

Literacy First

Professional Development

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Evaluation of the Literacy First Professional Development Institute

Background

The 2010-11 Literacy First program was a state funded, K-6 elementary reading Professional Development Institute (PDI) awarded by a bid from the Oklahoma Commission for Teacher Preparation (OCTP). The Oklahoma Technical Assistance Center (OTAC) in Cushing was contracted by OCTP to conduct an evaluation of the Literacy First PDI.

The goal of the Literacy First PDI was to build an infrastructure and culture to support improved reading achievement within each participating school. The PDI accomplished this through full-faculty professional development in the Literacy First (LF) process and the development of leadership teams. Each building's leadership team comprised an administrator and a Literacy Resource Specialist (LRS). An LRS functions much like a reading coach, working with teachers to monitor and improve instruction. During the three-year program, each school was supported by a visiting Literacy Consultant, assigned to the school by LF. The leadership team, with the guidance of the LF consultant, directed teachers in the effective implementation of Literacy First and developed plans to sustain the process after the three-year funding cycle.

All teachers completed a total of eight days of Literacy First training. Administrators and LRSs completed additional training focused on data-driven instruction and directing their schools' reading programs. The LF consultant visited each school site a minimum of four times per year.

Implementation and Program Quality

Oklahoma's Literacy First PDI was developed as a four-phase process:

- Phase I - Initial training (5 days),
- Phase II - Advanced training (3 days),
- Phase III - Information about the Literacy First process provided to administrators (2 days), and
- Phase IV - A three-year commitment to implementing the Literacy First process within an entire school or district. Literacy Resource Specialists (LRSs) are hired to work in each Phase IV school site. LF consultants¹ work with each school site, visiting four to six times per year.

Phases I and II may be completed by individual teachers and administrators within months of each other. Phase III (a two-day workshop) is designed more as an informational session for those wanting to learn more about the Literacy First process; it is a part of the national program but not the Oklahoma Literacy First program. Oklahoma administrators

¹ Literacy First refers to its consultants as "Literacy First Coaches." In most schools, a "reading coach" is an employee of the school, who works in one (occasionally two) schools on a full-time basis. This is the role of the Literacy Resource Specialist in the LF model. To avoid confusion, the term "coach" is not used in this report.

participated in Phase I and Phase II sessions to gain the initial knowledge and information they needed to begin working the Literacy First process in their schools. To receive funding as a Phase IV program, districts must apply for a grant award, commit to participation in the full three-year process, and develop plans to sustain the program after the end of OCTP funding.

Literacy First Phase I, II, and IV sessions took place from July 1, 2010 to June 30, 2011. Phase I and II sessions took place during the summer as well as during the school year. Phase IV Leadership sessions for Year 1, 2, and 3 school sites took place during the 2010-11 school year on September 8th and 9th, November 3rd and 4th, December 8th and 9th, and January 25th and 26th.

The Literacy First Process is designed to train teachers to provide systematic, explicit instruction in reading at the PK- 6th grade levels that includes the five essential elements of reading (phonemic awareness, phonics, fluency, vocabulary, and comprehension) as well as spelling. The five essential elements were identified in the 2000 National Reading Panel Report² and supported by a research report released by Learning Points Associates.³ Additionally, these five reading elements were written into the No Child Left Behind Act, the Reading First Initiative, and the Oklahoma Reading Sufficiency Act of 2005 as required content for those receiving reading instruction supported by federal and state funding sources. The Literacy First process utilizes the research-based practices and instructional elements of effective comprehension instruction suggested in the US Department of Education's and Institute of Education Sciences (IES) What Works Clearinghouse report, *Improving Comprehension in Kindergarten Through 3rd Grade: A Practice Guide*.⁴

Educators completing training in the Literacy First process were required to complete two training sessions, Phase I and Phase II. The training sessions are structured to provide grade-level appropriate training by grouping PK through 3rd grade teachers (Primary) and 4th through 6th grade teachers (Intermediate) together in groups.

The Literacy First instructional process comprised two main components: Academic Learning Time (ALT) and Anatomy of a Lesson (AOL). Academic Learning Time requires teachers to determine if students know and understand their reading objectives, can manipulate the content of the lesson, and experience a 75-95 percent success rate. Anatomy of a Lesson (AOL) is a lesson plan template, designed to address each of the five essential elements, that requires teachers to assess, instruct, and monitor student learning. The Literacy First Process

²National Institute of Child Health and Human Development. (2000). Report of the National Reading Panel. Teaching children to read: An evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: Reports of the subgroups (NIH Publication No. 00-4754). Washington, DC: U.S. Government Printing Office.

³Learning Points Associates. (2004). *Five Essential Components of Effective Reading Instruction*. (#Ed-01-CO-0046/00001). Report provided for the U.S. Department of Education. Downloaded from <http://www.learningpt.org/pdfs/literacy/components.pdf>

⁴Shanahan, T., Callison, K., Carriere, C., Duke, N. K., Pearson, P. D., Schatschneider, C., & Torgesen, J. (2010). *Improving reading comprehension in kindergarten through 3rd grade: A practice guide* (NCEE 2010-4038). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved from whatworks.ed.gov/publications/practiceguides.

also developed Reading Comprehension Demonstration Lessons using different instructional strategies. Although each lesson involved a different comprehension reading strategy (e.g. retelling or QAR), all lessons included the following eight components: Lesson Objective, Activate Prior Knowledge, Assess Prior Knowledge, Student Active Participation/Teacher Input Think Aloud 1 and Think Aloud 2, Guided Practice, Independent Practice, and Identify Student Success (ISS). Each student is monitored and assessed in each of the strategies until the student has achieved a minimum achievement of 75 percent.

To determine quality of the training provided by the Literacy First PDI, evaluators reviewed Literacy First materials and conducted one or more observations in each of the Phase I, II, and IV training sessions. As depicted in Table 1, evaluators made a total of ten observations of the Literacy First professional development process.

Table 1. Number of observations made of each Literacy First training phase.		
Literacy First Phase	Session Level	Number of observations
Phase I	K-2 grade teachers	2
Phase I	3-6 grade teachers	2
Phase II	K-2 grade teachers	1
Phase II	3-6 grade teachers	1
Phase IV	Year 1 Administrators/LRS	2
Phase IV	Year 2 and 3 Administrators/LRS	2

Based on a review of Literacy First materials and observations of Phase I, II, and IV sessions, evaluators determined the Literacy First professional development sessions met national standards of the National Staff Development Council (NSCD).

Participants. A total of 57 Phase I and II training sessions took place. As reported by the Literacy First project director, **1,183** Oklahoma educators participated in Phase I sessions during 2010-11. A total of **782** participants participated in Phase II sessions. A total of **222** pre-kindergarten teachers participated in the seven PK sessions offered. The Literacy First professional development institute provided training to a total of **2,187** PK-6 grade teachers in 2010-11.

The evaluation of the PDI focused upon the Phase IV school sites that were funded through OCTP grant awards. In 2010-11, a total of 25 school sites from 16 different school districts began the year as Phase IV grant sites. These sites and the number of teachers at each site are listed in Table 2. The source for the total number of teachers at each site was the 2010-11 Oklahoma Directory of Education, published by the Oklahoma State Department of Education.

Table 2. Year of participation and total number of teachers at Phase IV grant school sites, 2010-11.			
Year in Phase IV	District	Phase IV school site	Number of teachers
3	Anadarko	Mission Elementary	30
3	Bartlesville	Ranch Heights Elementary	26
3	Bartlesville	Wayside Elementary	28
3	Blanchard	Blanchard Elementary	34
3	Clinton	Nance Elementary	34
3	Clinton	Southwest Elementary	36
3	Muskogee	Harris-Jobe Elementary	19
3	Tulsa	Addams Elementary	20
2	Bartlesville	Richard Kane Elementary	29
2	Enid	Monroe Elementary	32
2	Lawton	Eisenhower Elementary	18
2	Muskogee	Benjamin Franklin Science Academy	25
2	Muskogee	Irving Elementary	25
2	Panama	Panama Elementary	29
2	Ponca City	Lincoln Elementary	30
2	Purcell	Purcell Intermediate	19
2	Sand Springs	Central Fine Arts Academy	33
2	Sand Springs	Early Childhood Education Center	19
1	Apache	Apache Elementary	21
1	Muskogee	Cherokee Elementary	31
1	Muskogee	Tony Goetz Elementary	26
1	Muskogee	Whittier Elementary	27
1	Norman	Adams Elementary	37
1	Norman	Madison Elementary	41
1	Yukon	Myers Elementary	30

Note: Panama is listed in this table, even though it did not complete the year as a Phase IV grantee. Panama students' outcomes were not included in the data analyses report later in this document.

