study, 2 of the 10 programs did not continue with the study and two new programs joined the study. To assess school readiness, the study focused on 4-year-olds (and their parents) who attended Family Literacy programs in Minnesota and followed and assessed the children in the fall of their kindergarten year.

Results of the two-year study show that, overall, Family Literacy children made substantial gains in literacy skills during their program year. Compared to their peers nationally, children made accelerated progress in vocabulary, early reading, and early writing. In other words, on average they made faster progress over the course of the year in these areas than did their peers. In the fall of kindergarten, children scored higher than the national average in early reading and writing. Children remained below the national average in vocabulary in kindergarten, despite making accelerated progress in this area the prior year. Results also showed that children with higher participation levels (dosage) made larger gains in vocabulary and early writing. Results are statistically significant for children who scored below the national average at baseline in these areas. That is, below-average children who attended more than 400 programming hours made larger gains in vocabulary than those who attended fewer hours, and below-average children who attended 80 percent or more programming days made larger gains in early writing than those who attended fewer days.

Parent results also indicated that, overall, parents improved in their literacy skills and parenting skills in Family Literacy programs. The results showed that parents who attended more programming days during the program year made larger gains in parenting skills (Parenting Growth Inventory) than parents who attended fewer days. Parents who had higher levels of education also made larger gains in parenting skills during the Family Literacy program year. Researchers also examined the relationships between changes in parenting skills (Parenting Growth Inventory) and parent involvement with changes in children's academic progress. Results were not found to be statistically significant.

To help estimate how well the study children who participated in Family Literacy are prepared for school, researchers compared the results of this study to results of the Project Early Kindergarten (PEK) evaluation study that Wilder Research is currently conducting (Schultz, Gozali-Lee, & Mueller, 2009). The PEK study uses the same

measures and timing of assessments as the Family Literacy and School Readiness study. The PEK study includes three cohorts of nearly 1000 total children from similar backgrounds (low-income families, culturally diverse, home language often not English) who participated in the PEK preschool program and a group of children who did not have preschool experiences prior to entering kindergarten. PEK offers over 400 hours of programming during the school year (12.5 hours per week for 34 weeks).

Figure 13 shows average vocabulary, and early reading, writing, and math scores for Family Literacy children and PEK Cohorts 2 and 3 and their comparison classmates in the fall of their kindergarten year. PEK Cohort 2 entered kindergarten in fall 2007 and PEK Cohort 3 entered kindergarten in fall 2008. These are fairly rough comparisons and not statistically analyzed.

13. Kindergarten readiness for Family Literacy children, Project Early Kindergarten (PEK), and their classmates

Test	Family Literacy	Mean standard scores and (change score) ^a			
		PEK Cohort 2 ^b	Children without preschool ^b	PEK Cohort 3 ^c	Children without preschool ^c
Peabody Picture Vocabulary Test III	90.6 (+7.8)	92.1 (+5.9)	83.1	96.0 (+7.2)	81.1
Woodcock-Johnson Tests of Achievement III					
Letter-Word Identification (reading)	107.0(+3.3)	103.2 (+6.0)	96.3	107.6 (+9.4)	98.4
Spelling (writing)	109.2 (+9.1)	104.1 (+9.4)	97.2	110.6 (+12.6)	101.1
Applied Problems (math)	95.3 (-1.7)	95.0 (+3.0)	87.9	98.0 (+1.7)	84.6
Social Skills Rating System					
Total Social Skills	100.9	106.4	101.5	104.9	99.0
Problem Behaviors	95.5	93.6	95.9	93.9	98.0
Academic Competence	93.0	97.1	87.6	98.2	86.0

^a Standard scores have a mean of 100 and a standard deviation of 15 in the national normative sample. Change score is fall kindergarten minus fall pre-kindergarten (4-year-old) score. N for PEK Cohort 2 = 251-266 and their comparison group = 132-145; N for PEK Cohort 3 = 211-220 and their comparison group = 72-78.

^b PEK Cohort 2 attended pre-kindergarten program in the 2006-07 school year. Results are reported for PEK Cohort 2 and their kindergarten classmates in fall of 2008. Change score is not available for the classmates.

