Missouri Reading First

Annual Performance Report

2007

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Missouri Reading First

2006-2007 State Evaluation Report

Table of Contents

I. Introduction to Missouri Reading First 1

Overview 1
State Reporting and Evaluation 1
Evaluation Plan. 1
Ethical Issues 3
Evaluation Activities and Timeline. 3
Essential Non-Negotiable Elements 5
State Policy on Core Program Adoption by Reading First Schools 7
Participation in Missouri Reading First 9
Conclusion 9

II. **Student Performance Outcomes on the Missouri Assessment Program** 10

Student Performance on MAP 10
Description of MAP Measures 10
Grade Three Short Descriptors of Student Scoring Levels . 11
MAP Descriptive Statistics 12
MAP Proficiency 12
Statewide Comparisons of MAP Mean Scores by RPDC. . 16
Statewide Comparisons of MAP Achievement Levels by RPDC 18
Statewide Comparisons of MAP Mean Scores by Cohort . 19
Urban Analysis of Reading First and Non-Reading First Schools 24
Kansas City and St. Louis Comparison 26
MAP Student Outcomes 27
Correlation among the Instruments 28

III. ***TerraNova* Student Performance Outcomes** 29
Description of the *TerraNova* Instrument 29
TerraNova Descriptive Statistics 29
TerraNova Student Outcomes 34
TerraNova Grade Level Student Outcomes . . . 42
Correlation among the Instruments 45
Conclusion 45

IV. ***DIBELS* Student Performance Outcomes** 46
Description of the *DIBELS* Instrument 46
Description of *DIBELS* Subtest Measures 46
Benchmarks and Progress Monitoring 48
Student Performance on *DIBELS* Benchmarks . . . 54
Kindergarten Student Outcomes 54
Initial Sound Fluency 54
Letter Naming Fluency 55
Phoneme Segmentation Fluency . . . 57
Nonsense Word Fluency 58
First Grade Student Outcomes 59
Phoneme Segmentation Fluency . . . 59
Nonsense Word Fluency 60
Oral Reading Fluency 61
Second Grade Student Outcomes 62
Oral Reading Fluency 62
Third Grade Student Outcomes 63
Oral Reading Fluency 63
DIBELS Results by Demographic Factors 64
Overall *DIBELS* Proficiency 64
Statewide Achievement on *DIBELS* at End of Year . . 74
Between Year Analysis of *DIBELS* 76
Part One: Trend in Proficiency Level by Grade . . 76
Kindergarten 76
First Grade 79
Second Grade 80
Part Two: Analysis of Growth Trends with Covariates . 82
Kindergarten 82
First Grade 91
Second Grade 94
Correlation among the Instruments 97

V. Department of Elementary and Secondary Education Management of Missouri Reading First 99

State Implementation 99
Building a Statewide Infrastructure Leadership Team . . 100
DESE Administrative Appointments 101
Implementation and/or Operation Challenges . . . 103
Non-Compliance Issues and Written Policy 104
LEA Orientation to the Grant Competition . . . 105
Non-Public School Participation 108
Expenditure of Reading First Funds to Implement the Program 110

VI. **Conclusions** 113

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Chapter I
Introduction to Missouri Reading first

Overview

Reading First is a federal initiative authorized by the amendments to Title I, Part B, Subpart 1 of the Elementary and Secondary Education Act through the No Child Left Behind Act of 2001. The ultimate purpose of the Act is to ensure that all children read at grade level in English by the end of third grade. In support of this goal, funds are provided to states to support comprehensive, scientific reading research-based programs to improve reading instruction at selected Reading First schools, as well as more broadly in the state. Building from the success of its predecessor, Reading Excellence Act, Missouri Reading First addresses this goal through intense professional development and technical assistance support of Reading First sub-grantees throughout the state.

State Reporting and Evaluation

The Missouri Reading First program improves reading instruction and student achievement through the implementation of professional development activities for teachers and administrators and through the implementation of approved scientifically based reading programs in kindergarten through grade three classrooms. The Missouri Department of Elementary and Secondary Education (DESE) recognizes the critical role classroom assessment and program evaluation activities play if the goals of Missouri Reading First are to be successfully realized.

Implementation of the external evaluation reflects collaborative effort by DESE and the University of Missouri-St. Louis (evaluation contractor). Pursuant to the requirements of the Government Performance and Results Act (GPRA), Missouri Reading First Processes and Outcomes will be identified as inputs, outputs, outcomes, and impacts.

Evaluation Plan

Purpose. The Missouri Reading First evaluation design provides critical information for the effective implementation of Missouri Reading First at state and local levels.

According to the State Education Agency (SEA) funding proposal, the evaluation plan must be able to provide information on program implementation process and on program outcomes, or both formative and summative evaluation. Timely, relevant process information is needed to ensure the appropriate and effective implementation of the Missouri Reading First plan, both at local and state levels. Summative information is

required to measure the achievement of the Missouri Reading First goals of significantly improving reading instruction and consequent reading achievement.

The evaluation design builds on the prior year's baseline for student performance as measured by the difference between pretest (fall Benchmark) and posttest (spring Benchmark) on the *Dynamic Indicators of Basic Early Literacy Skills* (*DIBELS*) for children enrolled grades kindergarten through third in Reading First schools. A control group is not available for statistical analysis. Missouri Assessment Program (MAP) scores established baseline data for third grade students enrolled in Reading First. Communication Arts scores for each district from 2004 were compared with district scores for 2005 in last year's report. MAP scoring changes for 2006 established new baselines for all schools in the state. MAP scores from 2007 were compared with MAP scores from 2006.

The evaluator considered three questions when constructing the evaluation design:

1. What specific characteristics in student performance should be examined to determine the extent to which the student achievement goals were achieved?
2. What specific aspects of teacher knowledge and practice should be examined to determine the extent to which scientifically based professional development affects classroom instruction?
3. What kinds of evidence does the SEA need to demonstrate progress toward meeting the requirements and implementation of program components detailed in the state grant application describing the Missouri Reading First goals?

Logic Model of the Evaluation Design. A logic model guides the evaluation design. The model frames the inquiry of understanding what the Missouri Reading First Program does and how these actions are linked to results. There are five core components in this depiction of the program action:

1. Inputs: resources, contributions, and investments that go into Missouri Reading First
2. Outputs: activities, services, events and products that reach people who participate or who are targeted by Missouri Reading First
3. Outcomes: results or changes for individuals, groups, organizations, communities, or systems
4. Assumptions: the beliefs stated in the state's Missouri Reading First plan that describe the people involved, the context, and the way the designers of the plan thought Missouri Reading First would work
5. External Factors: the environment in which Missouri Reading First exists includes a variety of external factors that interact with and influence Missouri Reading First actions

The evaluation questions for process and performance components are identified by logic model terms identified under the Government Performance and Results Act of 1993 (GPRA). The Act seeks to shift the focus of decision-making and accountability away from a preoccupation with the activities that are undertaken, such as grants dispensed or inspections made, to a focus on the results of those activities.

The process evaluation focuses on the quality and extent of program activities at the state and local education agency (LEA) levels. The outcome evaluation is concerned with changes in teacher practice and knowledge (intermediate outcomes) and with improved student achievement in the area of reading (program goals). Each separate program activity is associated with evaluation questions that guide investigation.

Ethical Issues

Informed Consent. The LEA Reading First Application (MO500-2426) under Section IV – Assurances and Certification requires the applicant to assure the Department of Elementary and Secondary Education that it shall:

> Keep records for a period of three years and provide such information as may be necessary for fiscal and program auditing and for program evaluation, and provide DESE any information that it may need to carry out its responsibilities under the program.

The evaluator received *DIBELS* (beginning of year, middle of year, end of year) Benchmark scores, *TerraNova*, and MAP scores for students enrolled in Reading First Schools.

Confidentiality and Anonymity. All information collected by the evaluator is held in strict confidence. These scores were transmitted electronically to DESE by Wireless Generation, Inc. DESE then transmitted the data to the evaluators for analysis. LEA teachers, coaches, and principals have electronic access via Wireless Generation, Inc. to student data (mClass DIBELS). The evaluator was also given the code access to these scores with written permission from each LEA. Students were assigned identification codes by Wireless Generation. MAP scores were aggregated data by LEA collected by DESE and transmitted electronically to the evaluator. TerraNova results were submitted by each LEA to DESE. DESE then forwarded data to the evaluators electronically and by U.S. mail.

Evaluation Activities and Timeline Year 3: October 1, 2006 – September 30, 2007

The External Evaluator subgrant was awarded to the University of Missouri-St. Louis in August 2004. Dr. Tom Schnell serves as Principal Investigator. Dr. Lloyd Richardson is the Primary Statistician and Dr. Jeri Levesque is the Evaluator. The evaluation team includes field evaluators, statisticians, and reading experts.

The evaluators constructed a number of instruments to respond to evaluation questions posed in the SEA Reading First plan. The evaluators designed, administered, and interpreted the following instruments: Interview Protocol for State Administrators, Site Visit Evaluation Rubric, and Professional Development Surveys for a) Reading First teachers, reading coaches, and administrators who attended Reading First sponsored professional development, b) Regional Reading Specialists responsible for delivering

professional development across the state, and c) building level reading coaches responsible for working with teachers to implement changes in classrooms.

Table 1
Evaluation Questions, Data Collection, Data Treatment

Question Number	Question: To what extent-	Data Collection	Data Treatment	Timeline
1	Do Reading First (RF) LEA's/schools/classrooms implement high quality scientifically based reading research programs that include instructional content based on the five essential components of reading?	School observations, Interviews, Classroom observations	Site reports, LEA visit rubric, CORIs	School year
2	Do RF LEA's/schools/classrooms employ methods that include explicit instructional strategies, coordinated instructional sequences, ample practice opportunities, aligned student materials, ongoing assessment, small, same-ability flexible groups, dedicated blocks of reading time, and appropriate principal leadership?	School observations, Interviews, Classroom observations	Site reports, LEA visit rubric, CORIs	School Year
3	Do RF LEA's/schools/classrooms meet end-of-school-year goals in phonemic awareness, phonics ability, fluency, vocabulary, and comprehension?	*DIBELS* benchmarks	Proficiency levels, Number of students assessed, Tier 1 –3 progress changes	Year round Field eval., 3 *DIBELS* benchmarks
4	Do RF LEA's/schools/classrooms reduce the number of grades 1 – 3 students reading below level?	*DIBELS* MAP (3rd grade) *TerraNova*	Proficiency levels by grade benchmarks, National percentiles	Ongoing Field eval., 3 *DIBELS* benchmarks
5	Do activities supported by Reading First promote gains in student reading achievement and lead to the desired goal of all children reading on grade level by third grade?	Prof. Development Survey, Reading Specialist Survey, school visits	Quantitative and qualitative analyses	End of year performance evaluation
6	What factors mediate the relationship of Reading First activities and student reading achievement and to what extent?	Notes: Reading Specs meet., Prof. Development Survey, Coaches Survey, Reading Specialist Survey, CORI, School visits, Interviews, *DIBELS*/MAP	Quantitative and qualitative analyses	Annual analysis of Site reports, Performance data, Survey (June – November)

Table 2
Evaluation Timeline October 1, 2006 – September 30, 2007

Evaluation Activity	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept
Evaluation Meeting	X	X	X	X				X			X	X
Attend Reading Specialist Meeting			X	X	X	X	X	X	X			X
Attend Leadership Team Meeting*												
Attend MISSOURI READING FIRST Professional Development	X					X						
Attend CRFTAC Training*												
Attend Reading First National Conference										X		
School Visits	X	X		X	X	X	X	X				X
Data Collection: Pro. Dev. Survey						X	X	X				
Data Collection: DIBELS	X				X				X			
Data Collection: *TerraNova*											X	X
Data Collection: MAP												**

*no meeting(s) held
**data not available as of September 30, 2007.