Evidence of Effectiveness

Changes in Teacher Knowledge

The purpose of the concept map assessment was to examine pre-post changes in participants' knowledge and understanding of teaching reading. The evaluation looked at changes in teachers' knowledge and understanding of teaching reading as measured by a pre-program map administered on the first day of summer training and a post-program map administered on the final summer training day. Educators attending 2010-11 Phase I Literacy First training sessions were the focus of the pre-post concept map assessment. The central concept for both maps was "Teaching Reading."

A total of 296 matched pairs of pre-post maps were collected. Concept maps used in the analysis were scored quantitatively for their structure; in addition, a content analysis was conducted to determine pre-post changes in the relevance, importance, understanding, and organization of the content. The quantitative analysis consisted of assessing differences in the measures listed below.⁵ A *t-test* was conducted to determine the significance of the differences between paired means on these measures:

- (1) **Number of Concepts**, which measures the raw number of terms that the teacher chains together on the map;
- (2) **Width**, which is the number of concepts in the largest level on the map; it measures breadth of knowledge;
- (3) **Depth**, which is the number of items in the longest concept chain and measures depth of knowledge;
- (4) **Hierarchical Structure Score (HSS)**, which is the sum (width + depth) and measures the complexity of the map structure;
- (5) **Number of Chunks, Chains, and Crosslinks**, which measures the degree to which concepts are interconnected. A **chunk** is defined as any node that has at least two subordinate concepts or "children." A chunk measures to what extent concepts and thoughts are interconnected. A **chain** is a set of linked concepts that reaches a depth of three. A **crosslink** is a connection made between two chunks.

Overall, participants showed statistically significant growth in all areas. The greatest gains were made in the overall number of concepts that teachers displayed on their maps and in the breadth of knowledge displayed. They did not merely add concepts that connected to the central concept, as many professional development participants do. Instead, they drew maps with more structures (levels, chunks, and chains).

⁵Hough, S., O'Rode, N., Terman, N., and Weissglass, J. (February 2007). "Using Concept Maps to Measure Changes in Teachers Understandings of Algebra." *Journal of Mathematics Teacher Education*. 10(1): 23-41.

Table 3 . Structural analysis of pre-post concept maps, Literacy First 2009-10. (N=108)			
<i>Structural Component</i>	<i>Pre-Program Mean</i>	<i>Post-Program</i>	<i>Significant</i>
Total Number of Concepts	15.92	23.38	Yes
Width	11.63	16.33	Yes
Depth	1.99	2.43	Yes
Hierarchical Structure Score (H Score)	13.61	18.76	Yes
Number of Chunks	1.77	3.32	Yes
Number of Chains	.73	2.06	Yes
Number of Crosslinks	.00	.01	No

* If this column is marked Yes, the difference between means was significant ($\alpha = .05$).

In addition to the quantitative scoring of the pre-post maps, a content analysis was conducted. Most of the pre-maps included at least two of the five essential reading elements (phonological awareness, phonics, fluency, comprehension, and vocabulary) identified by the National Reading Panel. They tended to identify more of these components on the post-program maps.

The growth demonstrated by the post-maps mainly was in the knowledge they gained about the elements of reading instruction – not necessarily the five essential elements named by the National Reading Panel, but components of those elements. Additional growth was noted in the identification of instructional strategies they learned to use in helping students to succeed in all aspects of reading.

Although the pre-post change in knowledge teachers demonstrated was similar across all participants, differences were noted in how the concept of *Teaching Reading* was approached across grades levels taught (PK-2 vs. 3-5). Teachers in grades 3-5 tended not to include phonological awareness (which is a skill usually mastered in grades PK-1) on either their pre- or post-program maps. They identified more aspects of reading comprehension and their application to content area reading, and included spelling and/or writing more often. Assessment was a prevalent theme on both pre- and post-maps for teachers of grades 3-5.

The pre-post changes could be best illustrated by these examples:

- On Participant 112's pre-map (Figure 1), one of the five essential elements of reading or similar concepts were identified. The post-map (Figure 2) had greater content and identified three of the five essential elements of reading.
- Participant 105 identified a number of reading concepts on the pre-map (Figure 3), but only one of the five essential elements of reading was included. However, the post-map (Figure 4) identified four of the five essential elements of reading. The components were organized into instructional strategies and both spelling and writing were included.

- Participant 101 (Figure 5 pre-map) identified four of the five essential elements of reading. The participant reconfigured the map (Figure 6 post-map) using four of the five reading elements in such a way as to indicate different instructional approaches and strategies. For example, on the pre-map *phonological awareness* had no additional concepts listed under it. However, on the post-map, the participant incorporated Literacy First's Anatomy of a Lesson and expanded the concept to include APK (Activate and Apply Prior Knowledge) and TIP (Teacher Input), two instructional strategies relevant to teaching phonological awareness.

Figure 1. Participant #112 Pre-Map.



Figure 2. Participant #112 Post-Map.

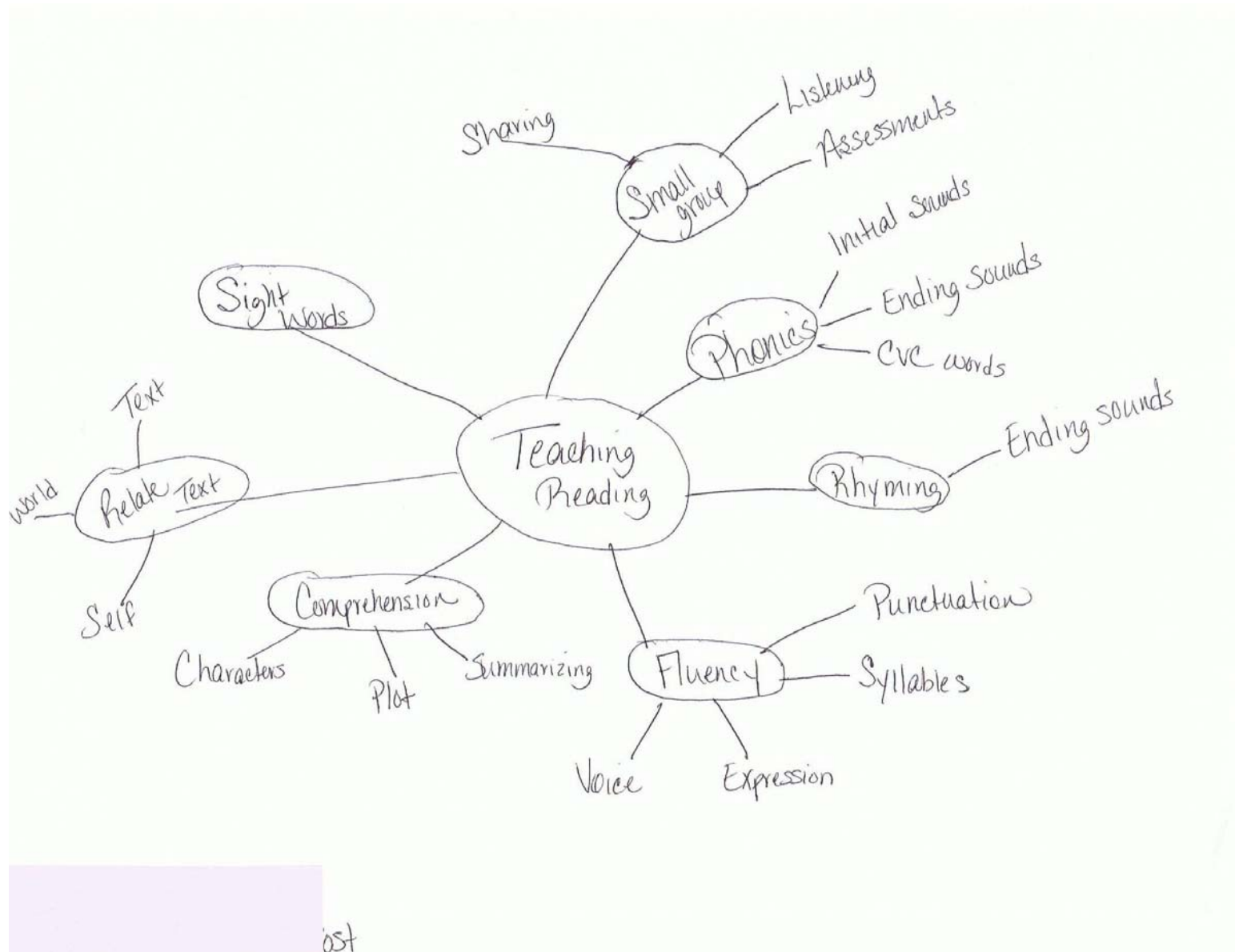


Figure 3. Participant #105 Pre-Map.