^c PEK Cohort 3 attended pre-kindergarten program in the 2007-08 school year. Results are reported for PEK Cohort 3 and their kindergarten classmates in fall of 2008. Change score is not available for the classmates.

Results show that Family Literacy children, on average, scored somewhat lower than PEK Cohorts 2 and 3 children on the Peabody (vocabulary). However, during the Family Literacy program year, they gained more than PEK Cohort 2 and similar to PEK Cohort 3 children. In the fall of kindergarten, they scored higher than children who did not attend preschool programs prior to kindergarten in both years. On early reading and writing, Family Literacy children scored similarly to PEK Cohort 3, and higher than PEK Cohort 2 and children without prior preschool experiences. They made an average gain similar to PEK children on early writing, but a lower average gain on early reading. However, on average, their baseline scores were already at or above the national average at baseline. Again, they scored higher than children who did not attend preschool programs prior to kindergarten on both early reading and writing. Results on early math suggested that Family Literacy children scored similarly to PEK children and higher than children without prior preschool at kindergarten.

Results for social skills and problem behaviors indicated that Family Literacy children scored similarly to children without preschool backgrounds and slightly worse than the PEK children. Kindergarten teachers rated Family Literacy children lower than PEK children in academic competence, but higher than children without preschool backgrounds.

Finally, researchers acknowledge that there are limitations in this study. Because of the small sample in the study, we analyzed and reported the results for the two cohorts combined. This means that differences among the programs and between the two cohort groups were not accounted for. Inability to control for these differences made it difficult for researchers to determine that certain participation levels (dosage) in the program had an impact on preparing children for kindergarten. When looking at the graph of the relationship between participation levels (dosage) and change in children's academic scores in one of the larger programs, for example, we found a pattern of positive correlation. However, a similar positive pattern was not found in another program where all participants had a high dosage of attendance and varying levels of academic improvements.

Participants' reasons for leaving the programs were also a factor that we did not control for in calculating the effect of dosage on participants' progress, due to small sample size. We knew from our previous experiences in evaluating Even Start programs that some families left the program because the parents obtained a job. This may mean that those who were ready for a job and had higher levels of literacy skills left the program earlier (i.e., had lower number of program hours).

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Appendix

Profile of Family Literacy programs

Profile of children and parents

Family Literacy dosage

Participant progress

Profile of Family Literacy programs

A1. Instructional staff working with children by site, 2007-08

Site	Preschool teachers	Paraprofessional staff	Total
Bloomington	3	5	8
Columbia Heights/Fridley	1	3	4
Mankato	2	2	4
Metro East	2	2	4
Robbinsdale	2	2	4
Rochester	2	5	7
Rosemount/Apple Valley/ Eagan	3	10	13
Saint Louis Park	1	2	3
Saint James/Madelia	2	2	4
Worthington	2	3	5
Total	20	36	56

A2. Instructional staff working with children by site, 2008-09

Site	Preschool teachers	Paraprofessional staff	Total
Bloomington	3	-	3
Chaska	2	5	7
Metro East	3	3	6
Robbinsdale	1	1	2
Rochester	1	3	4
Rosemount/Apple Valley/ Eagan	3	10	13
Saint Louis Park	1	1	2
Saint James/Madelia	2	4	6
Shakopee	4	5	9
Worthington	2	3	5
Total	22	35	57

A3. Instructional staff working with children by education level

Staff function and highest educational level	Number of staff	
	2007-08	2008-09
Preschool teaching staff		
Some college (including 2-year degree)	4	4
Four-year college degree (B.A., B.S.)	12	12
Post-graduate degree (Masters, Ph.D., M.D., etc.)	4	5
Total number of preschool teaching staff	20	21
Paraprofessional staff		
High school graduate or GED	13	10
Some college (including 2-year degree)	8	7
Four-year college degree (B.A., B.S.)	5	6
Post-graduate degree (Masters, Ph.D., M.D., etc.)	-	2
Total number of paraprofessional staff	26	25

A4. Instructional staff working with parents by site, 2007-08

Site	Licensed ABE staff	Non-licensed ABE staff	Parent Educator	Non-licensed parent educator	Total
Bloomington	2	9	1	1	13
Columbia Heights/ Fridley	1	1	1	-	3
Mankato	1	-	1	-	2
Metro East	1	-	1	-	2
Robbinsdale	7	7	1	-	15 ^a
Rochester	20	-	1	-	21
Rosemount/Apple Valley/Eagan	13	4	3	-	20
Saint Louis Park	5	-	1	-	6
Saint James/Madelia	2	-	1	-	3
Worthington	4	-	2	-	6
Total	56	21	13	1	91

^a One program also had a vocational counselor for adult.