Essential Non-negotiable Elements of a Missouri Reading First Program

Applicants for Missouri Reading First funding completed a proposal that included a description of the following elements of the proposed reading program. These elements are the critical attributes of the prescribed design of a Reading First program.

Instructional Strategies and Programs. All students in kindergarten through third grades are provided 90 minutes daily of uninterrupted instructional reading time in a comprehensive reading program based on Scientifically Based Reading Research (SBRR).

Instructional strategies and programs

- Address the five essential components of reading.

- Are designed to enable students to be proficient readers as measured by *TerraNova* and MAP Communication Arts at the end of each grade level K-3.

Instructional strategies and interventions based on SBRR are used to accelerate performance and monitor progress of students who are reading below grade level and those who are furthest from meeting the DIBELS formative assessment benchmarks. (Supplemental = 90 minutes + 30 minutes and Intervention = 90 minutes + 60 minutes).

The comprehensive reading programs based on SBRR are implemented without layering selected programs on top of non-research based programs already in use.

Instructional Materials. Materials are categorized for use as core, supplemental and intervention. These instructional materials are used for their intended purposes, (e.g. supplemental, intervention).

Selection and implementation of instructional materials based on SBRR include:

- Supplemental and intervention programs and materials which;
  - are integrated and coordinated with the comprehensive reading program and
  - incorporate the five essential components of reading.
- Reading levels that meet the requirements of various instructional strategies and the needs of all children.

District and School Based Professional Development. Includes ongoing participation in results-based professional development of K-3 teachers, K-3 special education teachers, Title I teachers, English Language Learner (ELL) teachers and other instructional staff.

Results-based professional development

- Includes intensive and focused attention to
  - essential components of reading instruction;
  - implementing programs and strategies based on SBRR that utilize appropriate materials for the classroom and school library; and
  - screening, diagnostic, and classroom-based instructional assessments using a variety of delivery methods.
- Is clearly aligned with the instructional program, the Show-Me State Standards' Grade-Level Expectations (GLEs) and the Missouri Assessment Program (MAP).

Reading coaches (minimum one for every 20 teachers) provide at least four classroom-based sessions per month to participating teachers, based on individual needs. A schedule of coaching sessions is maintained.

Teachers are provided adequate time for learning and implementing scientifically based reading instruction, including time for study, observation, practice, application, and evaluation. Adequate time allowances are provided for teachers

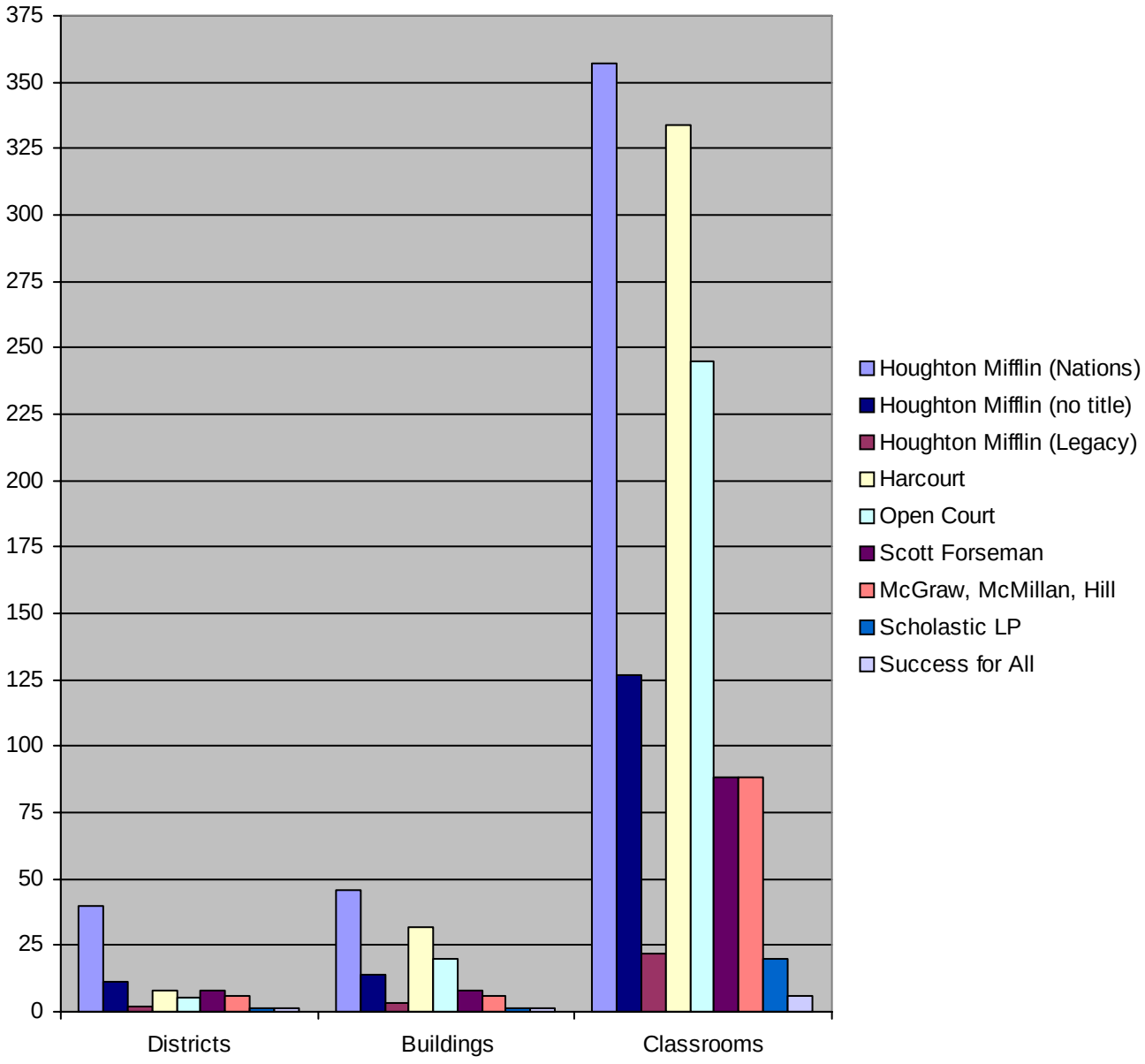
to learn new concepts and to practice what they have learned.

Targeted professional development is provided for teachers who need additional assistance. If districts are hiring any speakers/trainers for additional Reading First training with Reading First funds, a professional development form must be completed and approved through the state Reading First office before contracting.

Missouri State Policy on Core Program Adoption by Reading First Schools

Missouri does not have a list of approved core reading programs. However, a district that is applying for a Reading First grant must analyze its choice using the *Consumer's Guide to Evaluating a Core Reading Program*. (Simmons and Kame'enui, 2003) The *Consumer's Guide* for the chosen program must be submitted with the application for Reading First funding. Schools are also required to identify and provide supplemental materials to compensate for deficiencies identified through the analysis of student performance.

Figure 1
Core Adoption Patterns



Local Education Agency Core Program Adoption Status. Program adoption patterns are:

Houghton Mifflin core programs include 40 districts with 46 buildings and 357 classrooms. Program adoptions include the following series:

- Houghton Mifflin, *Nations*: 27 districts (29 buildings and 208 classrooms)
- Houghton Mifflin (no series title): 11 districts (14 buildings and 127 classrooms)
- Houghton Mifflin, *Legacy*: 2 districts (3 buildings and 22 classrooms)

- Harcourt, Trophies: 8 districts (32 buildings and 334 classrooms)
- Open Court: 5 districts (20 buildings and 245 classrooms)
- Scott Foresman: 8 districts (8 buildings and 88 classrooms)
- McGraw McMillan Hill: 6 districts (6 buildings and 88 classrooms)
- Scholastic Literacy Place: 1 district (1 building and 20 classrooms)
- Success for All: 1 district (1 building and 6 classrooms)

Participation in Missouri Reading First

The evaluation describes student reading achievement outcomes for 69 Missouri school districts, including 115 buildings. These schools are cross-referenced by name in Appendix A. Data were analyzed for approximately 21,691 students in kindergarten through third grade.

Conclusion

All elements of Reading First program and evaluation designs remained constant since the previous evaluation.

Chapter II

Student Performance Outcomes on the Missouri Assessment Program (MAP)

The primary goal of Missouri Reading First is to improve student reading achievement. According to the Reading First web pages at DESE, Missouri's Reading First goals are as follows:

- All children will read at or above grade level by the end of third grade.
- The gap will be closed for diverse groups by the end of third grade.
- The number of children referred to special education in the primary grades will decrease.

Reading First is a comprehensive reading program for Kindergarten through third grade based on scientific research. It requires a core reading program that is aligned with scientific-based reading research (SBRR) and that provides a scope and sequence for explicit and systematic instruction in the five essential components of Reading First. The five essential components are: Phonemic Awareness, Phonics, Vocabulary, Fluency, and Comprehension.

The general question, "On what measures did student reading achievement change?" was analyzed through three standardized measures of reading, the Missouri Assessment Program (MAP), the *TerraNova*, and the *Dynamic Indicators of Basic Early Literacy Skills (DIBELS).* Student performance is compared across these measures. Student performance outcomes analysis will begin with MAP.

This chapter addresses the evaluation question, "Did student achievement in reading measurably and significantly improve on the MAP?" Data were analyzed at student and school levels. Key demographic variables that were analyzed included location according to the Regional Professional Development Centers, race, cohort, gender, free and reduced lunch status, IEP status, migrant status, English Proficiency status, and local schools.

Student Performance on the Missouri Assessment Program (MAP)

MAP data were provided to DESE by each Reading First School District and included some Non-Reading First schools. The data were then downloaded by UM-St. Louis evaluators. The accuracy of the analysis reported in this evaluation is based on these files. Discrepancies between student data on file by the Reading First schools and the data transmitted to DESE cannot be controlled by the evaluator.

Description of the MAP Measure: Missouri 2007 Communication Arts

Missouri uses the Missouri Assessment Program (MAP) to test students in grades 3, 4, 5, 6, 7, 8, 10, and 11 in several subjects. The MAP is a standards-based test, which means it

measures how well students are mastering specific skills defined by the state of Missouri for each grade. The different student demographic subgroups are identified by the Missouri Department of Elementary and Secondary Education. If there are fewer than 30 students in a particular group at a school, the state doesn't report disaggregated data for that group. The goal is for all students to score at or above proficient on this test.

Grade Three Short Descriptors of Student Scoring Levels

Numbers used in the MAP analysis refer to individual student results. Aggregated student mean scores can be used to compare student growth, but cannot be directly correlated to group achievement levels.

Below Basic – 455-591
Reading- Students locate information in text; identify an obvious main idea; define simple words and phrases. Writing- Students show minimal awareness of beginning, middle, end, audience, purpose and controlling idea; attempt to create friendly letters; use graphic organizers.

Basic – 592-647
Reading- Students make simple comparisons; recall simple sequence of events; make obvious inferences and predictions; use context clues to determine word meaning. Writing- Students use basic parts of speech correctly in simple sentences; show minimal awareness of beginning, middle, end, audience, purpose and controlling idea.

Proficient – 648-672
Reading- Students locate/identify supporting details, obvious cause and effect; make inferences; use context clues to determine word meaning; make comparisons; recall detailed sequence of events; identify solutions and fact vs. fiction; recognize figurative language; draw obvious conclusions. Writing- Students generally use rules of Standard English; show awareness of audience, purpose, controlling idea, relevant details, beginning, middle, and end.

Advanced - 673-790
Reading- Students identify relevant/supporting information to make predictions and draw conclusions; infer word meaning; infer main idea; make complex comparisons; make complex inferences; categorize information; identify correct sequence of events. Writing- Students consistently apply rules of Standard English; construct complex sentences; use details effectively; have a clear controlling idea; awareness of audience and purpose, beginning, middle, and end.