Figure 4. Participant #105 Post-Map.



Figure 5. Participant #101 Pre-Map.

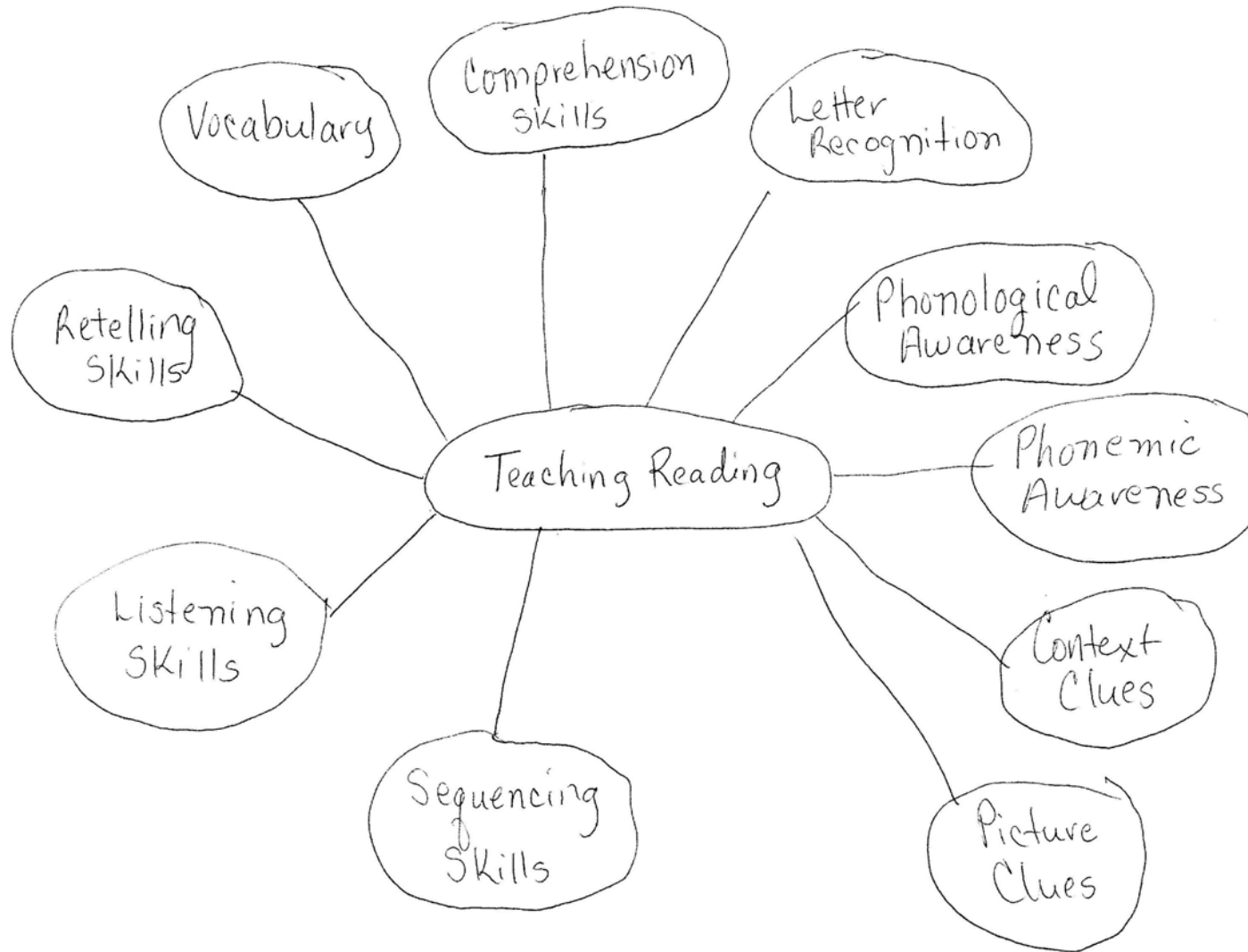
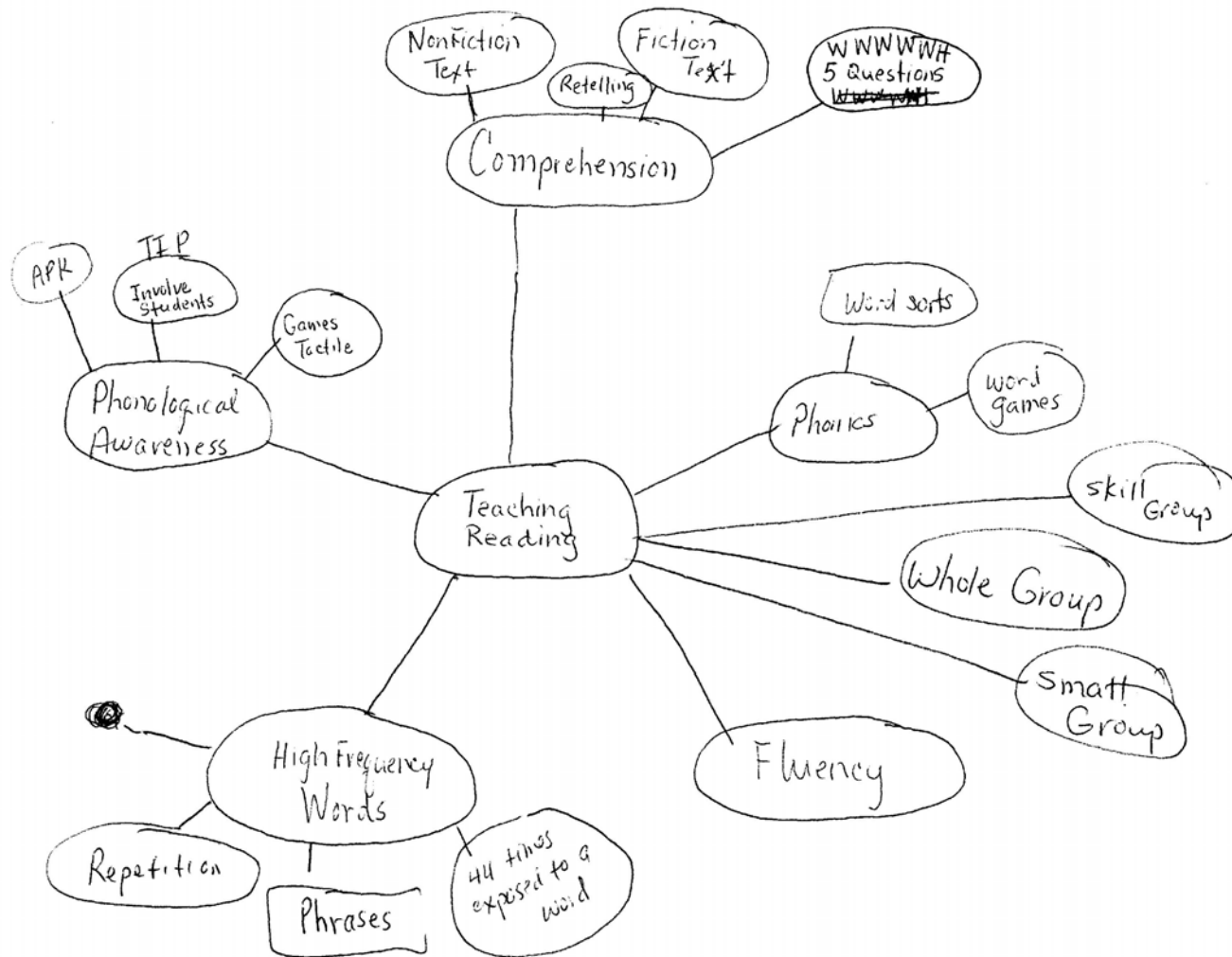


Figure 6. Participant #101 Post-Map.