A5. Instructional staff working with parents by site, 2008-09

Site	Licensed ABE staff	Non- licensed ABE staff	Parent Educator	Total
Bloomington	2	-	1	3
Chaska	2	-	1	3
Metro East	1	-	1	2
Robbinsdale	2	-	1	3
Rochester	2	-	1	3
Rosemount/Apple Valley/Eagan	3	1	2	6
Saint Louis Park	5	2	1	8
Saint James/Madelia	7	6	1	14
Shakopee	2	-	1	3
Worthington	4	-	2	6
Total	30	9	12	51

A6. Program schedule

Number of classroom hours offered in a typical week	2007-08	2008-09
Mean	14	16
Median	13	16
Range	5-20	11-20
Total number of program hours		
Mean	478	478
Median	430	480
Range	174-834	240-680
Total number of days offered for the school year		
Mean	109	117
Median	104	109
Range	69-141	95-160

Profile of children and parents

A7. Household income at/below poverty line

Site	Cohort 1 (N=71)	Cohort 2 (N=87)
Bloomington	67%	44%
Columbia Heights/Fridley	100%	-
Mankato	83%	-
Metro East	100%	100%
Robbinsdale	85%	100%
Rochester	100%	100%
Rosemount/Apple Valley/Eagan	86%	73%
Saint Louis Park	100%	100%
Saint James/Madelia	80%	25%
Worthington	38%	36%
Chaska	-	89%
Shakopee	-	80%
Total	83%	74%

A8. Parents' characteristics

Characteristics		Cohort 1 (N=70-73)	Cohort 2 (n=84-88)
Age (as of September 1, 2007 for Cohort 1 and September 1, 2008 for Cohort 2)	19-21	0%	2%
	22-24	13%	17%
	25-29	31%	27%
	30-34	26%	30%
	35-44	29%	20%
	45-59	1%	4%
Gender	Female	99%	97%
	Male	1%	3%
English Language Learner (ELL)?	Yes	85%	93%
	No	15%	7%
Born in the U.S.A.?	Yes	11%	6%
	No	89%	94%
Race/ethnicity	Asian	8%	6%
	Black or African American	26%	27%
	Hispanic/Latino	60%	66%
	White	4%	1%
	Biracial	1%	-
Education	8 th grade or less	41%	47%
	9 th -12 th grade, no high school diploma or GED	32%	28%
	High school diploma/GED	25%	24%
	Some college, including 2-year degree	3%	1%
If you have high school diploma or GED, was it obtained in U.S.A.? ^a	Yes	18%	5%
	No	82%	95%
Attended high school in 2008-09 while participating in the program?	Yes	1%	1%
	No	99%	99%
Employment status	Employed 35+ hours/week	14%	16%
	Employed 12-34 hours/week	23%	14%
	Not employed or minimally employed	63%	70%

^a N= 17 for 2007-08, N=20 for 2008-09

A9. Parent English Language Learners only: First language

Language	Cohort 1 (N=59)	Cohort 2 (N=81)
Spanish	68%	71%
Somali	10%	17%
Lao	2%	3%
Vietnamese	2%	3%
Other language (Amharic, Arabic, Cantonese, Dinka, Hindi, Kurdish, Liberian, Russian, Nuer, Oromo, Sudanese, Tigrinya, Vietnamese) ^a	18%	6%
Total	100%	100%

^a Represents one or two people.