Reference:
http://dese.mo.gov/divimprove/assess/Descriptors/New_Abbreviated/ca_all_short_DESEapproved.pdf

2007 MAP Descriptive Statistics

MAP Communication Arts scores were obtained from 5,272 third grade students in Reading First schools and 4,058 students in Non Reading First Schools for a total sample size of 9,330. Reading First data were obtained from 68 Districts and 110 schools across Missouri. Of the 115 Reading First schools, four schools have no third grade (Sullivan Primary, Masterson, Fredericktown Elementary, and Normandy Kindergarten Center). MAP scores were not received from the Gorin R-III district (Gorin R-III Elementary) because only one third grade student was assessed.

Reading First students were evenly distributed by gender (52.7% male; 47.1% female), and the majority was White (55.3%). The vast majority of students did not have an Individualized Education Plan (84.6%, N= 4,460) and were not Migrant students (99.8%; N= 5,261). Only 4.2% of the sample or (N= 222) had Limited English Proficiency. More children received Free and Reduced Meals (67%; N= 3,534) than did not (33%; N= 1,738). Seventy four percent of the sample (N= 3,884) were from schools in Cohort 1 of the program; and 26% (N= 1,388) were from schools in Cohort 2. See Appendix B for additional information regarding MAP demographics.

2007 MAP Proficiency

Across Missouri, DESE reported 43.6% of students were proficient or advanced compared with only 34% of Reading First students classified as proficient or advanced. That is, 66% of Missouri Reading First students scored below the proficiency level cut-off score. This is expected because as a condition for grant eligibility applicants must have failed to make Adequate Yearly Progress (AYP) for at least one of the three previous school years. Data affirm that Reading First Schools continue to have significant numbers of children who struggle with learning to read at grade level.

Table 3
Overall Student Proficiency on MAP Communication Arts Score

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Not Proficient on the MAP	3452	65.5	66.0	66.0
	Proficient on the MAP	1779	33.7	34.0	100.0
	Total	5231	99.2	100.0	
Missing		41	.8		
Total		5272	100.0		

Table 4 provides a list of schools ranked by the percentage of students scoring proficient and above. In 23 (21%) of the Reading First District, with third grade students who took the MAP, over 50% of the students were proficient and above.

Table 4

Students Proficient or Above on MAP by RPDC, Cohort, and School

RPDC code	Cohort	Dist Name	Bldg Name	Missing	NP	P	Number assessed	% P	Rank
9	1	Sheldon R-VIII	Sheldon Elementary	0	2	10	12	83.33%	1
2	1	Climax Springs R-IV	Climax Springs Elementary	0	4	16	20	80.00%	2
7	2	Dadeville R-II	Dadeville Elementary	0	2	8	10	80.00%	2
7	1	Bradleyville R-I	Bradleyville Elementary	0	3	9	12	75.00%	4
5	1	North Mercer R-III	North Mercer Elementary	0	3	8	11	72.73%	5
1	1	Portageville	Portageville Elementary	0	18	43	61	70.49%	6
4	2	North Shelby	North Shelby Elementary	0	6	13	19	68.42%	7
5	1	Laredo R-VII	Laredo Elementary	0	2	4	6	66.67%	8
5	1	Mound City R-II	Mound City Elementary	0	7	12	19	63.16%	9
1	1	Ripley County R-IV	Ripley Co. Elementary	0	8	13	21	61.90%	10
7	1	Lockwood R-1	Lockwood Elementary	0	10	16	26	61.54%	11
6	1	Couch R-1	Couch Elementary	0	4	6	10	60.00%	12
8	2	St. Louis City	Ames Visual/Performing Arts	0	17	25	42	59.52%	13
3	1	Kansas City 33	Garcia Elementary	6	36	52	88	59.09%	14
8	1	Ferguson-Florissant R-II	Central Elementary	0	17	24	41	58.54%	15
7	1	Mansfield R-IV	Wilder Elementary	0	18	25	43	58.14%	16
4	1	Scotland County R-I	North Grade School (aka Scotland Co. Elem.)	0	23	28	51	54.90%	17
5	1	King City R-I	King City Elementary	0	10	12	22	54.55%	18
6	2	Miller R-II	East Elementary	0	6	7	13	53.85%	19
1	1	North Pemiscot County R-I	Ross Elementary	0	8	9	17	52.94%	20
6	1	Junction Hill C-12	Junction Hill Elementary	0	9	10	19	52.63%	21
8	2	St. Louis City	Shaw Visual/Performing Arts Center	1	31	34	65	52.31%	22
8	1	Ferguson-Florissant R-II	Holman Elementary	0	10	10	20	50.00%	23
9	1	Miami R-I (Saline County)	Miami Elementary (Saline County)	0	4	4	8	50.00%	23
1	1	Fredericktown R-I	Fredericktown Intermediate	1	66	66	132	50.00%	23
6	1	Arcadia Valley R-II	Arcadia Valley Elementary	1	46	44	90	48.89%	26
7	1	Sarcoxie R-II	Wildwood Elementary	0	29	25	54	46.30%	27
2	2	Prairie Home R-V	Prairie Home Elementary	0	6	5	11	45.45%	28
1	2	Woodland R-IV	Woodland Elementary	0	35	29	64	45.31%	29
1	1	Hayti R-II	Mathis Elementary	0	33	27	60	45.00%	30
6	1	Bunker R-III	Bunker R-III Elementary	1	11	9	20	45.00%	30
6	2	Miller R-II	Central Elementary	0	15	12	27	44.44%	32
8	1	Ferguson-Florissant R-II	Duchesne Elementary	0	34	26	60	43.33%	33
5	1	Stewartsville C-2	Stewartsville Elementary	0	12	9	21	42.86%	34

RPDC code	Cohort	Dist Name	Bldg Name	Missing	NP	P	Number assessed	% P	Rank
6	1	Sullivan	Sullivan Elementary	2	84	62	146	42.47%	35
6	2	Glenwood R-VIII	Glenwood Elementary	0	22	16	38	42.11%	36
7	2	Shell Knob # 78	Shell Knob Elementary	0	11	8	19	42.11%	36
8	2	Normandy	Garfield Elementary	0	28	20	48	41.67%	38
1	2	Bismarck R-V	Bismarck Elementary	0	24	17	41	41.46%	39
7	1	Seymour R-II	Seymour Elementary	0	41	29	70	41.43%	40
1	1	West St. Francois County R-IV	West St. Francois Co. Elem (aka West County Elem.)	0	43	30	73	41.10%	41
7	1	Mountain Grove R-III	Mountain Grove Elementary	0	75	52	127	40.94%	42
1	1	Van Buren R-I	Van Buren Elementary	0	26	18	44	40.91%	43
6	1	Centerville R-I	Centerville Elementary	0	3	2	5	40.00%	44
4	1	Brookfield R-III	Brookfield R-III Elementary	1	47	30	77	38.96%	45
7	2	Greenfield R-IV	Greenfield Elementary	0	16	10	26	38.46%	46
8	2	St. Louis City	Clay Elementary	0	29	18	47	38.30%	47
4	1	La Plata R-II	La Plata Elementary	1	20	12	32	37.50%	48
8	1	Ferguson-Florissant R-II	Griffith Elementary	0	29	17	46	36.96%	49
6	1	Lonedell R-XIV	Lonedell Elementary	0	25	14	39	35.90%	50
7	1	Pierce City R-VI	Central Elementary	0	34	19	53	35.85%	51
3	1	Kansas City 33	Garfield Elementary	0	38	21	59	35.59%	52
8	1	Ferguson-Florissant R-II	Cool Valley Elementary	0	26	14	40	35.00%	53
4	1	Green City R-1	Green City Elementary	0	13	7	20	35.00%	53
8	1	Ferguson-Florissant R-II	Johnson Wabash Elementary	0	43	23	66	34.85%	55
5	1	Cameron R-I	Parkview Elementary	0	96	51	147	34.69%	56
5	1	Gilman City R-IV	Gilman City Elementary	0	6	3	9	33.33%	57
5	1	Union Star R-II	Union Star Elementary	0	4	2	6	33.33%	57
9	1	Weaubleau R-III	Weaubleau Elementary	0	24	12	36	33.33%	57
1	1	Kennett 39	South Elementary (Kennett)	0	110	53	163	32.52%	60
7	1	Dallas County R-I	Mallory Elementary	0	75	35	110	31.82%	61
3	1	Kansas City 33	Blenheim Elementary	0	22	10	32	31.25%	62
7	1	Aurora R-VIII	Pate Early Childhood Center	0	120	54	174	31.03%	63
4	2	Macon Co. R-I	Macon Elementary	0	64	28	92	30.43%	64
8	2	St. Louis City	Simmons Marshall Elementary	0	33	14	47	29.79%	65
1	1	East Carter County R-II	East Carter Co. R-II Elementary	0	45	19	64	29.69%	66
7	1	Monett R-1	Monett Elementary	4	105	44	149	29.53%	67
6	1	Miller County R-III	Miller County Elementary	0	17	7	24	29.17%	68
3	1	Kansas City 33	James Elementary	0	37	15	52	28.85%	69
4	2	Linn Co. R-I	Linn Co. Elementary	0	15	6	21	28.57%	70
6	1	Oak Hill R-I	Oak Hill Elementary	0	10	4	14	28.57%	70
6	1	Eminence R-I	Eminence R-I Elementary	0	13	5	18	27.78%	72

RPDC code	Cohort	Dist Name	Bldg Name	Missing	NP	P	Number assessed	% P	Rank
8	2	Normandy	Jefferson Elementary	0	26	10	36	27.78%	72
9	1	Miami R-I (Bates County)	Miami Elementary (Bates County)	0	16	6	22	27.27%	74
8	2	St. Louis City	Woodward Elementary	0	43	16	59	27.12%	75
8	2	Normandy	Lucas Crossing Elementary	2	104	38	142	26.76%	76
8	2	Normandy	Bel-Nor Elementary	0	55	20	75	26.67%	77
8	2	St. Louis City	Cole Elementary	1	25	9	34	26.47%	78
1	1	Caruthersville 18	Caruthersville Elementary	1	92	32	124	25.81%	79
6	1	Richland R-IV	Richland Elementary	3	29	10	39	25.64%	80
3	1	Kansas City 33	Weeks Elementary	0	27	9	36	25.00%	81
8	1	Ferguson-Florissant R-II	Bermuda Elementary	0	34	11	45	24.44%	82
7	1	Verona R-VII	Verona Elementary	0	35	11	46	23.91%	83
8	2	St. Louis City	Mason Elementary	2	23	7	30	23.33%	84
8	1	Ferguson-Florissant R-II	Walnut Grove Elementary	0	51	15	66	22.73%	85
8	1	Ferguson-Florissant R-II	Airport Elementary	0	36	10	46	21.74%	86
7	1	Dallas County R-I	Long Lane Elementary	0	12	3	15	20.00%	87
3	1	Kansas City 33	Wheatley Elementary	0	32	8	40	20.00%	87
3	1	Kansas City 33	Trailwoods Elementary	1	37	9	46	19.57%	89
3	1	Kansas City 33	East Elementary School	0	50	12	62	19.35%	90
1	1	Marquand-Zion R-VI	Marquand Elementary	0	17	4	21	19.05%	91
8	1	Ferguson-Florissant R-II	Lee Hamilton Elementary	0	36	8	44	18.18%	92
1	1	Risco R-II	Risco R-II Elementary	0	9	2	11	18.18%	92
4	1	Milan C-2	Milan Elementary	0	32	7	39	17.95%	94
3	1	Kansas City 33	Fairmont Elementary	0	30	6	36	16.67%	95
8	2	St. Louis City	Froebel Elementary	2	55	10	65	15.38%	96
6	1	Bakersfield R-IV	Bakersfield R-IV Elementary	1	22	4	26	15.38%	96
3	1	Kansas City 33	Woodland Elementary	3	44	8	52	15.38%	96
3	1	Kansas City 33	Attucks Elementary	0	34	6	40	15.00%	99
3	1	Kansas City 33	Banneker Elementary	0	46	8	54	14.81%	100
3	1	Kansas City 33	Melcher Elementary	0	40	5	45	11.11%	101
8	2	St. Louis City	Adams Elementary	1	50	6	56	10.71%	102
8	2	St. Louis City	Dunbar Elementary	0	32	3	35	8.57%	103
3	1	Kansas City 33	Troost Elementary	0	35	3	38	7.89%	104
8	2	St. Louis City	Baden Elementary	0	48	3	51	5.88%	105
8	2	St. Louis City	Monroe Elementary	2	34	2	36	5.56%	106
8	2	St. Louis City	Hickey Elementary	1	35	2	37	5.41%	107
8	2	St. Louis City	Ashland Elementary	3	61	3	64	4.69%	108
8	2	St. Louis City	Gundlach Elementary	0	22	1	23	4.35%	109
3	1	Kansas City 33	Richardson Elementary	0	25	1	26	3.85%	110