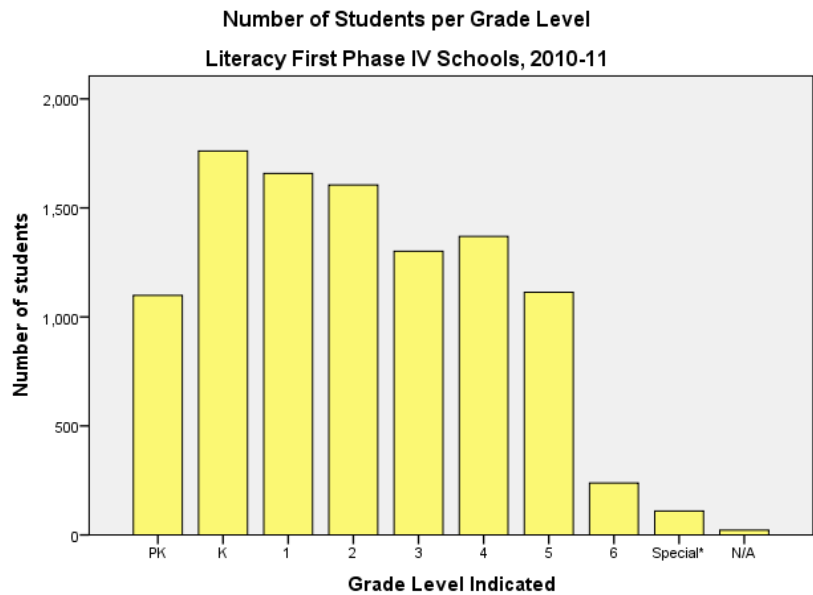


Effects on Student Learning: Phase IV Schools

A system called *My Data First* was used by the Literacy First projects to collect program data. All data for the *My Data First* system (MDF) was collected at the individual school sites and input using the web-based MDF interface. Because that information is collected continuously throughout the school year, it provides a more comprehensive picture than the “snapshot” of student performance provided by state accountability test data.

The MDF database was used to report demographic information for the schools and students participating in the Phase IV program in 2010-11. The Grand View district was added to the program later in the school year; that district’s data was not included in the MDF database. Figure 7 displays the distribution of students in Phase IV schools by grade level. The program served students in all elementary grade levels, with an emphasis on the primary grades.

Many of the schools funded through the program did not record demographic data beyond the child’s grade level and racial identification.⁶ Program demographics cannot be reported because of so much missing information, nor could comparisons be made to the statewide student population. The following tables (Tables 4-9) display the extent of this reporting problem; race was reported for only 87 percent of the children, gender was missing for 10 percent, free/reduced lunch status was missing for 34 percent, and IEP status was missing for 28 percent. For nearly half the participants, school staff failed to record whether or not students had been retained in grade.



*Some special education students and students in mixed-grade classrooms were classified separately.

⁶ The MDF system permitted schools to enter “N/A” for “Not Available” or “NR” for “Not Reported” into these fields.

Table 4. Student ethnicity as reported by Phase IV schools.		
Group	Frequency	Percent
African American	1,031	10.0
American Indian	1,861	18.1
Asian	149	1.4
Caucasian	4,590	44.7
Hispanic	1,280	12.5
Pacific Islander	61	.6
Other	7	.1
Undetermined	1,284	12.5
Missing Data	13	.1
Total	10,276	100.0

Table 5. Student free/reduced lunch status as reported by Phase IV schools.		
Group	Frequency	Percent
Eligible	5,038	49.0
Not Eligible	1,758	17.1
Missing Data	3,480	33.9
Total	10,276	100.0

Table 6. Student gender as reported by Phase IV schools.		
Gender	Frequency	Percent
Female	4,456	43.3
Male	4,756	46.2
Missing Data	1,063	10.5
Total	10,276	100.00

Table 7. Student IEP status as reported by Phase IV schools.		
Group	Frequency	Percent
Special Education	640	6.2
Regular Education	6,725	65.4
Missing Data	2,911	28.3
Total	10,276	100.0

Table 8. Student ELL status as reported by Phase IV schools.		
Group	Frequency	Percent
English Language Learner	865	8.4
Non-ELL	5,847	56.9
Missing Data	3,564	34.7
Total	10,276	100.0

Table 9. Students retained in grade as reported by Phase IV schools.		
Group	Frequency	Percent
Previously Retained	486	4.7
Never Retained	4,892	47.6
Missing Data	4,898	47.7
Total	10,276	100.0

Instruments

Two sets of assessment instruments were used to determine the effects of the Literacy First program on children’s reading achievement. Literacy First uses a set of assessments as a part of its program: Phonological Awareness, Phonics, Comprehension, and Fluency.⁷ All except the Fluency assessment are proprietary and were designed to assess essential reading

⁷ The Phonemic Awareness, Phonics, and Comprehension assessments were proprietary Literacy First tests. Fluency was measured by a curriculum-based measurement of standard oral reading fluency published by AIMSweb (www.Edformation.com), which is owned by Pearson Education, Inc.

skills for children in grades K-5. The Literacy First assessments were the only source of data for students in grades PK, K, 1, and 2. The reliability and validity information for these assessments has been reviewed in prior evaluation reports.⁸

The second set of assessments was the Oklahoma Core Curriculum Tests (OCCT), administered to all children in grades 3-8. These standards-based tests are designed to measure all aspects of reading as defined in the Oklahoma state curriculum for each grade level. The State Department of Education provided OTAC evaluators with OCCT site-level summary data.

The lack of individual student OCCT data has been an impediment to the evaluation of the program. Current law states that the Oklahoma State Department of Education will provide this data through its student information system; however, Oklahoma’s Student Information System is not yet operational. In the spring of 2008, the evaluation team met with representatives of Literacy First and its data collector, My Data First (MDF). MDF provided a system through which student data was collected from each participating school. My Data First representatives agreed to include fields to their student data system so that schools could record OCCT test data along with Literacy First assessment scores. OTAC continued to meet with LF/MDF representatives during the 2008-09, 2009-10, and 2010-11 school years to help them resolve data gathering and recording issues. Despite these efforts, Literacy First has not yet developed a system to routinely collect student-level OCCT data and incorporate that data into its MDF record-keeping system.

Findings: Literacy First Assessments

The Literacy First assessments database included 10,276 students – all students who were assessed in Phase IV schools. The data provided to OTAC was in the form of the following summary scores:

OGL	On Grade Level	Students who received instruction in the skill of interest and scored on grade level.
OC	Off Continuum	Students who have mastered all the skills on a test and are thus assumed to be On Grade Level for that particular skill set.
Not OGL	Not On Grade Level	Students who received instruction in the skill of interest but scored below grade level.
NFAY	Not Full Academic Year	Students who were not present for the full academic year. No “on grade level” status was recorded for these students.

⁸ Prior reports are available from OCTP or OTAC.

In addition, raw scores were provided for one administration of the Phonemic Awareness and Phonics tests; these scores recorded the number of skills students had mastered. (The time of year that the data were recorded was not specified.) The Phonemic Awareness scale had a possible score of 16; the Phonics scale had a possible score of 22.

Tables 10-12 summarize the data by grade level. The tables list, for each skill set (Phonemic Awareness, Phonics, and Fluency), the number of children in each grade level who were designated as Transient, as Receiving Instruction, and Off Continuum. As noted earlier, Off Continuum students were those who had attained On Grade Level (OGL) status at the beginning of the school year. The table then displays the number and percentage of students who attained OGL status at each of the three assessment points – fall, winter, and spring. By the end of the 2010-11 school year, 80 percent of the students in Phase IV schools were on grade level in Phonemic Awareness, 80 percent were OGL in Phonics, and 56 percent were OGL in Fluency.

Figure 8 displays growth in Phonemic Awareness assessed by the number of skills mastered by the students. The highest number of skills reported was 16. As Figure 8 illustrates, the majority of students had mastered these skills by the 2nd grade. There were 22 skills to master in Phonics instruction. Figure 9 displays the mean number of skills mastered by grade level. In this area, 4th grade represents the grade level in which most students had mastered the content.