A10. Children's characteristics

Characteristics		Cohort 1 (N=71-75)	Cohort 2 (N=89-90)
Age (as of September 1, 2007 for Cohort 1 and September 1, 2008 for Cohort 2)	4 years - 4 years five months	44%	46%
	4 years six months - 4 years eleven months	55%	54%
Gender	Female	45%	50%
	Male	55%	50%
Race/ethnicity	Asian	8%	3%
	Black or African American	26%	28%
	Hispanic/Latino	60%	65%
	White	4%	1%
	Biracial	1%	2%
First language	English	8%	6%
	Other	92%	94%
Receiving special education services (IEP)?	Yes	10%	5%
	No	90%	95%
Completed Early Childhood Screening or its equivalent?	Yes	92%	99%
	No	8%	1%

^a For Cohort 1 children, race/ethnicity information are based on their parents' race or ethnicity.

A11. Children's first language (if not English)

Language	Cohort 1 (N=66)	Cohort 2 (N=84)
Spanish	69%	68%
Somali	11%	19%
Oromo	6%	2%
Lao	2%	2%
Other languages (Amharic, Arabic, Chinese, Hindi, Kurdish, Nuer, Pakistani, Russian, Sudanese, Vietnamese) ^a	12%	9%
Total	100%	100%

^a Represents one or two people.

Family Literacy dosage

A12. Total parent hours

Hours	Cohort 1 N=73	Cohort 2 N=88
Fewer than 100 hours	1%	8%
100 to 199	11%	6%
200 to 299	23%	27%
300 to 399	27%	28%
400 to 499	8%	8%
500 to 599	8%	16%
600 +	21%	7%
Total	100%	100%
Mean	400	345
Median	340	318

A13. Hours of adult education

Hours	Cohort 1 N=73	Cohort 2 N=88
Fewer than 100 hours	8%	11%
100 to 149	14%	18%
150 to 199	29%	24%
200 to 299	22%	24%
300 to 399	6%	9%
400 to 499	4%	11%
500+	18%	2%
Total	100%	100%
Mean	269	221
Median	197	186

A14. Hours of parent education

Hours	Cohort 1 N=73	Cohort 2 N=88
Fewer than 10 hours	-	5%
10 to 24	18%	10%
25 to 49	30%	35%
50 to 74	23%	19%
75 to 99	22%	28%
100+	7%	2%
Total	100%	100%
Mean	55	53
Median	52	50

A15. Hours of interactive literacy activities for parents

Hours	Cohort 1 N=73	Cohort 2 N=88
Fewer than 10 hours	-	6%
10 to 29	10%	8%
30 to 49	14%	25%
50 to 69	23%	17%
70 to 89	21%	11%
90 to 109	19%	16%
110+	14%	17%
Total	100%	100%
Mean	76	71
Median	75	56

A16. Average percentage of days children attended while enrolled in Family Literacy program, 2007-08 (Cohort 1) and 2008-09 (Cohort 2)

Average percentage of days attended	Cohort 1 (N=75)	Cohort 2 (N=90)
0 to 49%	4%	1%
50 to 69%	17%	20%
70 to 79%	8%	18%
80 to 84%	13%	13%
85 to 89%	23%	16%
90 to 94%	21%	19%
95 to 100%	13%	13%
Total	100%	100%
Mean	81%	81%
Median	85%	84%

A17. Average percentage of days parents attended while enrolled in Family Literacy program, 2007-08 (Cohort 1) and 2008-09 (Cohort 2)

Average percentage of days attended	Cohort 1 (N=73)	Cohort 2 (N=88)
0 to 49%	4%	3%
50 to 69%	18%	19%
70 to 79%	10%	16%
80 to 84%	14%	16%
85 to 89%	22%	16%
90 to 94%	21%	17%
95 to 100%	12%	13%
Total	100%	100%
Mean	81%	79%
Median	85%	88%

A18. Differences in amount of participation, program hours and attendance rate for children (Cohorts 1 and 2)

Comparisons	N	Mean total hours	Mean percentage of days attended
Female	79	363	81%
Male	85	371	81%
Hispanic	102	343	81%
Non-Hispanic	57	395 ^a	81%
Receiving special education: Yes	11	364	76%
No	149	368	81%

^a Significant difference between groups.

A19. Differences in amount of participation, program hours and attendance rate for parents (Cohorts 1 and 2)

Comparisons	N	Mean total hours	Mean percentage of days attended
Age: Below 30	67	348	78%
Age: 30+	86	395	83%
Education 8 th grade or lower	70	366	78%
Education 9 th grade or higher	86	379	82%
Employed	50	345	79%
Not employed	104	392	81%
Hispanic	98	347	80%
Not Hispanic	54	414 ^a	81%

^a Significant difference between groups.