RPDC code	Cohort	Dist Name	Bldg Name	Missing	NP	P	Number assessed	% P	Rank
4	1	Gorin R-III	Gorin R-III Elementary	Not reported due to small sample size					
1	1	Fredericktown R-I	Fredericktown Elem.	No 3rd grade students					
1	1	Kennett 39	H. Byron Masterson Elem.	No 3rd grade students					
8	2	Normandy	Normandy Kindergarten Ctr.	No 3rd grade students					
6	1	Sullivan	Sullivan Primary	No 3rd grade students					

NP= Not Proficient, P = Proficient

Statewide Comparisons of MAP Mean Scores by RPDC

The average MAP Communication Arts score was 630.29 (SD=40.7) and ranged from 618 to 659. The average MAP/*TerraNova* score was 49.91 (SD=29.2) and ranged from 38.80 to 69.19. MAP and MAP/*TerraNova* scores by Region are reported in Table 5.

Table 5

MAP Means, Sample Sizes, Standard Deviations by RPDC

RPDC		MAP TerraNova Score	MAP Communications Arts Score
Southeast	Mean	54.86	636.28
	N	898	890
	Std. Deviation	28.370	41.439
Heart of Missouri	Mean	69.19	659.17
	N	31	30
	Std. Deviation	29.914	32.069
Kansas City	Mean	38.80	618.29
	N	716	698
	Std. Deviation	29.119	45.256
Northeast	Mean	54.42	635.14
	N	353	350
	Std. Deviation	27.250	34.990
Northwest	Mean	59.28	639.98
	N	241	240
	Std. Deviation	27.677	33.738
South Central	Mean	57.58	638.54
	N	536	525
	Std. Deviation	27.169	34.847
Southwest	Mean	54.74	635.20
	N	938	927
	Std. Deviation	27.464	35.196
St. Louis	Mean	42.89	622.46
	N	1481	1461
	Std. Deviation	29.146	43.245
Central	Mean	60.32	639.29
	N	78	77
	Std. Deviation	27.645	31.333
Total	Mean	49.91	630.29
	N	5272	5198
	Std. Deviation	29.229	40.712

*Sample sizes across the variables are inconsistent due to missing or unreported data.

Discussion: MAP and MAP/*TerraNova* Mean Scores by Region

There are significant differences in the mean scores between the lowest MAP scores achieved in the Kansas City RPDC and the highest scores achieved in the Heart of Missouri RPDC. However, the number of third graders who took the test in the Heart of Missouri is very small and bringing into question the stability of this finding over time.

When analyzing student performance regionally, there are marginal meaningful differences. All regions performed within one standard deviation (40.7) of the mean (620.9) for the entire state. That is, mean scaled score for each reach fell within the range created by the standard deviation of the population (580.2 – 661.6). Therefore, student performance is comparable across the state, and in practical terms, minimal differences exist across regions. However, this does not mean that significant differences did not occur at the school levels. Overall, there are significant differences across all schools as well as among schools in the same district.

Statewide Comparisons of MAP Achievement Levels by RPDC

In 2005, 32% of Missouri Reading First third grade students were proficient or above on the MAP Communication Arts. Although the MAP was redesigned and the criteria for proficiency changed, in 2006, 34% of Reading First students were proficient or above. In 2007, an equal number or 34% of Reading First students were classified proficient or above. Proficiency by Regional Professional Development Center is reported in Table 6.

Table 6
Achievement Levels for MAP Communication Arts 2006-2007

		Achievement Level Descriptions				
RPDC		Below Basic	Basic	Proficient	Advanced	Total
	Southeast	87	447	228	134	896
	Heart of Missouri	0	10	8	13	31
	Kansas City	172	361	97	76	706
	Northeast	36	184	88	43	351
	Northwest	17	123	64	37	241
	South Central	39	277	143	69	528
	Southwest	87	499	218	130	934
	St. Louis	318	749	241	158	1466
	Central	7	39	17	15	78
Total		763	2689	1104	675	5231

*Sample sizes are inconsistent due to missing or unreported data. There were 41 missing cases for the Achievement Level Descriptions variable.

Table 7
Number of Students Proficient or Not Proficient on Map Per RPDC

RPDC		MAP Proficiency		Total
		Not Proficient on the MAP	Proficient on the MAP	
	Southeast	534	362	896
	Heart of Missouri	10	21	31
	Kansas City	533	173	706
	Northeast	220	131	351
	Northwest	140	101	241
	South Central	316	212	528
	Southwest	586	348	934
	St. Louis	1067	399	1466
	Central	46	32	78
Total		3452	1779	5231

*Sample sizes are inconsistent due to missing or unreported data. There were 41 missing cases for the Achievement Level Descriptions variable.

Discussion: MAP Proficiency by Region

Only one region (Heart of Missouri) had a greater number of cases (67.7%) proficient than not proficient on the MAP. Again, a small region population may have skewed the results. The remaining eight RPDCs had the majority of MAP scores in the not proficient range. Southwest, Northeast, South Central, Southeast, Central, and the Northwest RPDCs had between 37% and 42% of their third grade students proficient on the MAP. Kansas City and St. Louis had 24.5 and 27.2 %, respectively, of their students whose scores were in the proficient or above achievement levels. Because these two districts had 41.5% of the third grade Reading First students, their scores brought the Reading First total to 34% proficient or above on the third grade MAP.

Statewide Comparisons of MAP Mean Scores by Cohort

The statewide comparisons by region include both Cohort 1 and Cohort 2 schools. In Cohort 1, many, but not all students have been in Reading First for three academic years, while many but not all Cohort 2 students have participated in the Reading First program for two years. MAP results by Cohort are presented in Table 8.

Table 8
MAP and MAP/*TerraNova* by Cohort

Cohort	MAP Mean Scaled Score	*MAP/TerraNova* National Percentile Score
Cohort 1		
Mean	632.56	51.59
Standard Deviation	39.89	28.93
Number of students	3,831	3,884
Cohort 2		
Mean	623.91	45.19
Standard Deviation	42.29	29.53
Number of students	1,367	1,388

*Sample sizes are inconsistent due to missing or unreported data.

Discussion: MAP and MAP/*TerraNova* by Cohort

Cohort 1, after three active program years scored significantly higher than Cohort 2 on the MAP and MAP/*TerraNova.* Cohort 1 is very close to the Reading First composite state MAP mean (630) and Cohort 2 is approximately 6 points below the Reading First composite MAP mean. There were additional significant differences among schools. Differences between cohort means cannot be explained solely by the effects of Reading First. There could be other extraneous variables beyond the scope of Reading First that affect the mean performance of these groups.

Schools Showing Proficiency Above and Below the Annual Target in Reading Achievement (MAP)

In 2005, 63 schools did not meet the annual proficiency target as seen by the negative difference scores highlighted in red. This figure decreased to 52 schools in 2006. In 2007, this figure increased to 75 schools that did not meet the annual target for proficiency. The data provided in Table 5a was retrieved from the DESE website and includes third grade data only for 110 Reading First Schools. It is important to note that the proficiency target increased every year. In 2005 the Annual Proficiency Target was 26.6. That figured increased by 8.1% to 34.7 in 2006. In 2007 the Proficiency Target increased an additional 8.2% resulting in a target score of 42.9. In terms of all third grade students proficient and above on the MAP statewide, in 2005 there were 35.1% of third graders proficient or above, and 43.3% in 2006 and 43.6% in 2007.

Table 9

School Progress Toward Achievement
of
Missouri Annual Proficiency Target in Communication Arts*

*Difference (Diff) column provides difference between percent of students achieving proficiency on district map test and that year's Proficiency Target.

Cty-Dist	Dist Name	Bldg Name	2005 MAP	2006 MAP	2007 MAP	2005 Diff	2006 Diff	2007 Diff
047062	Arcadia Valley R-II	Arcadia Valley Elementary	35.1	52.9	48.9	8.5	18.2	6.0
055110	Aurora R-VIII	Pate Early Childhood Center	40.7	48.8	31.0	14.1	14.1	-11.9
077101	Bakersfield R-IV	Bakersfield R-IV Elementary	26.3	16.7	15.3	-0.3	-18.0	-27.6
094076	Bismarck R-V	Bismarck Elementary	30.0	45.2	41.5	3.4	10.5	-1.4
106001	Bradleyville R-I	Bradleyville Elementary	62.5	100.0	75.0	35.9	65.3	32.1
058112	Brookfield R-III	Brookfield R-III Elementary	34.9	44.2	39.0	8.3	9.5	-3.9
090077	Bunker R-III	Bunker R-III Elementary	33.3	25.0	45.0	6.7	-9.7	2.1
025001	Cameron R-I	Parkview Elementary	32.5	42.2	34.7	5.9	7.5	-8.2
078012	Caruthersville 18	Caruthersville Elementary	14.7	28.2	24.6	-11.9	-6.5	-18.3
090075	Centerville R-I	Centerville Elementary	50.0	28.6	40.0	23.4	-6.1	-2.9
015003	Climax Springs R-IV	Climax Springs Elementary	0.0	45.0	80.0	-26.6	10.3	37.1
075084	Couch R-1	Couch Elementary	60.0	76.4	60.0	33.4	41.7	17.1
029002	Dadeville R-II	Dadeville Elementary	16.7	53.3	80.0	-9.9	18.6	37.1
030093	Dallas County R-I	Long Lane Elementary	35.3	42.1	20.0	8.7	7.4	-22.9
030093	Dallas County R-I	Mallory Elementary	22.3	36.0	31.2	-4.3	1.3	-11.7
018047	East Carter County R-II	East Carter County R-II Elem	22.0	46.5	29.7	-4.6	11.8	-13.2
101107	Eminence R-1	Eminence R-I Elementary	16.7	41.2	27.8	-9.9	6.5	-15.1
096089	Ferguson-Florissant R-II	Airport Elementary	20.0	28.0	21.8	-6.6	-6.7	-21.1
096089	Ferguson-Florissant R-II	Bermuda Elementary	47.7	56.8	24.4	21.1	22.1	-18.5
096089	Ferguson-Florissant R-II	Central Elementary	15.6	36.6	58.5	-11.0	1.9	15.6
096089	Ferguson-Florissant R-II	Cool Valley Elementary	24.5	40.0	35.0	-2.1	5.3	-7.9
096089	Ferguson-Florissant R-II	Duchesne Elementary	33.3	32.7	43.3	6.7	-2.0	0.4
096089	Ferguson-Florissant R-II	Griffith Elementary	18.0	50.0	36.9	-8.6	15.3	-6.0
096089	Ferguson-Florissant R-II	Holman Elementary	37.5	31.8	50.0	10.9	-2.9	7.1
096089	Ferguson-Florissant R-II	Johnson-Wabash Elem	30.0	43.9	34.8	3.4	9.2	-8.1
096089	Ferguson-Florissant R-II	Lee Hamilton Elementary	21.1	34.7	18.2	-5.5	0.0	-24.7
096089	Ferguson-Florissant R-II	Walnut Grove Elementary	8.4	29.2	22.7	-18.2	-5.5	-20.2
062072	Fredericktown R-I	Fredericktown Intermediate	27.7	43.3	50.0	1.1	8.6	7.1