Figure 8. Mean Number of Phonemic Awareness Skills Mastered by Grade Level

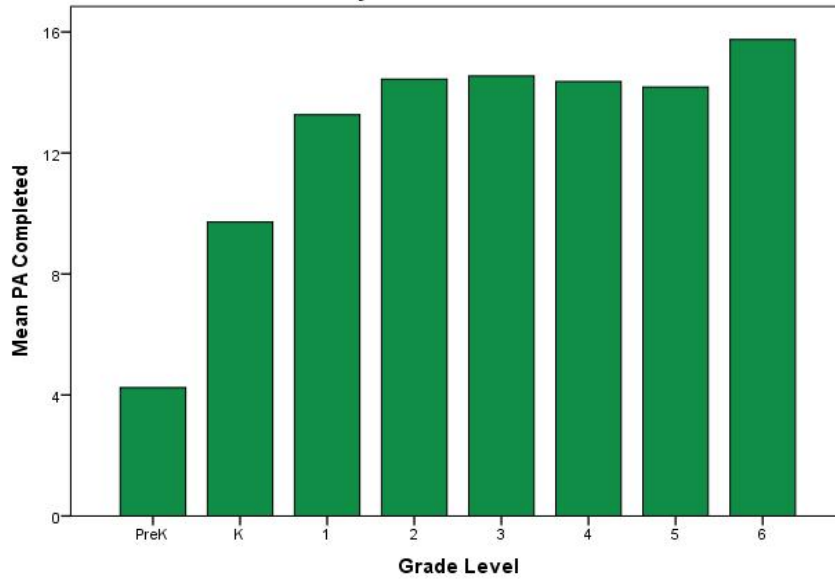
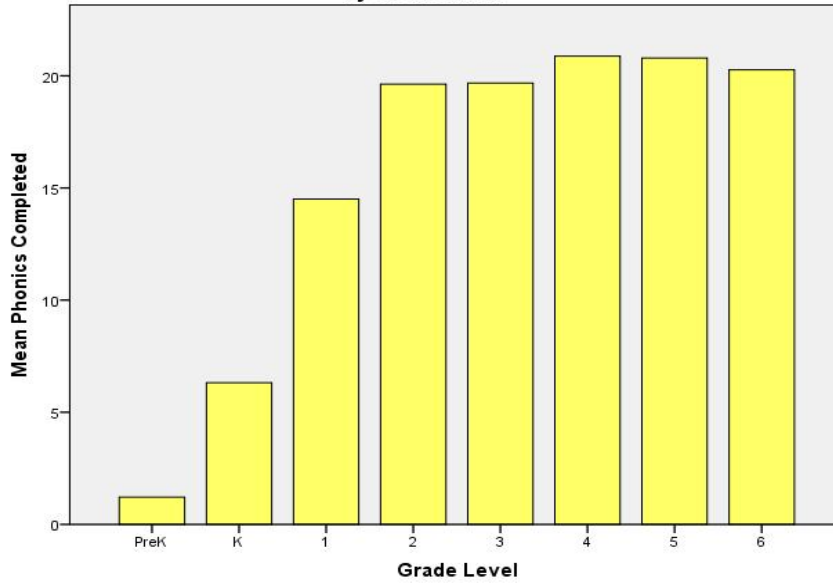


Figure 9. Mean Number of Phonics Skills Mastered by Grade Level



Students who were not enrolled in school for a full academic year (transients) were identified and excluded from all LF analyses. The percentage of transient students identified by LF has fluctuated over the last three years. The rate reported by LF for 2010-11 was highest rate reported over the past three years (14.2%). The number of students identified as “transient” was higher than the statewide percentage of students identified as transient (10%, according to the State Office of Accountability) and *three times as high* as the percentage of students excluded from state testing results because they were not present for the full academic year (4%).

Transient Students	
2008-09	13.2%
2009-10	11.8%
2010-11	14.2%

In previous years, OTAC conducted analyses to determine whether students identified as transient were randomly distributed across achievement categories, as would be expected, or whether the over-identification of “transient” students inflated Literacy First’s achievement statistics. The results of these analyses indicated that the children identified as “transient” were *not* randomly distributed across achievement levels; thus, *removing such a large of number of students from statistical analyses had the effect of inflating the number of students rated as on grade level.*

The same analyses were conducted in 2010-11 when OTAC evaluators reviewed the data on the number of skills mastered in the Phonological Awareness and Phonics, by grade level, to determine whether “transient” children were, in fact, low achievers. The results suggested some improvement with similar means across years on the Phonemic Awareness skills mastered. The analysis of the Phonics skills data suggested more of a discrepancy. It is recommended that Literacy First improve its efforts to provide accurate data by:

- reviewing the criteria and procedures used in identifying transient students;
- monitoring data recording procedures by participating school personnel; and
- recording the “on grade level” status of each child identified as transient.

The percentage of children identified as transient remained far too high and no OGL status was recorded for the 14 percent of students in Phase IV schools identified as “transient.” If no reasonable rationale can be provided for over-identifying children as “transient,” OTAC recommends that the Commission require LF to employ the same criteria as is used by schools for the state OCCT assessments.

The information presented in Tables 10-12 suggests that the Phase IV schools made good progress in improving the phonological awareness and phonics skills of students (once transient students were excluded). At the end of the school year, 80 percent of students in Grades 1-2 were on grade level in Phonological Awareness and 80 percent of 1-4 grade students were on grade level in phonics. As in prior years, the Fluency data, showed a much lower percentage of children on grade level. This year, 56 percent of the students in Phase IV schools were OGL in Fluency at the end of the school year compared to 41 percent in 2009-10.

Table 10. Literacy First On Grade Level Summary, Phonemic Awareness, 2010-11.

Year	Grade	Number of Students	Transient	Received Instruction	Off Continuum (OC)	OGL Beginning of Year		OGL Mid-Year		OGL End of Year	
						N	%	N	%	N	%
1	PreK	203	36	167	0	167	100	167	100	96	56
1	K	510	97	413	0	41	10	268	65	322	78
1	1	476	70	403	3	60	15	311	77	357	88
1	2	492	73	381	38	84	20	301	72	373	89
1	Total	1681	276	1364	41	352	25	1047	75	1148	82
2	PreK	471	54	417	0	417	100	417	100	259	62
2	K	687	149	538	0	132	25	410	76	476	89
2	1	610	112	452	46	360	72	398	80	416	84
2	2	547	93	280	174	315	69	303	67	329	73
2	Total	2315	408	1687	220	1224	64	1528	80	1480	78
3	PreK	421	29	392	0	392	100	392	100	234	60
3	K	563	53	507	3	244	48	418	82	463	91
3	1	567	61	378	128	411	81	455	90	468	92
3	2	553	50	375	128	349	69	345	69	375	75
3	Total	2104	193	1652	259	1396	73	1610	84	1540	81
All	PreK	1095	119	976	0	976	100	976	100	589	60
All	K	1760	299	1458	3	417	29	1096	75	1261	86
All	1	1653	243	1233	177	831	60	1164	83	1241	88
All	2	1592	216	1036	340	748	54	949	69	1077	78
All	Total	6100	877	4703	520	2972	57	4185	80	4168	80

Table 11. Literacy First On Grade Level Summary, Phonics, 2010-11.												
Year	Grade	Number of Students	Transient	Received Instruction	Off Continuum (OC)	OGL Beginning of Year		OGL Mid-Year		OGL End of Year		
						N	%	N	%	N	%	
1	1	477	71	405	1	84	21	207	51	272	67	
1	2	494	74	401	19	59	14	156	37	299	71	
1	3	401	66	276	59	66	20	152	45	198	59	
1	4	228	34	142	52	52	27	177	91	146	75	
1	Total	1600	245	1224	131	261	19	692	51	915	68	
2	1	610	112	498	0	389	78	411	83	379	76	
2	2	547	93	422	32	290	64	236	52	341	75	
2	3	489	77	207	205	279	68	297	72	351	85	
2	4	418	50	106	262	262		288		310		
2	Total	2064	332	1233	499	1220	70	1232	71	1381	80	
3	1	567	61	504	2	422	83	437	86	414	82	
3	2	557	52	473	32	355	70	325	64	458	91	
3	3	378	46	124	208	241	73	285	86	301	91	
3	4	509	38	51	420	420	89	445	94	450	96	
3	Total	2011	197	1152	662	1438	79	1492	82	1623	90	
All	1	1654	244	1407	3	895	63	1055	75	1065	76	
All	2	1598	219	1296	83	704	51	717	52	1098	80	
All	3	1268	189	607	472	586	54	734	68	850	79	
All	4	1155	122	299	734	734	71	910	88	906	88	
All	Total	5675	774	3609	1292	2919	60	3416	70	3919	80	

Table 12. Literacy First On Grade Level Summary, Fluency, 2010-11.