Participant progress

A20. Change in Peabody standard scores during Family Literacy program by student characteristics

		N	Change score ^a		
			Slower progress	Normal progress	Accelerated progress
Amount of participation while in Family Literacy	Fewer than 300 total child hours	34	15%	38%	47%
	300-400 total child hours	43	9%	42%	49%
	More than 400 total child hours	42	14%	19%	67%
	0% – 79% of days attended	37	16%	35%	49%
	80% – 100% of days attended	82	11%	32%	57%
Gender	Female	61	13%	34%	53%
	Male	58	12%	31%	57%
Ethnicity	Hispanic	78	10%	33%	56%
	Non-Hispanic	39	15%	31%	54%
Special Education	Yes	8	38% ^b	25%	38%
	No	107	11%	34%	55%
Attended preschool/ center care program prior to Family Literacy	Yes	81	15%	28%	57%
	No	37	8%	43%	49%

Note: Includes cohorts 1 and 2 who have assessments in the fall of Family Literacy and fall of kindergarten.

^a Change in standard score: Fall of kindergarten score minus fall of Family Literacy score. No progress is defined by change score of -6 or below, normal progress is -5 to +5, and accelerated progress is change score of +6 or above.

^b Significant differences between groups (38% vs. 11%).

A21. Change in Letter-Word Identification standard scores during Family Literacy program by student characteristics

		N	Change score ^a		
			Slower progress	Normal progress	Accelerated progress
Amount of participation while in Family Literacy	Fewer than 300 total child hours	34	21%	38%	41%
	300-400 total child hours	43	23%	35%	42%
	More than 400 total child hours	40	35%	30%	35%
	0% – 79% of days attended	36	25%	39%	36%
	80% – 100% of days attended	81	27%	32%	41%
Gender	Female	61	30%	30%	41%
	Male	56	23%	39%	38%
Ethnicity	Hispanic	78	21%	33%	46% ^a
	Non-Hispanic	35	43%	34%	23%
Special Education	Yes	8	12%	38%	50%
	No	105	28%	33%	39%
Attended preschool/ center care program prior to Family Literacy	Yes	81	30%	35%	36%
	No	35	20%	34%	46%

Note: Includes cohorts 1 and 2 who have assessments in the fall of Family Literacy and fall of kindergarten.

^a Change in standard score: Fall of kindergarten score minus fall of Family Literacy score. No progress is defined by change score of -6 or below, normal progress is -5 to +5, and accelerated progress is change score of +6 or above.

^b Significant differences between groups (46% vs. 23%).

A22. Change in Spelling standard scores during Family Literacy program by student characteristics

		Change score ^a			
		N	Slower progress	Normal progress	Accelerated progress
Amount of participation while in Family Literacy	Fewer than 300 total child hours	34	12%	32%	56%
	300-400 total child hours	43	12%	35%	54%
	More than 400 total child hours	42	14%	17%	69%
	0% – 79% of days attended	37	16%	35%	49%
	80% – 100% of days attended	82	11%	24%	65%
Gender	Female	61	15%	33%	53%
	Male	58	10%	22%	67%
Ethnicity	Hispanic	79	10%	32%	58%
	Non-Hispanic	36	19%	19%	61%
Special Education	Yes	8	25%	0%	75%
	No	107	12%	30%	58%
Attended preschool/ center care program prior to Family Literacy	Yes	81	14%	26%	61%
	No	37	11%	30%	60%

Note: Includes cohorts 1 and 2 who have assessments in the fall of Family Literacy and fall of kindergarten.

^a Change in standard score: Fall of kindergarten score minus fall of Family Literacy score. No progress is defined by change score of -6 or below, normal progress is -5 to +5, and accelerated progress is change score of +6 or above.