Cty-Dist	Dist Name	Bldg Name	2005 MAP	2006 MAP	2007 MAP	2005 Diff	2006 Diff	2007 Diff
041004	Gilman City R-IV	Gilman City Elementary	44.4	11.0	33.3	17.8	-23.7	-9.6
046135	Glenwood R-VIII	Glenwood Elementary	48.1	41.6	42.1	21.5	6.9	-0.8
099078	Gorin R-III	Gorin R-III Elementary	3rd grade not reported due to small sample size					
105123	Green City R-I	Green City Elementary	14.8	64.3	35.0	-11.8	29.6	-7.9
029004	Greenfield R-IV	Greenfield Elementary	33.3	41.7	38.4	6.7	7.0	-4.5
078002	Hayti R-II	Mathis Elementary	13.0	31.8	44.0	-13.6	-2.9	1.1
046137	Junction Hill C-12	Junction Hill Elementary	68.8	53.0	52.6	42.2	18.3	9.7
048078	Kansas City 33	Attucks Elementary	2.3	17.9	15.0	-24.3	-16.8	-27.9
048078	Kansas City 33	Blenheim Elementary	12.1	33.3	31.3	-14.5	-1.4	-11.6
048078	Kansas City 33	Banneker Elementary	7.7	18.7	14.9	-18.9	-16.0	-28.0
048078	Kansas City 33	East Elementary School	17.4	19.1	19.3	-9.2	-15.6	-23.6
048078	Kansas City 33	Fairmont Elementary	54.3	37.5	16.7	27.7	2.8	-26.2
048078	Kansas City 33	Garfield Elementary	5.6	19.5	35.6	-21.0	-15.2	-7.3
048078	Kansas City 33	Melcher Elementary	7.9	16.0	11.1	-18.7	-18.7	-31.8
048078	Kansas City 33	James Elementary	15.4	17.7	28.8	-11.2	-17.0	-14.1
048078	Kansas City 33	Weeks Elementary	17.6	14.0	25.0	-9.0	-20.7	-17.9
048078	Kansas City 33	Wheatley Elementary	3.6	50.0	18.0	-23.0	15.3	-24.9
048078	Kansas City 33	Garcia Elementary	20.0	37.5	59.0	-6.6	2.8	16.1
048078	Kansas City 33	Richardson Elementary	3.1	18.2	3.8	-23.5	-16.5	-39.1
048078	Kansas City 33	Trailwoods Elementary	10.3	13.5	19.5	-16.3	-21.2	-23.4
048078	Kansas City 33	Troost Elementary	7.3	19.4	7.9	-19.3	-15.3	-35.0
048078	Kansas City 33	Woodland Elementary	8.8	28.9	15.4	-17.8	-5.8	-27.5
035102	Kennett 39	South Elementary (Kennett)	21.7	33.1	32.5	-4.9	-1.6	-10.4
038044	King City R-I	King City Elementary	45.5	50.1	54.5	18.9	15.4	11.6
061154	La Plata R-II	La Plata Elementary	31.8	35.0	37.5	5.2	0.3	-5.4
040104	Laredo R-VII	Laredo Elementary	62.5	50.0	66.7	35.9	15.3	23.8
058106	Linn Co. R-I	Linn Co. Elementary	20.0	37.5	28.6	-6.6	2.8	-14.3
029001	Lockwood R-I	Lockwood Elementary	52.4	25.0	61.5	25.8	-9.7	18.6
036133	Lonedell R-XIV	Lonedell Elementary	16.7	42.1	34.2	-9.9	7.4	-8.7
061156	Macon Co. R-I	Macon Elementary	20.0	31.3	30.4	-6.6	-3.4	-12.5
114115	Mansfield R-IV	Wilder Elementary	22.5	33.3	58.2	-4.1	-1.4	15.3
062070	Marquand-Zion R-VI	Marquand Elementary	8.3	33.3	29.1	-18.3	-1.4	-13.8
007121	Miami R-I (Bates County)	Miami Elementary (Bates)	18.8	68.8	27.3	-7.8	34.1	-15.6
097116	Miami R-I (Saline County)	Miami Elementary (Saline)	41.7	77.8	50.0	15.1	43.1	7.1
105124	Milan C-2	Milan Elementary	24.3	34.7	18.0	-2.3	0.0	-24.9
066103	Miller County R-III	Miller County Elementary	43.6	31.0	29.2	17.0	-3.7	-13.7
055104	Miller R-II	Central Elementary	17.1	37.5	44.4	-9.5	2.8	1.5
055104	Miller R-II	East Elementary	25.0	11.1	53.9	-1.6	-23.6	11.0
005128	Monett R-I	Monett Elementary	23.4	33.5	29.6	-3.2	-1.2	-13.3
044083	Mound City R-II	Mound City Elementary	43.8	41.1	63.2	17.2	6.4	20.3

Cty-Dist	Dist Name	Bldg Name	2005 MAP	2006 MAP	2007 MAP	2005 Diff	2006 Diff	2007 Diff
114114	Mountain Grove R-III	Mountain Grove Elementary	28.6	41.5	40.5	2.0	6.8	-2.4
096109	Normandy	Bel-Nor Elementary		23.8	36.1	-26.6	-10.9	-6.8
096109	Normandy	Garfield Elementary	25.0	14.1	41.7	-1.6	-20.6	-1.2
096109	Normandy	Jefferson Elementary	8.8	14.2	27.8	-17.8	-20.5	-15.1
096109	Normandy	Lucas Crossing Elementary	14.2	26.6	26.8	-12.4	-8.1	-16.1
065096	North Mercer R-III	North Mercer Elementary	68.4	61.6	72.8	41.8	26.9	29.9
078001	North Pemiscot County R-I	Ross Elementary	41.2	22.2	52.9	14.6	-12.5	10.0
102081	North Shelby	North Shelby Elementary	34.5	74.0	68.5	7.9	39.3	25.6
033091	Oak Hill R-1	Oak Hill Elementary	58.3	18.2	28.5	31.7	-16.5	-14.4
055105	Pierce City R-VI	Central Elementary	36.4	40.0	35.8	9.8	5.3	-7.1
072068	Portageville	Portageville Elementary	15.9	50.9	70.5	-10.7	16.2	27.6
027057	Prairie Home R-V	Prairie Home Elementary	13.3	50.0	45.5	-13.3	15.3	2.6
103127	Richland R-IV	Richland Elementary	36.2	39.1	25.7	9.6	4.4	-17.2
091093	Ripley County R-IV	Ripley Co. Elementary	20.0	50.0	61.9	-6.6	15.3	19.0
072066	Risco R-II	Risco R-II Elementary	20.8	40.0	18.2	-5.8	5.3	-24.7
049140	Sarcoxie R-II	Wildwood Elementary	36.5	43.1	46.3	9.9	8.4	3.4
112103	Seymour R-II	Seymour Elementary	20.0	50.0	41.5	-6.6	15.3	-1.4
099082	Scotland County R-I	North Grade School (aka Scotland Co. Elem.)	47.8	35.4	54.9	21.2	0.7	12.0
108144	Sheldon R-VIII	Sheldon Elementary	21.4	50.0	83.3	-5.2	15.3	40.4
005127	Shell Knob #78	Shell Knob Elementary	22.7	71.4	42.2	-3.9	36.7	-0.7
115115	St. Louis City	Adams Elementary	26.0	17.5	10.7	-0.6	-17.2	-32.2
115115	St. Louis City	Ames Visual/Performing Arts	28.2	26.5	59.5	1.6	-8.2	16.6
115115	St. Louis City	Ashland Elementary	45.9	11.0	4.7	19.3	-23.7	-38.2
115115	St. Louis City	Baden Elementary	15.6	11.9	5.9	-11.0	-22.8	-37.0
115115	St. Louis City	Clay Elementary	31.0	7.1	37.8	4.4	-27.6	-5.1
115115	St. Louis City	Cole Elementary	12.2	16.7	26.4	-14.4	-18.0	-16.5
115115	St. Louis City	Dunbar Elementary	7.7	15.0	8.6	-18.9	-19.7	-34.3
115115	St. Louis City	Froebel Elementary	24.6	9.8	15.3	-2.0	-24.9	-27.6
115115	St. Louis City	Gundlach Elementary	41.2	9.7	4.3	14.6	-25.0	-38.6
115115	St. Louis City	Hickey Elementary	13.5	0.0	5.4	-13.1	-34.7	-37.5
115115	St. Louis City	Mason Elementary	6.0	41.1	23.4	-20.6	6.4	-19.5
115115	St. Louis City	Monroe Elementary	6.7	14.6	5.6	-19.9	-20.1	-37.3
115115	St. Louis City	Shaw Visual/Performing Arts Center	49.3	65.8	52.3	22.7	31.1	9.4
115115	St. Louis City	Simmons Marshall Elem	28.6	34.2	29.8	2.0	-0.5	-13.1
115115	St. Louis City	Woodward Elementary	1.9	32.6	27.1	-24.7	-2.1	-15.8
032058	Stewartsville C-2	Stewartsville Elementary	36.8	47.4	42.9	10.2	12.7	0.0
036137	Sullivan	Sullivan Elementary	23.8	34.8	42.4	-2.8	0.1	-0.5
032056	Union Star R-II	Union Star Elementary	40.0	54.6	33.4	13.4	19.9	-9.5
018050	Van Buren R-I	Van Buren Elementary	48.6	52.6	40.9	22.0	17.9	-2.0
055111	Verona R-VII	Verona Elementary	16.0	17.9	23.9	-10.6	-16.8	-19.0

Cty-Dist	Dist Name	Bldg Name	2005 MAP	2006 MAP	2007 MAP	2005 Diff	2006 Diff	2007 Diff
043003	Weaubleau R-III	Weaubleau Elementary	25.0	27.3	33.3	-1.6	-7.4	-9.6
094087	West St. Francois Co. R-IV	West St. Francois Co. Elem (aka West County Elem.)	41.3	51.3	41.1	14.7	16.6	-1.8
009080	Woodland R-IV	Woodland Elementary	13.9	48.3	45.4	-12.7	13.6	2.5
062072	Fredericktown R-I	Fredericktown Elem.	No 3rd grade students					
035102	Kennett 39	H. Byron Masterson Elem.	No 3rd grade students					
096109	Normandy	Normandy Kindergarten Ctr.	No 3rd grade students					
036137	Sullivan	Sullivan Primary	No 3rd grade students					

Notes:
Difference (Diff) column provides difference between percent of students achieving proficiency on district map test and that year's Proficiency Target.
State established annual proficiency targets were 26.6% in 2005, 34.7% in 2006, and 42.9% in 2007.

In 2005, 35.1% of third grade students scored met the Annual Proficient Target by scoring proficient and above on the MAP. Annual proficiency targets were met by 43.3% of third graders in 2006 and by 43.6% of third graders in 2007.

Urban Analysis of Reading First and Non-Reading First Schools by Annual Proficiency

Reading First Schools in four urban districts (Ferguson Florissant, Kansas City, Normandy, and St. Louis) were compared to Non-Reading First schools across those districts. The data revealed that Reading First Schools increased in Annual Proficiency from 2005 to 2006 and remained steady in 2007 while Non-Reading First Schools decreased in Annual Proficiency from 2005 to 2006 and remained steady in 2007. The data also show that while significant differences exist between the two groups in 2005 (with Non-Reading First schools Annual Proficiency significantly higher than Reading First schools) in 2006 and 2007 there is no longer a significant difference between the two groups. This finding Indicates that Reading First schools are catching up with non-Reading First schools in urban districts. It is important to note that these data were retrieved from the DESE website.