Year	Grade	Number of Students	Transient	Received Instruction	Off Continuum (OC)	OGL Beginning of Year		OGL Mid-Year		OGL End of Year	
						N	%	N	%	N	%
1	2	489	73	416	0	59	14	139	33	167	40
1	3	427	72	355	0	144	41	175	49	188	53
1	4	405	73	332	0	130	39	160	48	156	47
1	5	367	42	325	0	159	49	184	57	180	55
1	Total	1688	260	1428	0	492	35	658	46	691	48
2	2	525	92	433	0	107	25	145	34	194	45
2	3	486	77	409	0	151	37	232	57	239	58
2	4	435	59	376	0	147	39	170	45	183	49
2	5	360	63	297	0	129	43	137	46	143	48
2	Total	1806	291	1515	0	534	35	684	45	759	50
3	2	549	50	499	0	216	43	284	57	336	67
3	3	378	46	332	0	215	65	231	70	240	72
3	4	521	52	469	0	261	56	286	61	321	68
3	5	384	20	364	0	189	52	223	61	221	61
3	Total	1832	168	1664	0	881	53	1024	62	1118	67
All	2	1563	215	1348	0	382	28	568	42	697	52
All	3	1291	195	1096	0	510	46	638	58	667	61
All	4	1361	184	1177	0	538	46	616	52	660	56
All	5	1111	125	986	0	477	48	544	55	544	55
All	Total	5326	719	4607	0	1907	41	2366	51	2568	56

There did appear to be a difference on the Phonics and Fluency assessment among the cohorts. On the Phonics assessment, schools in their first year of LF implementation had 68 percent of their students OGL at the end of the year compared to 80 percent for the second year schools and 90 percent for the third year schools. On the Fluency assessment, first year schools had 48 percent of their student OGL compared to 50 percent the second year and 67 percent for the third year cohort.

My Data First also provided information for two comprehension assessments. One for students in grades K-2 and one for intermediate grades. Numerous discrepancies were noted in the comprehension data. For example, more than a quarter of the students who took the K-2 assessment were in grades 3-5. On the intermediate assessment, no students were coded as OGL suggesting there may have been some confusion regarding the setting of grade levels by Literacy First. Finally, MDF reported that some classes were deleted by the campus users for reasons unknown. For these reasons, analyses were not conducted on this information.

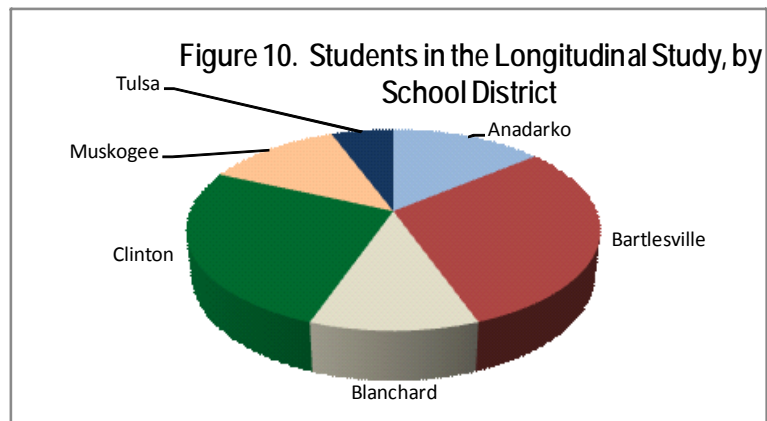
Longitudinal study. Since the Literacy First assessments are proprietary, criterion-referenced tests, no normative data were available, and there was no basis for comparing the results from Phase IV schools to those of schools that did not employ LF methods. If data from non-LF schools in Oklahoma are available to LF, it would be helpful to know whether students in non-Phase IV schools learned and mastered the phonics skills at the same rate.

OTAC combined the Literacy First assessment data for the past three years to conduct a longitudinal study of the program’s effect on reading achievement over time. Relevant data from all students served by Literacy First Phase IV programs between Fall 2009 and Spring 2011 were combined in database on the basis of their My Data First identification numbers. The participating schools and the number of program participants are listed in Table 13.

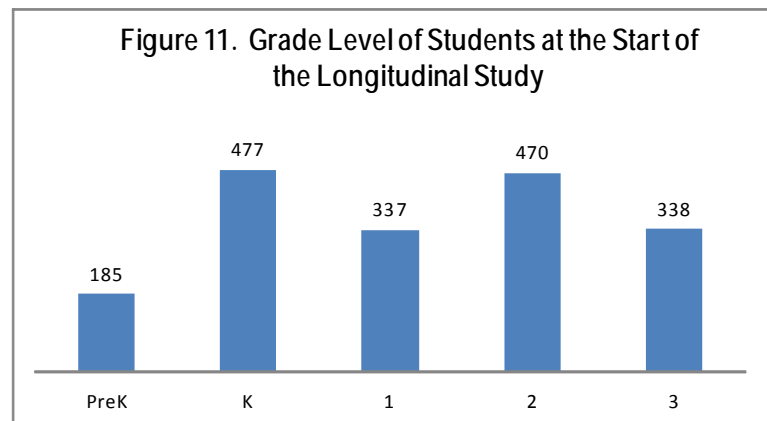
Table 13. Number of students served per year, by school.							
School	2008-09	2009-10	2010-11	School	2008-09	2009-10	2010-11
Anadarko East	303	327		Muskogee Harris Jobe	155	236	222
Anadarko Mission	300	315	300	Muskogee Irving	248	438	434
Anadarko Sunset	350	335		Muskogee Tony Goetz			442
Ardmore Charles Evans	521	525		Muskogee Whittier			203
Ardmore Jefferson	211	195		New Lima	173	175	
Bartlesville Hoover	436	432		Norman Adams			552
Bartlesville Kane		559	533	Norman Madison			666
Bartlesville Ranch Heights	422	444	567	Panama		233	398
Bartlesville Wayside	341	361	47	Ponca City Lincoln		634	590
Bartlesville Will Rogers	318	312		Purcell Intermediate		227	216
Blanchard	636	661	554	Putnam City Apollo	491	459	
Boone-Apache Apache			320	Rocky Mountain	126	128	
Clinton Nance	439	433	560	Sand Springs		740	247
Clinton Southwest	502	526	538	Sand Springs Fine			502

<i>School</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>	<i>School</i>	<i>2008-09</i>	<i>2009-10</i>	<i>2010-11</i>
				Arts			
El Dorado	66	66		Shidler Ward	135	120	
Enid Monroe		420	509	Tulsa Addams	306	261	255
Lawton Eisenhower Elementary		289	281	Tulsa Lanier	291	324	
Lawton Sullivan Village	352	355		Tulsa Orville Wright	358	382	
Muskogee Ben Franklin		261	473	Wilson	143		
Muskogee Cherokee			367	Yukon Myers			479
Muskogee Grant Foreman	254		371				
				Totals	7,877	11,173	11,050

From this database, the group of students who were served all three years were selected. Only the children served by programs who were in their third year in 2010-11 were eligible for inclusion in this database. A total of 1,807 students were served for all three years; the longitudinal study focused on this group.



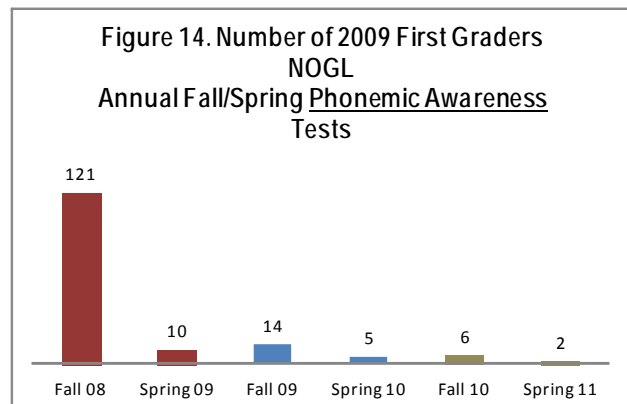
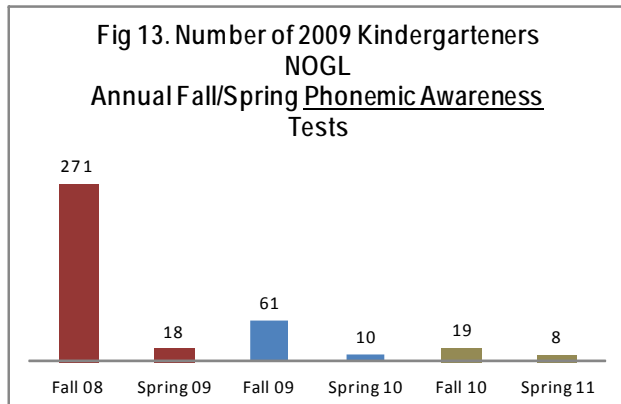
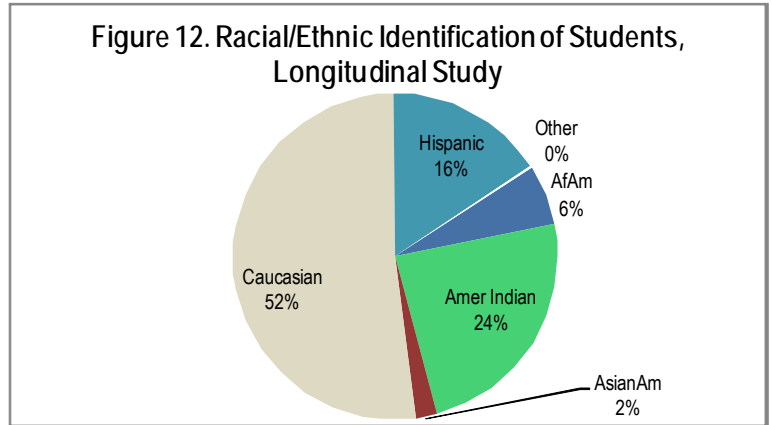
The students in the longitudinal study came from six school districts: Anadarko, Bartlesville, Blanchard, Clinton, Muskogee, and Tulsa. All of these districts had more than 100 students with data from all three years. All of the students in the three-year study were in grades PK-3 during their school's first year of participation in Literacy First. (This was an artifact of the study itself, as students who were in grades 4-6 during the initial year would not still be enrolled in their elementary schools in year three.) The students were fairly evenly divided by gender. The racial/ethnic makeup of the six schools in the study was approximately half majority and half minority. Only 7.2 percent were identified as special education students; this percentage was lower than normal because nearly half the sample were in grades PK-1. The percentages were higher for second and third graders (10.6% and 9.2%, respectively). A total of 8.5 percent were English language learners.