A23. Change in Applied Problems standard scores during Family Literacy program by student characteristics

		N	Change score ^a		
			Slower progress	Normal progress	Accelerated progress
Amount of participation while in Family Literacy	Fewer than 300 total child hours	31	26%	42%	32%
	300-400 total child hours	41	39%	39%	22%
	More than 400 total child hours	39	46%	33%	21%
	0% – 79% of days attended	33	30%	46%	24%
	80% – 100% of days attended	78	41%	35%	24%
Gender	Female	58	38%	40%	22%
	Male	53	38%	36%	26%
Ethnicity	Hispanic	73	37%	37%	26%
	Non-Hispanic	34	38%	44%	18%
Special Education	Yes	6	67%	17%	17%
	No	101	35%	40%	26%
Attended preschool/ center care program prior to Family Literacy	Yes	78	44%	36%	21%
	No	32	25%	40%	34%

Note: Includes cohorts 1 and 2 who have assessments in the fall of Family Literacy and fall of kindergarten.

^a Change in standard score: Fall of kindergarten score minus fall of Family Literacy score. No progress is defined by change score of -6 or below, normal progress is -5 to +5, and accelerated progress is change score of +6 or above.

A24. Change in Woodcock-Johnson standard scores during Family Literacy program for below-average students

		Change score ^a			
		N	Slower progress	Normal progress	Accelerated progress
Letter-Word Identification					
Amount of participation while in Family Literacy	400 total child hours or below	34	3%	24%	74%
	More than 400 total child hours	12	8%	17%	75%
	0% – 79% of days attended	18	11%	17%	72%
	80% – 100% of days attended	28	0%	25%	75%
Spelling					
Amount of participation while in Family Literacy	400 total child hours or below	41	7%	20%	73%
	More than 400 total child hours	17	12%	6%	82%
	0% – 79% of days attended	23	13%	26%	61%
	80% – 100% of days attended	35	6%	9%	88% ^b
Applied Problems					
Amount of participation while in Family Literacy	400 total child hours or below	43	16%	42%	42%
	More than 400 total child hours	19	21%	37%	42%
	0% – 79% of days attended	22	14%	50%	36%
	80% – 100% of days attended	40	20%	35%	45%

Note: Includes cohort 1 and 2 children who have assessments in the fall of Family Literacy and fall of kindergarten and scored below 100 in standard score at baseline.

^a Change in standard score: Fall of kindergarten score minus fall of Family Literacy score. No progress is defined by change score of -6 or below, normal progress is -5 to +5, and accelerated progress is change score of +6 or above.

^b Significant differences between groups (88% vs. 61%).

A25. Average scores by student characteristics

Peabody		N	Mean in standard score		Change score
			Fall of Family Literacy	Fall of Kindergarten	
Gender	Female	61	85.11	90.98	+5.87
	Male	58	80.45	90.21	+9.76
Ethnicity	Hispanic	78	79.42	88.73	+9.31
	Non-Hispanic	39	88.77	94.23	+5.46
Special Education	Yes	8	77.50	80.25	+2.75
	No	107	83.55	91.25	+7.70
Attended preschool/ center care program prior to Family Literacy	Yes	81	84.01	91.42	+7.41
	No	37	80.24	88.49	+8.24
Letter-word Identification					
Gender	Female	61	105.07	108.43	+3.36
	Male	58	102.20	105.36	+3.16
Ethnicity	Hispanic	78	99.26	103.86	+4.60
	Non-Hispanic	35	112.63	112.69	+0.06
Special Education	Yes	8	90.13	95.00	+4.88
	No	105	104.70	107.85	+3.15
Attended preschool/ center care program prior to Family Literacy	Yes	81	105.00	106.99	+1.99
	No	35	101.23	107.11	+5.89
Spelling					
Gender	Female	61	104.77	111.85	+7.08
	Male	58	95.28	106.43	+11.16
Ethnicity	Hispanic	79	98.06	106.43	+8.37
	Non-Hispanic	36	104.28	114.75	+10.47
Special Education	Yes	8	79.50	88.38	+8.88
	No	107	101.63	110.62	+8.99
Attended preschool/center care program prior to Family Literacy	Yes	81	100.54	109.06	+8.52
	No	37	99.35	109.89	+10.54

A25. Average scores by student characteristics (continued)

Peabody		N	Mean in standard score		Change score
			Fall of Family Literacy	Fall of Kindergarten	
Gender	Female	58	98.88	96.53	-2.34
	Male	53	95.09	94.04	-1.06
Ethnicity	Hispanic	73	96.07	94.21	-1.86
	Non-Hispanic	34	99.29	97.41	-1.88
Special Education	Yes	6	91.33	85.50	-5.83
	No	101	96.98	95.75	-1.23
Attended preschool/ center care program prior to Family Literacy	Yes	78	98.29	94.85	-3.45
	No	32	94.16	96.66	+2.50

Note: Includes cohorts 1 and 2 who have assessments in the fall of Family Literacy and fall of kindergarten.