Table 10
Reading First and Non-Reading First Annual Proficiency
Sample Sizes, Means, and Standard Deviations

		N*	Mean	Std. Deviation
2005 AP	Program (Reading First)	43	19.440	13.8005
	Comparison (Non-Reading First)	38	33.895	20.6516
	Total	81	26.221	18.7064
2006 AP	Program (Reading First)	44	25.843	14.1498
	Comparison (Non-Reading First)	38	30.800	17.8135
	Total	82	28.140	16.0444
2007 AP	Program (Reading First)	44	25.366	15.4667
	Comparison (Non-Reading First)	38	30.363	18.2559
	Total	82	27.682	16.8972

*N indicates sample size or number of schools in the analysis.

Table 11
Reading First and Non-Reading First Annual Proficiency (AP)
Table of Significance

		Sum of Squares	df	Mean Square	F	Sig.
2005 AP	Between Groups	4215.173	1	4215.173	14.004	.000
	Within Groups	23779.102	79	301.001		
	Total	27994.274	80			
2006 AP	Between Groups	500.989	1	500.989	1.969	.164
	Within Groups	20350.168	80	254.377		
	Total	20851.157	81			
2007 AP	Between Groups	509.195	1	509.195	1.801	.183
	Within Groups	22617.667	80	282.721		
	Total	23126.863	81			

Reading First and Non Reading First Communication Arts MAP Scores

MAP data were provided from DESE for all Reading First districts including some districts with Non-Reading First schools. The data show that Reading First Schools in urban districts outperformed Non Reading First Schools on both the MAP Communications Art score and the MAP *TerraNova* Score. These differences were significant at the .001 level.

Table 12
Reading First and Non-Reading First Comparison for MAP Communication Arts Score

	N	Mean	SD	F Value	Significance
Non Reading First	3,942	620.15	41.544	136.445	.000***
Reading First	5,198	630.29	40.712		

*p < .05, **p < .01, ***p < .001

Table 13
Reading First and Non-Reading First Comparison for MAP *TerraNova* Score

	N	Mean	SD	F Value	Significance
Non Reading First	4,058	41.92	29.085	171.989	.000***
Reading First	5,272	49.91	29.229		

*p < .05, **p < .01, ***p < .001

Kansas City and St. Louis Comparison

MAP data were compared between the two largest Reading First districts in Missouri (Kansas City and St. Louis). The data show that St. Louis Public School students had a mean score on the MAP of 622.31. Their counterparts in Kansas City had a mean score of 618.29. Although Kansas City had one additional year in the Reading First program, the students in St. Louis had significantly higher MAP Communication Art and MAP *TerraNova* scores than students in Kansas City. (Note that this is in opposition to the overall Cohort trend in significance.)

Table 14
St. Louis and Kansas City Comparison
MAP Communications Arts Score

	N	Mean	SD	F Value	Significance
St. Louis	1386	622.31	43.629	3.850	.050*
Kansas City	698	618.29	45.256		

*p < .05, **p < .01, ***p < .001

Table 15
St. Louis and Kansas City Comparison
MAP *TerraNova* Score

	N	Mean	SD	F Value	Significance
St. Louis	1406	42.74	29.248	8.648	.003**
Kansas City	716	38.80	29.119		

*p < .05, **p < .01, ***p < .001

MAP Student Outcomes

MAP scores were disaggregated by gender, racial difference, free and reduced lunch status, IEP status, school difference, and implementation of the Reading First model status or cohort. See Appendix B for demographic analyses of third grade students who took the MAP. There were too few students of migrant and limited English proficiency status to make comparisons. The following trends were determined by data analysis:

- Gender: Females scored significantly higher than males.
- Racial Differences: Asian/Pacific Islander students scored higher than Black, American Indian/Alaska Native, and Hispanic students; Hispanic students scored higher than Black students; and White students scored higher than American Indian/Alaska Native, Black, and Hispanic students.
- Free and Reduced Lunch status: Students who were not economically disadvantaged scored higher than those with economic disadvantage status.
- IEP status: Students who did not have an IEP scored higher than those with an IEP.
- Cohort difference: Schools in Cohort 1 scored higher than schools in Cohort 2.
- School difference: There were student performance differences among schools. See Appendix C for MAP school differences.

Correlation Between the Instruments to Measure Student Performance

A correlation is a bivariate measure of association or strength between two variables. It ranges from -1 to +1, with 0 indicating no relationship. A value of +1 indicates a perfect positive relationship and a value of -1 indicates a perfect negative relationship.

Using data from a merged data set, the following correlations were computed:

a. Correlation between MAP Communication Art Score and Third Grade EOY_ORF was .685**

b. Correlation between the MAP *TerraNova* and Third Grade EOY_ORF was .620**

These correlations are strong and positive. That is, students who tended to score high on the MAP and MAP *TerraNova* also scored high on the *DIBELS* End of Year (EOY) benchmark on Oral Reading Fluency (ORF).

Table 16
MAP Percent Proficient
End of Year 2007
All Assessed Students in Reading First Schools

Kindergarten	Grade 1	Grade 2	Grade 3	All
na	na	na	34.01%	34.01%

Chapter III

TerraNova Student Performance Outcomes

This chapter discusses students' reading achievement relative to their performance on the *TerraNova* in Kindergarten, First, and Second grades. The evaluation question, "Did student achievement in reading measurably and significantly improve on the *TerraNova*?" is explored.

Description of the *TerraNova* Instrument

The *TerraNova* is administered one time per year to Kindergarten, First, and Second grade students. The goals of this instrument are to identify a student's current performance, to measure the effectiveness of instruction, to provide an accountability mechanism, and to track and report student progress. The *TerraNova* includes norm-referenced, criterion-referenced, and performance level information on six subscales: Reading, Vocabulary, Reading Comprehension, Language, Language Mechanics, and Language Comprehension. Using national norms, the *TerraNova* reports National Percentiles, Scale Scores, Normal Curve Equivalents, and Stanine Scores.

National Percentile Rank Scores (NP): These scores range from 1-99 and represent the percentage of students whose scores fall below a given student's scale score. For example a student who has a National Percentile score of 95 scored higher than 95% of the students in the norm group.

Scaled Scores (SS): These scores range from 0-999, increase with each grade level, and were designed to measure student progress from elementary through high school. Although comparisons cannot be made across subtests, one can compare individual scale scores with the mean scale score of the group.

Normal Curve Equivalent (NCE): These scores range from 1-99, are based on an equal-interval scale, and allow comparisons among subtests.

National Stanine Scores (NS): These scores range from 1 – 9 and are based on nine equal units. Stanines of 1 through 3 indicate below average performance, 4 through 6 indicate average performance, and 7-9 indicate above average performance.

TerraNova Descriptive Statistics

TerraNova data was obtained from a maximum of 15,347 students in Kindergarten, First, and Second grades in sixty-nine districts in 111 schools. Enrollment was evenly distributed over the grades with approximately 5,190 Kindergarteners; 5,396 First Graders; and 5,325 Second Graders. Third grade students were dropped from the

analysis. Overall descriptive statistics for the *TerraNova* are found in Table 17. Grade specific *TerraNova* scores are found in Tables 18 through 19.

Table 17
***TerraNova* Descriptive Statistics Overall**

	N	Minimum	Maximum	Mean	Std. Deviation
Read NP	15376	1	99	58.48	28.726
Read NS	13447	1	9	5.50	2.001
Read NCE	15388	1	99	56.13	21.286
Read SS	**15347**	**355**	**722**	**584.09**	**48.059**
Vocab NP	9780	1	99	57.20	27.852
Vocab NS	8534	1	9	5.38	1.901
Vocab NCE	9783	1	99	54.96	20.271
Vocab SS	9776	400	705	577.72	50.758
Read Comp NP	5271	1	99	53.25	28.129
Read Comp NS	263	1	9	5.93	1.606
Read Comp NCE	5116	1	99	19.80	26.707
Read Comp SS	5296	404	714	585.09	43.398
Lang NP	15437	1	99	62.06	28.280
Lang NS	2377	1	9	6.06	1.817
Lang NCE	15165	1	99	20.88	27.298
Lang SS	15425	325	706	588.88	50.678
Lang Mech NP	3836	1	99	57.74	27.976
Lang Mech NS	563	1	9	5.60	1.780
Lang Mech NCE	3760	1	99	21.08	26.784
Lang Mech SS	3836	445	695	610.82	35.547
Lang Comp NP	1813	1	99	58.25	28.040
Lang Comp NS	133	2	9	5.87	1.544
Lang comp NCE	1737	1	99	27.11	30.373
Lang Comp SS	1813	475	701	615.84	35.919
Valid N (listwise)	133				

Table 17 compiles data on all students in Reading First schools who took the *TerraNova* in Kindergarten, First, and Second grades. An examination of the national percentile and national stanines on all six subtests, Missouri Reading First students scored above the 50^{th} percentile and above 5 on the stanine scores.

Table 18
***TerraNova* Descriptive Statistics**
Grade Kindergarten

	N	Minimum	Maximum	Mean	Std. Deviation
Read NP	5214	1	99	61.33	29.527
Read NS	4553	1	9	5.72	2.088
Read NCE	5214	1	99	58.36	22.552
Read SS	**5189**	**355**	**626**	**549.04**	**39.990**
Lang NP	5214	1	99	68.55	27.348
Lang NS	873	1	9	6.32	1.906
Lang NCE	5119	1	99	22.96	28.996
Lang SS	5214	325	620	555.70	46.237
Valid N (listwise)					

Table 18 compiles data on students in Reading First schools who took the *TerraNova* in Kindergarten. The mean scaled score for Reading First kindergarten students (see Read SS on Table 18) corresponded to the 61st percentile and fell within stanine 5 of the national norms. In addition, the Reading First NCE for the mean scaled score (SS) was in the high 50s.

When compared to the national mean scaled score (536), the mean scaled score for Missouri Reading First students (549) exceeds it by 13 points. However, state proficiency on the TerraNova is determined by a state cut off score obtained by calculating the state mean and adding one standard deviation. For 2007, the state cut off score for kindergarten students is 573. Therefore, the mean for kindergarten students in Reading First is 24 points below Missouri's cut off score for proficient performance.

Table 19
***TerraNova* Descriptive Statistics**
First Grade

	N	Minimum	Maximum	Mean	Std. Deviation
Read NP	5291	1	99	60.01	28.391
Read NS	4640	1	9	5.58	1.984
Read NCE	5294	1	99	56.96	20.942
Read SS	5287	407	701	590.21	40.798
Vocab NP	5078	1	99	58.09	28.483
Vocab NS	4443	1	9	5.42	1.955
Vocab NCE	5081	1	99	55.74	21.119
Vocab SS	5074	400	665	559.88	51.021
Read Comp NP	2697	1	99	55.44	28.751
Read Comp NS	130	1	9	5.70	1.683
Read Comp NCE	2618	1	99	20.13	27.253
Read Comp SS	2697	404	683	571.29	43.093
Lang NP	5323	1	99	60.99	28.075
Lang NS	886	1	9	5.97	1.778
Lang NCE	5236	1	99	21.16	27.194
Lang SS	5320	400	680	592.96	43.098
Valid N (listwise)					

Table 19 compiles data on students in Reading First schools who took the *TerraNova* in First Grade. The mean scaled score for Reading First first grade students (see Read SS on Table 19) corresponded to the 60th percentile and fell within stanine 5 of the national norms. In addition, the Reading First NCE for the mean scaled score (SS) was in the mid 50s.

When compared to the national mean scaled score (576), the mean scaled score for Missouri Reading First students (590) exceeds it by 14 points. However, state proficiency on the TerraNova is determined by a state cut off score obtained by calculating the state mean and adding one standard deviation. For 2007, the state cut off score for first grade students is 616. Therefore, the mean for first students in Reading First is 26 points below Missouri's cut off score for proficient performance.