Findings. The study examined the number of children who were Not On Grade Level (NOGL) on the three Literacy First assessment at the beginning of the study, and the progress made by these children.

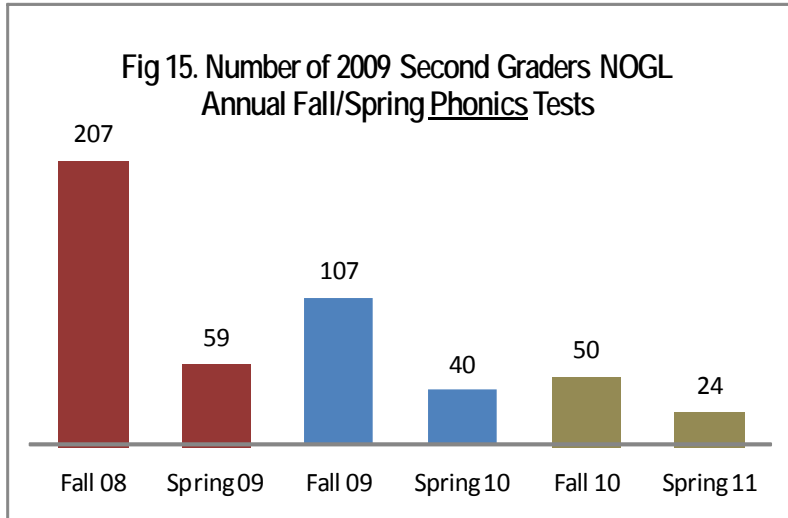
Figures 13 and 14 show the number of children in kindergarten and first grade who were not on grade level at the beginning of the study. There were 271 kindergarteners and 121 first graders who were NOGL when their schools

started their Phase IV programs – this was equivalent to half (52%) of all students who had pretests and posttest scores in these grades. By the end of the first school year, only a handful of children in each grade level had not attained grade-level competencies. Fully 99 percent of students were On Grade Level at the end of the three-year study. The graphs follow these children over three years; they show the two key findings: (1) Each year, the number of children who were not on grade level was reduced, with most of the reduction coming in the initial year, and (2) a significant number of children lost skills each summer.



For the Phonics assessment, the longitudinal study followed students who were not on grade level at the beginning of grade 2. The results were similar to, though not as dramatic, as the findings for phonemic awareness (see figure 15). At the beginning of the study, none of the second-grade students were On Grade Level. At the end of three years of Phase IV, 89 percent of the second-graders were On Grade Level in phonics. Again, summer regression was evident for a substantial number of students, especially in the summer between second and third grade.

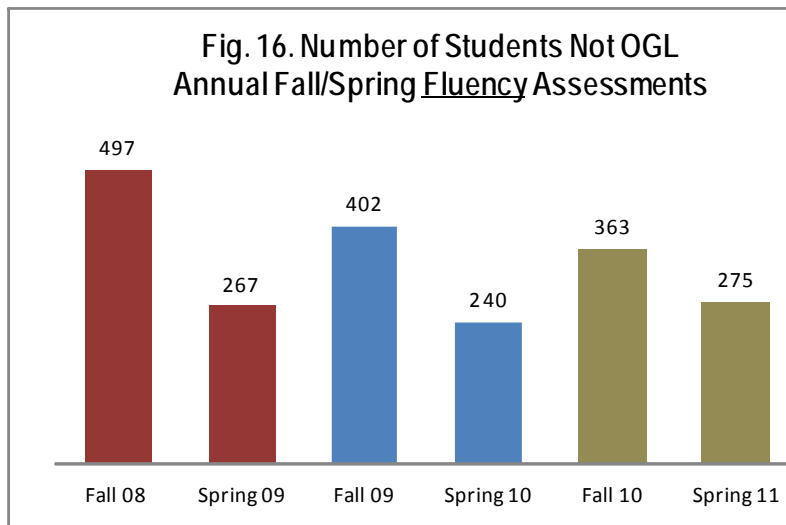
Fluency assessments were administered at all grade levels. For the longitudinal study, all those who were in second and third grades were selected; these students were in fifth and sixth grades at the end of the study. Figure 16 tracks the number of students who were not on grade level at the beginning of these schools' Phase IV program, and tracks those numbers across the



three years. The longitudinal Fluency data, like the annual Fluency data, show a larger proportion of students not on grade level at each point on the continuum. However, this assessment is more rigorous – at the beginning of the Phase IV program in these schools, two thirds of all second- and third-graders were NOGL in Fluency. The data indicate annual improvement as well as the regression over the summer noted in the Phonemic

Assessment and Phonics assessment data. By the end of the longitudinal study, 35 percent of these students were NOGL.

A longitudinal study of student performance on the Oklahoma Core Curriculum Test in Reading would be of considerable interest. It would help determine whether the high proportion of students whose fluency scores were Not On Grade Level should be a cause for concern or whether, as Literacy First representatives maintain, the assessment is simply too hard (e.g., the



grade levels reported by the test are inaccurate). OTAC has requested, for the last three years, that the *My Data First* system include OCCT scores for students in grades 3-6. This would require one of two things: (1) the teaching staff in each Phase IV school manually enter student OCCT scores into the *My Data First* system, or (2) each school enter the state testing identification number for each student into My Data First, and provide Literacy First with a copy of their OCCT data files.

Until such time as Literacy First collects these data, we must assume that the Fluency assessment is *not* too difficult, and that one-third of students in Phase IV schools do not attain On Grade Level status after three years in the program.

Oklahoma Core Curriculum Tests. Students in all Oklahoma schools take the Oklahoma Core Curriculum Test in Reading and Mathematics in grades 3-8. Each student's score is classified into one of four categories (Advanced, Satisfactory, Limited Knowledge,

Unsatisfactory). In addition, the State Department of Education calculates index scores for accountability purposes. The school index score is called the Academic Performance Index (API); its calculation includes two additional indices: a Reading API and a Mathematics API.

OTAC collected the number and percentage of students in each OCCT score category for each of the last three years. Some of the schools were very small and had very small Ns at each grade level, so careful attention must be paid to ensure that summary statistics account for these small Ns. For example, in a school that has only four students per grade level, a change of only one student per category would equal a change of 25 percentage points.

All of the OCCT Reading and Mathematics standards were reset in 2009. The goal of the new standard setting was to align OCCT standards more closely with National Assessment of Educational Progress standards. Although the test was not changed, higher scores were needed to attain scores in the Advanced, Proficient, or Limited Knowledge categories. The changes in the percent of students in each scoring category were so large that the State Department of Education designated the 2009 year as a “new baseline” year. The Department did not publish any comparisons of 2009 scores with scores from prior years.

The SDE published a new formula for the calculation of Reading and Math APIs this year; this formula was used for calculating 2009 and 2010 APIs. These 2009 APIs differ from those that were calculated last year because of the change in the formula. For most Oklahoma schools, the difference between the original 2009 APIs and the recalculated 2009 APIs was quite large, averaging 200 points. The APIs in this report were calculated from the data set that OTAC received from the SDE and may differ from the final APIs on school accountability reports.