A26. Teacher ratings of social skills, problem behaviors, and academic competence in kindergarten for Cohort 1 and Cohort 2 children

Assessment	N	Standard score^a Cohorts 1 and 2
Social Skills Rating System		
Total Social Skills	117	100.87
Problem Behaviors	118	95.48
Academic Competence	118	92.97

^a Standard scores have a mean of 100 and a standard deviation of 15 in the national normative sample.

A27. Teacher ratings of social skills and problem behaviors in kindergarten: Subscale results for Cohort 1 and Cohort 2 children

Assessment	N	Raw scores Cohorts 1 and 2
Total Social Skills subscales		
Cooperation	116	15.51
Assertion	116	11.82
Self-control	113	15.01
Problem Behaviors subscales		
Externalizing	116	1.37
Internalizing	118	1.99
Hyperactivity	116	3.04

Adults

A28. CASAS Reading: Change in score from pretest to posttest, Cohorts 1 and 2

Group	Change in scale score from pretest to posttest ^a							Total
	-10 or less	-9 to -5	-4 to -1	0	1-4	5-9	10 or more	
ELL	5	1	8	5	21	26	40	106
Non-ELL	-	-	1	-	4	1	2	8
Total	5	1	9	5	25	27	42	114

^a Posttest minus pretest.

A29. TABE Reading: Change in score from pretest to posttest, Cohorts 1 and 2

Group	Change in scale score from pretest to posttest ^a							Total
	-10 or less	-9 to -5	-4 to -1	0	1-4	5-9	10 or more	
ELL	5	-	1	-	-	-	6	12
Non-ELL	2	1	-	1	1	-	4	9
Total	7	1	1	1	1	-	10	21

^a Posttest minus pretest.

A30. CASAS Reading: Average score change from pretest to posttest, Cohorts 1 and 2

Group	Scale score mean		
	Pretest	Posttest	Difference ^a
ELL (N=106)	208	215	+7
Non-ELL (N=8)	256	264	+8
Total (N=114)	211	218	+7

Note: The difference was calculated using non-rounded numbers; therefore, the difference may not equal the posttest minus the pretest using the numbers in the figure.

^a Posttest minus pretest.

A31. TABE Reading: Average score change from pretest to posttest, Cohorts 1 and 2

Group	Scale score mean		
	Pretest	Posttest	Difference ^a
ELL (N=12)	438	459	+21
Non-ELL (N=9)	451	458	+7
Total (N=21)	443	458	+15

Note: The difference was calculated using non-rounded numbers; therefore, the difference may not equal the posttest minus the pretest using the numbers in the figure.

^a Posttest minus pretest.

A32. CASAS Reading: Change in skill level from pretest to posttest (2007-08 and 2008-09)

ELL			Non-ELL		
Skill level at pretest	Number assessed	Number improving one or more skills levels from pretest to posttest	Skill level at pretest	Number assessed	Number improving one or more skills levels from pretest to posttest
Beginning ESL Literacy (Benchmark: 180 and below)	3	2	Beginning ABE Literacy (Benchmark: 367 and below)	-	-
Low Beginning ESL (Benchmark: 181-190)	6	3	Beginning Basic Education (Benchmark: 368-460)	-	-
High Beginning ESL (Benchmark: 191-200)	23	12	Low Intermediate Basic Education (Benchmark: 461-517)	4	2
Low Intermediate ESL (Benchmark: 201-210)	30	20	High Intermediate Basic Education (Benchmark: 518-566)	3	2
High Intermediate ESL (Benchmark: 211-220)	26	17	Low Adult Secondary Education (Benchmark: 567-595)	-	-
Advanced ESL (Benchmark: 221-235)	15	3	High Adult Secondary Education (Benchmark: 596 and above)	1	-
Adult Secondary Proficient Skills (Benchmark: 236 and above)	3	-		-	-
Total	106	57	Total	8	4