Table 20
***TerraNova* Descriptive Statistics**
Second Grade

	N	Minimum	Maximum	Mean	Std. Deviation
Read NP	4871	1	99	53.77	27.619
Read NS	4254	1	9	5.20	1.884
Read NCE	4880	1	99	52.85	19.821
Read SS	4871	423	722	614.78	38.414
Vocab NP	4702	1	99	56.24	27.124
Vocab NS	4091	1	9	5.32	1.839
Vocab NCE	4702	1	99	54.12	19.281
Vocab SS	4702	421	705	596.98	42.821
Read Comp NP	2574	1	99	50.95	27.280
Read Comp NS	133	2	9	6.15	1.500
Read Comp NCE	2498	1	99	19.44	26.123
Read Comp SS	2574	429	714	599.86	38.630
Lang NP	4900	1	99	56.34	28.090
Lang NS	618	1	9	5.83	1.698
Lang NCE	4810	1	99	18.38	25.279
Lang SS	4891	424	706	619.84	40.628
Lang Mech NP	3836	1	99	57.74	27.976
Lang Mech NS	563	1	9	5.60	1.780
Lang Mech NCE	3760	1	99	21.08	26.784
Lang Mech SS	3836	445	695	610.82	35.547
Lang Comp NP	1813	1	99	58.25	28.040
Lang Comp NS	133	2	9	5.87	1.544
Lang comp NCE	1737	1	99	27.11	30.373
Lang Comp SS	1813	475	701	615.84	35.919
Valid N (listwise)	133				

Table 20 compiles data on students in Reading First schools who took the *TerraNova* in Second Grade. The mean scaled score for Reading First second grade students (see Read SS on Table 20) corresponded to the 53rd percentile and fell within stanine 5 of the national norms. In addition, the Reading First NCE for the mean scaled score (SS) was in the mid 50s.

When compared to the national mean scaled score (608), the mean scaled score for Missouri Reading First students (614) exceeds it by 6 points. However, state proficiency on the TerraNova is determined by a state cut off score obtained by calculating the state mean and adding one standard deviation. For 2007, the state cut off score for second grade is 648. Therefore, the mean for second students in Reading First is 34 points below Missouri's cut off score for proficient performance

TerraNova Student Outcomes by Demographic Factors

The following sections analyze the *TerraNova* data by gender, race, cohort, special education eligibility, migrant status, English Language Learner status, disability, and poverty.

TerraNova Student Outcomes by Gender

The *TerraNova* analysis by gender shows that female students had significantly higher mean scale scores than male students. This finding is similar to the *DIBELS* and MAP results where female students consistently outperformed their male counterparts.

Table 21
TerraNova Mean Scores by Gender

	Sample	Male	Female	F-test Significance
Reading Scaled Scores	13,061	583.27	589.49	54.923***
Vocabulary Scaled Scores	8,596	576.68	582.37	27.170***
Reading Comprehension Scaled Scores	4,808	584.45	589.18	14.591***
Language Scaled Scores	13,138	586.99	595.15	85.886***
Language Mechanic Scaled Scores	3.564	607.51	615.95	50.975***
Language Comprehension Scaled Scores	1,695	613.35	620.83	18.968***

*p < .05, **p < .01, ***p < .001

TerraNova Student Outcomes by Race

For the Reading subtest, Asian students scored significantly higher than Hispanic students and lower than White students. Black students scored significantly higher than Hispanic students and lower than White students. Hispanic students scored lower than all other groups. White students scored higher than all other groups.

For the Vocabulary subtest, Asian students scored significantly higher than Hispanics and lower than White students. Black students scored higher than Hispanic students and lower than White students and students from Other ethnic groups. Hispanic students scored significantly lower than all other groups and White students scored higher than all other ethnic groups.

For the Reading Comprehension subtest, Asian students scored lower than White students and students from other ethnic groups. Black students scored higher than Hispanic students and lower than White students. Hispanic students scored significantly lower than Black, White, and students from Other ethnic groups. White students scored significantly higher than Asian, Black, and Hispanic students.

For the Language subtest, Asian students scored significantly higher than Black and Hispanic students. Black students scored significantly lower than Asians and Whites, but higher than Hispanic students. Hispanic students scored lower than Asians, Blacks, and Whites. White students scored significantly higher than Black, Hispanic, and students from "Other" ethnic groups.

For the Language Mechanics subtest, Black students scored significantly lower than White students. Hispanic students scored significantly lower than White students and students from "Other" ethnic groups. White students scored higher than Black and Hispanic students.

For the Language Comprehension subtest, Asians students scored significantly higher than Hispanic students. Black students scored significantly higher than Hispanic students and lower than White students. Hispanic students scored lower than Asian, Black, and White students. White students scored significantly higher than Black and Hispanic students.

Table 22

TerraNova Mean Scores by Race

	Sample	Asians	Blacks	Hispanics	Whites	Other
Reading Scaled Scores	13,059	583.62	578.82	572.21	593.78	581.39
Vocabulary Scaled Scores	8,600	572.72	567.76	559.80	590.73	582.26
Reading Comprehension Scaled Scores	4,795	582.92	579.31	574.92	599.31	599.07
Language Scaled Scores	13,136	593.06	581.98	573.74	599.83	580.20
Language Mechanic Scaled Scores	3,584	618.36	605.15	600.68	615.65	620.76
Language Comprehension Scaled Scores	1,691	633.00	612.17	603.02	622.63	628.33

TerraNova Student Outcomes **by Cohort**

The *TerraNova* analysis by cohort shows that students enrolled in Cohort 1 schools had significantly higher mean scale scores than students enrolled in Cohort 2 schools. This finding is similar to the *DIBELS* and MAP results where Cohort 1 students consistently outperformed their Cohort 2 counterparts.

Table 23

***TerraNova* Mean Scores by Cohort**

	Sample	Cohort1	Cohort2	F-test Significance
Reading Scaled Scores	15,347	585.78	579.30	54.106***
Vocabulary Scaled Scores	9,776	580.34	570.21	75.146***
Reading Comprehension Scaled Scores	5,296	589.50	573.49	148.033***
Language Scaled Scores	15,425	591.43	581.72	110.380***
Language Mechanic Scaled Scores	3,836	613.19	601.11	71.002***
Language Comprehension Scaled Scores	1,813	618.86	596.10	87.930***

*p < .05, **p < .01, ***p < .001

TerraNova Student Outcomes by Special Education Eligibility

The *TerraNova* analysis by special education eligibility shows that students who were eligible for special education scored significantly lower than students who were not eligible. This finding is similar to the *DIBELS* and MAP results where special education students scored significantly lower than students who were not eligible for special education.

Table 24

***TerraNova* Mean Scores by Special Education Eligibility**

	Sample	Yes	No	F-test Significance
Reading Scaled Scores	6,506	568.43	581.91	46.584***
Vocabulary Scaled Scores	4,032	558.28	577.88	60.630***
Reading Comprehension Scaled Scores	1,881	571.69	582.53	12.604***
Language Scaled Scores	6,554	570.82	587.81	68.923***
Language Mechanic Scaled Scores	1,455	593.36	611.83	45.930***
Language Comprehension Scaled Scores	494	601.41	617.08	12.805***

*p < .05, **p < .01, ***p < .001

TerraNova Student Outcomes by Migrant Status

Only two of the six *TerraNova* variables were significantly different by Migrant Status. This finding is similar to the results of the *DIBELS* and MAP, where Migrant status did not appear to be an important predictor of reading achievement. It is important to note that very few students in the sample were considered Migrants and therefore the sample size is very low for comparison purposes.

Table 25

***TerraNova* Mean Scores by Migrant Status**

	Sample	Yes	No	F-test Significance
Reading Scaled Scores	5,660	577.48	587.06	3.310
Vocabulary Scaled Scores	4,006	565.27	581.42	6.367*
Reading Comprehension Scaled Scores	1,763	576.46	585.70	.601
Language Scaled Scores	5,712	585.75	593.02	1.816
Language Mechanic Scaled Scores	1,888	588.81	612.03	12.090**
Language Comprehension Scaled Scores	678	610.67	615.59	.067

*p < .05, **p < .01, ***p < .001

TerraNova Student Outcomes by English Language Learner Status

Four of the six *TerraNova* variables were significantly different by English Language Learner status. That is, students who were proficient in English scored significantly higher on the *TerraNova* than students who were English Language Learners. It is important to note that the two Comprehension subtests were not significantly different by English Language Learner status.

Table 26

***TerraNova* Mean Scores by English Language Learner Status**

	Sample	Yes	No	F-test Significance
Reading Scaled Scores	3,642	565.04	579.18	35.950***
Vocabulary Scaled Scores	2,322	553.04	573.09	40.203***
Reading Comprehension Scaled Scores	1,190	569.70	576.42	3.499
Language Scaled Scores	3,647	569.06	585.05	44.019***
Language Mechanic Scaled Scores	755	596.50	604.81	6.075*
Language Comprehension Scaled Scores	269	606.93	611.57	.746

*p < .05, **p < .01, ***p < .001

TerraNova Student Outcomes by Disability Status

There were significant differences according to disability status across all six subscales of the *TerraNova*. Children who were disabled scored significantly lower than children who were not disabled. (Compare with *DIBELS*/MAP).

Table 27

***TerraNova* Mean Scores by Disability Status**

	Sample	Yes	No	F-test Significance
Reading Scaled Scores	6, 450	576.92	587.80	32.160***
Vocabulary Scaled Scores	4,510	567.22	583.47	50.953***
Reading Comprehension Scaled Scores	2,166	582.00	587.35	4.364*
Language Scaled Scores	6,496	579.20	593.86	54.859***
Language Mechanic Scaled Scores	2,153	601.45	613.67	30.738***
Language Comprehension Scaled Scores	892	610.32	620.08	11.230**

*p < .05, **p < .01, ***p < .001

***TerraNova Student Outcomes* by Poverty**

The *TerraNova* Comprehension variables were not influenced by the Poverty variable. However, the other four subscales did have a poverty effect with those children who were economically advantaged having higher mean scale scores than children who were economically disadvantaged.

Table 28

***TerraNova* Mean Scores by Poverty**

	Sample	Yes	No	F-test Significance
Reading Scaled Scores	15,347	582.78	585.27	10.300**
Vocabulary Scaled Scores	9,776	574.85	580.60	31.497***
Reading Comprehension Scaled Scores	5,296	585.01	585.18	.020
Language Scaled Scores	15,425	587.45	590.19	11.211**
Language Mechanic Scaled Scores	3,836	608.58	613.40	17.610***
Language Comprehension Scaled Scores	1,813	616.33	615.28	.391

*p < .05, **p < .01, ***p < .001

TerraNova Grade Level Student Outcomes

Kindergarten

For Kindergarten students, two subscales were examined: Reading and Language.

TerraNova data were disaggregated by gender, racial difference, poverty, disability status, English proficiency, special education eligibility, school difference, and implementation of the Reading First model status. There were not enough students in the sample to analyze the data by migrant status. See Appendix D for demographic analyses of Kindergarten students who took the *TerraNova*.

The following trends were determined by data analysis:

- Gender difference: There were significant differences on both Reading and Language subtests by gender. Female students scored significantly higher than male students on both subtests.

- Racial difference: For the Reading subtest, Black students scored significantly higher than Hispanic students and lower than White students. Hispanic students scored significantly lower than Black and White students. White students scored significantly higher than Black and Hispanic students. For the Language subtest, Asian students scored significantly higher than Hispanic students. Black students scored higher than Hispanic students and lower than White students. Hispanic students scored lower than Asian, Black, and White students. White students scored significantly higher than Black, Hispanic, and students from Other ethnic backgrounds.
- Poverty status: Students who were economically advantaged scored higher than those who were economically disadvantaged on Reading and Language.
- Disability status: Students who were not disabled scored significantly higher than those with a disability on both subscales.
- English Proficiency status: Students who were proficient in English scored significantly higher than English Language Learners on both subtests.
- Special Education Eligibility: Students who were eligible for special education scored significantly lower than students who were not eligible for special education on both Language and Reading.
- School difference: The mean performance by schools was significantly different for schools. This indicates some schools were significantly higher and others were significantly lower. See Appendix E for school differences.
- Cohort difference: Students in Cohort 1 schools scored significantly higher than students in Cohort 2 schools on both subscales.