A within-school research design was employed. Data were collected for both reading and mathematics for the 21 Literacy First schools in the evaluation study.⁹ The evaluation study included a review of student progress prior to and following the implementation of Literacy First at each school. The first research hypothesis was that the rate of reading improvement in Literacy First schools would be higher than the state average. The second research hypothesis was that, if Literacy First made a substantial difference in achievement, students would demonstrate greater growth in reading than in mathematics.

Table 14 displays the percentage of students in Year 1, Year 2, and Year 3 Phase IV schools who fell in each scoring category (Advanced, Proficient, Limited Knowledge, and Unsatisfactory) on the Reading OCCTs. Students who scored Proficient or Advanced are considered to be Proficient for the purposes of NCLB accountability. A group of schools may be

⁹ Because this study used OCCT scores, it only included Literacy First schools that had students in Grades 3 and above.

Table 14. Cross-Year comparison of OCCT data for Literacy First schools.			
Percent of Students in Each Scoring Level 2009			
	Year 1 Schools (Baseline)	Year 2 Schools (Baseline)	Year 3 Schools (LF Yr1)
Advanced	4.72%	3.89%	8.28%
Proficient	54.25%	53.41%	59.59%
Limited Knowledge	22.08%	23.68%	17.53%
Unsatisfactory	18.96%	19.01%	14.60%
Percent of Students in Each Scoring Level 2010			
	Year 1 Schools (Baseline)	Year 2 Schools (LF Yr 1)	Year 3 Schools (LF Yr2)
Advanced	3.81%	3.86%	6.98%
Proficient	59.96%	56.22%	59.29%
Limited Knowledge	19.49%	21.46%	18.43%
Unsatisfactory	16.74%	18.45%	15.30%
Percent of Students in Each Scoring Level 2011			
	Year 1 Schools (LF Yr1)	Year 2 Schools (LF Yr 2)	Year 3 Schools (LF Yr3)
Advanced	6.44%	6.17%	10.94%
Proficient	56.72%	57.18%	60.35%
Limited Knowledge	22.14%	22.85%	18.12%
Unsatisfactory	14.70%	13.79%	10.59%

followed down the table by school year. For example, the Year 1 schools did not start LF implementation until 2011, so their scores for the first two years were baseline scores. The Year 3 schools, on the other hand, had their initial year of implementation in 2009; their progress can be followed across time and in comparison to the baseline data. The same data are presented in a graphical format in Figures 17-19.

Review of these data substantiated the findings from the Literacy First assessments. Improvement was noted in all three areas of importance: the proportion of students who were counted as Proficient for NCLB accountability (which is the total of students scoring Proficient and Advanced), the proportion scoring Advanced, and the proportion scoring Unsatisfactory.

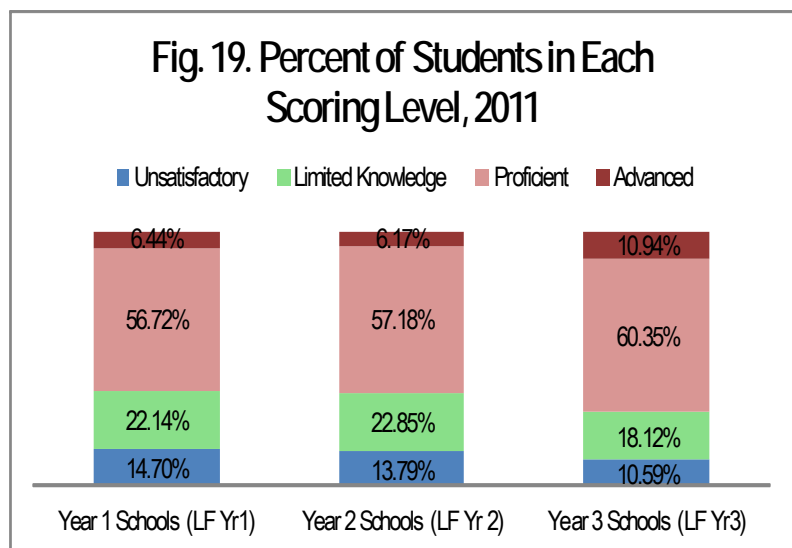
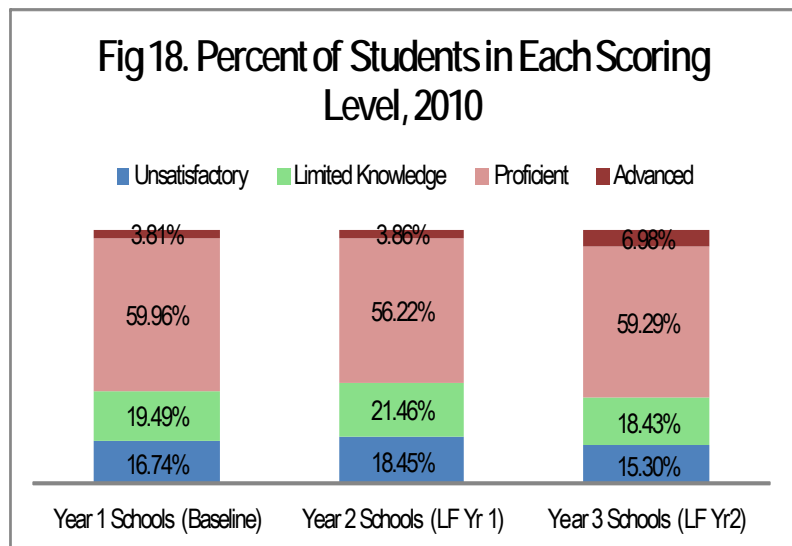
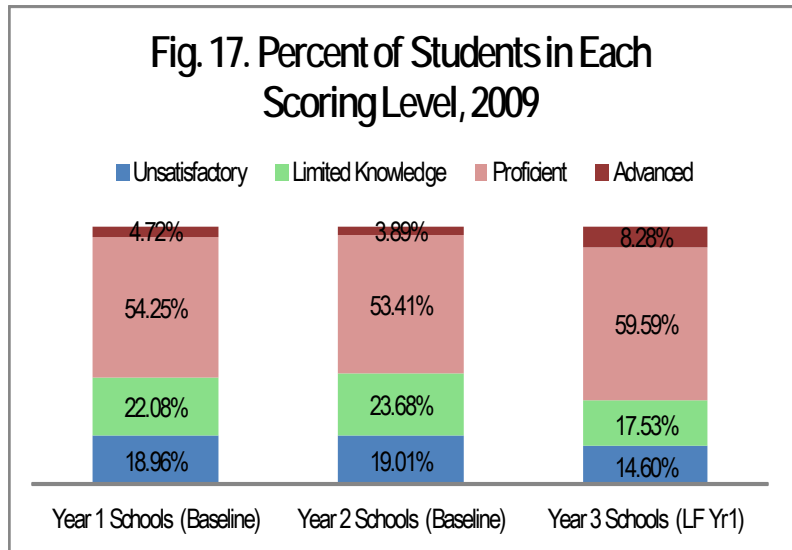


Table 15 displays the percentage of students who were classified as Proficient. This proficiency data was tabulated for both the Reading and Math OCCTs for All Students. The data is displayed according to the number of years the school had been participating by 2011; baseline years are shaded in grey. It should be noted that these percentages are slightly different from those in the preceding table because the 2011 SDE reports for several schools provided the number of students scoring as NCLB-proficient but did not include breakdowns by scoring level (e.g., the number of students scoring Advanced).

Table 15. Percent proficient in reading and math, 2009-11, by year of participation in Literacy First.						
	<i>Reading</i>			<i>Math</i>		
<i>LF Year</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>	<i>2009</i>	<i>2010</i>	<i>2011</i>
<i>Year 1</i>	58.96	63.77	63.16	62.90	65.67	71.40
<i>Year 2</i>	57.30	60.09	63.36	63.37	63.82	68.53
<i>Year 3</i>	67.87	66.26	71.29	65.35	66.64	74.93

It is evident from Table 15 that the improvement noted when looking at the Reading scores in isolation may be misleading. It appears that the group of schools who participated in Literacy First improved in both reading and mathematics; no differential improvement was noted. These findings are similar to those of last year, when more complete data were available. Most Phase IV schools showed improvement in both subjects. The OCCT findings, therefore, did not show reliable, substantial gains in OCCT reading scores that could be attributed solely to participation in Literacy First.

It should be noted, however, that Literacy First schools, especially second- and third-year schools, showed much greater improvement than state averages. The state averages for improvement from 2010 to 2011 ranged from -2% in Grade 4 to +2% in Grade 5. Literacy First schools showed an average of 3% improvement in reading proficiency, across all grade levels (three through six), from 2010 to 2011. The most positive changes were in the Year 2 and Year 3 schools.