A33. Differences in CASAS reading gains for English Language Learners

Comparison	CASAS Reading: Gain for 5 or more points (N=56-59)
	Below 300 total parent hours
300-400 total parent hours	74%
More than 400 total parent hours	56%
0% – 79% of days attended	79%
80% – 100% of days attended	62%
Hispanic	71%
Not Hispanic	60%
Age below 30	56%
Age 30+	73%
Employed	65%
Not employed	67%
Education 8 th grade or less	61%
Education 9 th grade or higher	76%

^a Exclude parents who scored at Advanced ELL level or higher at pretest.

A34. Parenting Growth Inventory (PGI) Parental Support for Early Learning & Literacy results, Cohorts 1 and 2

Percent of eligible items ^a with at least one point improvement from pretest to posttest	Parents scoring in each category	
	Number	Percent
0 – 24%	30	22%
25 – 49%	13	10%
50 – 74%	21	16%
75 – 99%	17	13%
100%	53	40%
Total	134	100%

^a Eligible items are those on which the parent did not score at the highest levels ("4" or "5") at pretest.

A35. Parenting Growth Inventory (PGI): Average score change from pretest to posttest, Cohorts 1 and 2

Parental Support for Early Learning and Literacy item	Mean rating (N=142)		
	Pretest	Posttest	Difference ^a
Supports child's language development	3.0	3.7	+0.7
Promotes learning through play	2.8	3.5	+0.8
Reads to child on a regular basis	2.8	3.6	+0.7
Appropriate expectations for child's learning	2.9	3.7	+0.8
Communicates with teacher/caregiver	2.8	3.6	+0.7
Provides literacy materials at home	2.9	3.7	+0.8

Note: The PGI items are scored on a 5-point scale, ranging from "very low levels of skills" (1) to "very high levels of skills" (5).

^a Posttest minus pretest.

A36. Differences in PGI and Parent involvement in child's learning results, 2008-09

Comparison	PGI Parental Support for Literacy and Learning: Growth in 50 percent or more items ^a (N=85-90)	Parent involvement in child's learning: Growth in 50 percent or more items ^a (N=63-67)
Below 300 total parent hours	70%	72%
300-400 total parent hours	70%	77%
More than 400 total parent hours	63%	60%
0% – 79% of days attended	56%	79%
80% – 100% of days attended	74% ^b	64%
Hispanic	67%	73%
Not Hispanic	65%	57%
Age below 30	73%	68%
Age 30+	69%	69%
Employed	60%	69%
Not employed	70%	68%
Education 8 th grade or less	59%	71%
Education 9 th grade or higher	75% ^b	68%

^a Eligible items are those on which the parent did not score at the highest levels at pretest ("4" or "5" for PGI and "4" for parent involvement in child's learning). For parent involvement, items included are reads or looks at books with child, teaches child new words, helps child write letters or words, provides child with writing materials, monitors child's TV viewing, and asks child about what she or he is learning.

^b Significant difference between groups.

A37. Parent perceptions about impacts of program participation

As a result of being in Family Literacy Program	Percent responded “strongly agree” or “agree”	
	2007-08 N=53	2008-09 N=69-72
I enjoy spending time and playing with my child(ren).	100%	100%
I feel more comfortable with teachers and schools.	100%	99%
I understand more about the skills my child(ren) needs to be successful in school.	100%	97%
I understand more about how children grow and develop.	98%	97%
I am more confident as a teacher/model for my child(ren).	98%	90%
I understand my child(ren) better (their needs, interests, and abilities) and have more patience.	98%	97%
I feel comfortable talking to the teachers at Family Literacy Program.	98%	97%
I understand more about my parenting style and skills.	97%	93%
I talk with and listen to my child(ren) more than I used to.	97%	90%
I am making new friends and feel comfortable getting and giving support in the parent group.	97%	93%
I spend more time reading to my children.	94%	85%
I am making progress towards my educational goals (learning English, high school diploma or GED, or other goals)	92%	93%

Note: Parents responded: strongly agree, agree, neutral, disagree, or strongly disagree.