First Grade

For the 1st grade students taking the TerraNova, four subscales were examined: Reading, Vocabulary, Reading Comprehension, and Language.

TerraNova data were disaggregated by gender, racial difference, poverty, disability status, English proficiency, special education eligibility, school difference, and implementation of the Reading First model status. There were not enough students in the sample to analyze the data by migrant status. See Appendix D for demographic analyses of first grade students who took the *TerraNova*.

The following trends were determined by data analysis:

- Gender difference: Females scored higher than males on all four subscales.
- Racial difference: Asian students scored higher than Hispanic students on Language and Vocabulary. Black students scored higher than Hispanic students on all four subtests. White students scored significantly higher than Black and Hispanic students on all four subscales.
- Poverty status: Students who were economically advantaged scored higher than those who were economically disadvantaged on three subtests except for Reading Comprehension.
- Disability status: Students who were not disabled scored higher than those with a disability on three subtests except for Reading Comprehension.

- English Proficiency status: Students who were proficient in English scored significantly higher than English Language Learners on three subtests except for Comprehension.
- Special Education Eligibility: Students who were eligible for special education scored significantly lower than students who were not eligible for special education on all four subtests.
- School difference: The mean performance by schools was significantly different for schools. This indicates some schools were significantly higher and others were significantly lower. See Appendix E for school differences.
- Cohort difference: Students in Cohort 1 schools scored significantly higher than students in Cohort 2 schools on all four subscales.

Second Grade

For the 2nd grade students, six subscales were examined: Reading, Vocabulary, Reading Comprehension, Language, Language Mechanism, Language Comprehension.

TerraNova data were disaggregated by gender, racial difference, poverty, disability status, English proficiency, special education eligibility, school difference, and implementation of the Reading First model status. There were not enough students in the sample to analyze the data by migrant status. See Appendix D for demographic analyses of Kindergarten students who took the *TerraNova*.

See Appendix D for demographic analyses of second grade students who took the *TerraNova*. The following trends were determined by data analysis:

- Gender difference: Females scored higher than males on all six subtests.
- Racial difference: Asian students scored significantly higher than Black and Hispanic students on Reading and Language and higher than Hispanic students on Language Comprehension. Black students scored significantly higher than Hispanic students on Language, Vocabulary, and Language Comprehension. White students scored higher than Black and Hispanic students on all six subtests.
- Poverty status: Students who were economically advantaged scored higher than those who were economically disadvantaged on four subtests with the exception of the Reading Comprehension and Language Comprehension subtests.
- Disability status: Students who were not disabled scored higher than those with a disability on all six areas.
- English Proficiency status: Students who were proficient in English scored significantly higher than English Language Learners on four subtests except for the two subtests that focus on Comprehension. For the Comprehension variables there were no significant differences between the groups.
- Special Education Eligibility: Students who were eligible for special education scored significantly lower than students who were not eligible for special education on all six subtests.
- School difference: The mean performance by schools was significantly different for schools. This means some schools were significantly higher and others were significantly lower. See Appendix E for school differences.

- Cohort difference: Students in Cohort 1 schools scored significantly higher than students in Cohort 2 schools on all six subscales

Correlation Between the Instruments to Measure Student Performance

A correlation is a bivariate measure of association or strength between two variables. It ranges from -1 to +1, with 0 indicating no relationship. A value of +1 indicates a perfect positive relationship and a value of -1 indicates a perfect negative relationship.

Using data from a merged data set, the following correlations were computed:

> Correlation between the End of Year *DIBELS* scores for LNF, PSF, NWF, and ORF and the *TerraNova* Scaled Scores for Reading, Vocabulary, Reading Comprehension, Language, Language Mechanics, and Language Comprehension ranged from 0.188** to 0.728**

These correlations are fairly strong and positive. That is, students who tended to score high on the *DIBELS* End of Year (EOY) scores also scored high on the *TerraNova* Scaled Scores.

Conclusions

Data do not answer the question, "Did student achievement in reading measurably and significantly improve on the *TerraNova*?" A response requires comparisons of student scores from one year to the next. Last year students did not have state identification or workable local identifiers. The evaluators were unable to match student scores from last year with their scores from this year and thus are unable to confirm that students significantly improved; however, the Missouri Reading First schools did perform above the national average on the *TerraNova* tests.

In examination of the national percentile and national stanines on all six subtests, Missouri Reading First schools scored above the 50th percentile and above the fifth stanine. The evaluators cautiously conclude that students are significantly improving because the schools in the Reading First program were some of the lowest scoring schools in the state and their performance measured against the national average is above that average on the *TerraNova* test.

Chapter IV

DIBELS Student Performance Outcomes

Description of the *DIBELS* Instrument

The Dynamic Indicators of Basic Early Literacy Skills (*DIBELS*) are a set of standardized, individually administered measures of early literacy development. They are designed to be short (one minute) fluency measures used to regularly monitor the development of pre-reading and early reading skills.

The measures were developed upon the essential early literacy domains discussed in both the National Reading Panel (2000) and National Research Council (1998) reports to assess student development of phonological awareness, alphabetic understanding, and automaticity and fluency with the code. Each measure has been thoroughly researched and demonstrated to be reliable and valid indicators of early literacy development and predictive of later reading proficiency to aid in the early identification of students who are not progressing as expected. When used as recommended, the results can be used to evaluate individual student development as well as provide grade-level feedback toward validated instructional objectives.

The *DIBELS* measures were specifically designed to assess three of the five key constructs of early literacy: Phonological Awareness, Alphabetic Principle, and Fluency with Connected Text. The measures are linked to one another, both psychometrically and theoretically, and have been found to be predictive of later reading proficiency.

- Measures of Phonological Awareness
  - Initial Sounds Fluency (ISF): Assesses a child's ability to identify and produce the initial sound of a given word
  - Phonemic Segmentation Fluency (PSF): Assesses a child's ability to produce the individual sounds within a given word.
- Measure of Alphabetic Principle:
  - Nonsense Word Fluency (NWF): Assesses a child's knowledge of letter-sound correspondences as well as the ability to blend letters together to form unfamiliar "nonsense" (such as, fik, lig, etc.).
- Measure of Fluency with Connected Text
  - Oral Reading Fluency (ORF): Assesses a child's ability of reading connected text in grade-level material.

According to the publishers of *DIBELS*, these measures link together to form an assessment system of early literacy development that allows educators to readily and reliably determine student progress.

Description of *DIBELS* Subtest Measures

Initial Sounds Fluency (ISF) is a standardized, individually administered measure of phonological awareness that assesses a child's ability to recognize and produce the initial

sound in an orally presented word (Kaminski & Good, 1996, 1998; Laimon, 1994). The ISF measure is a revision of the measure formerly called Onset Recognition Fluency (OnRF). The examiner presents four pictures to the child, names each picture, and then asks the child to identify (i.e., point to or say) the picture that begins with the sound produced orally by the examiner. For example, the examiner says, "This is sink, cat, gloves, and hat. Which picture begins with /s/?" and the student points to the correct picture. The child is also asked to orally produce the beginning sound for an orally presented word that matches one of the given pictures. The examiner calculates the amount of time taken to identify/produce the correct sound and converts the score into the number of initial sounds correct in a minute. The ISF measure takes about 3 minutes to administer and has over 20 alternate forms to monitor progress.

Letter Naming Fluency (LNF) is a standardized, individually administered test that provides a measure of risk. Students are presented with a page of upper- and lower-case letters arranged in a random order and are asked to name as many letters as they can. Students are told if they do not know a letter they will be told the letter. The student is allowed 1 minute to produce as many letter names as he/she can, and the score is the number of letters named correctly in 1 minute. Students are considered at risk for difficulty achieving early literacy benchmark goals if they perform in the lowest 20% of students in their district. The 20th percentile is calculated using local district norms. Students are considered at some risk if they perform between the 20th and 40th percentile using local norms. Students are considered at low risk if they perform above the 40th percentile using local norms.

Phoneme Segmentation Fluency (PSF) is a standardized, individually administered test of phonological awareness (Kaminski & Good, 1996). The PSF measure assesses a student's ability to segment three- and four-phoneme words into their individual phonemes fluently. The PSF measure has been found to be a good predictor of later reading achievement (Kaminski & Good, 1996). The PSF task is orally administered by the examiner; presenting words of three to four phonemes. It requires the student to produce verbally the individual phonemes for each word. For example, the examiner says, "sat," and the student says "/s/ /a/ /t/" to receive three possible points for the word. After the student responds, the examiner presents the next word, and the number of correct phonemes produced in one minute determines the final score. The PSF measure takes about 2 minutes to administer and has over 20 alternate forms for monitoring progress.

Nonsense Word Fluency (NWF) is a standardized, individually administered test of the alphabetic principle - including letter-sound correspondence and of the ability to blend letters into words in which letters represent their most common sounds (Kaminski & Good, 1996). The student is presented an 8.5" x 11" sheet of paper with randomly ordered VC and CVC nonsense words (e.g., sig, rav, ov) and asked to produce verbally the individual letter sound of each letter or verbally produce, or read, the whole nonsense word. For example, if the stimulus word is "vaj" the student could say /v/ /a/ /j/ or say the word /vaj/ to obtain a total of three letter-sounds correct. The student is allowed 1 minute to produce as many letter-sounds as he/she can, and the final score is the number of letter-sounds produced correctly in one minute. Because the measure is fluency based, students receive a higher score if they are phonologically recoding the word and receive a lower score if they are providing letter sounds in isolation. The NWF measure also takes about 2 minutes to administer and has over 20 alternate forms for monitoring.

Oral Reading Fluency (ORF) is a measure that assesses fluency with text, the ability to translate letters-to-sounds-to-words fluently, effortlessly. The fluent reader is one whose decoding processes are automatic, requiring no conscious attention. Such capacity then enables readers to allocate their attention to the comprehension and meaning of the text.

Retell Fluency (RTF) is intended to provide a comprehension check for the ORF assessment. In general, oral reading fluency provides one of the best measures of reading competence, including comprehension, for children in first through third grades. The purpose of the RTF measure is to (a) prevent inadvertently learning or practicing a inappropriate rule, (b) identify children whose comprehension is not consistent with their fluency, (c) provide an explicit linkage to the core components in the NRP report, and (d) increase the face validity of the ORF.

Benchmarks and Progress Monitoring with the *DIBELS*

Student Benchmarks of achievement are measured three times a year (August/September, December/January, May). The standard protocol for monitoring students' progress between measures was established by the National Center on Student Progress Monitoring (2004):

> Progress monitoring focuses on decision making to inform instruction for individual students in general and special education with respect to academic skill development at the elementary grades. Progress monitoring is conducted frequently (at least monthly) and is designed to (a) estimate rates of improvement, (b) identify children who are not demonstrating adequate progress and therefore require additional or alternative forms of instruction and/or (c) to compare the efficacy of different forms of instruction and thereby design more effective, individualized instructional programs for at-risk learners.

Table 29
Critical *DIBELS* Benchmark Probes by Grade and Time of Year

Grade	Initial Sound Fluency	Letter Naming Fluency	Phoneme Segmentation	Nonsense Word Fluency	Oral Reading Fluency
K-Beg	X	X			
K-Mid	X	X	X	X	
K-End		X	X	X	
1-Beg		X	X	X	
1-Mid			X	X	X
1-End			X	X	X
2-Beg					X
2-Mid					X
2-End					X
3-Beg					X
3-Mid					X
3-End					X

Student Performance on the *DIBELS* *(GPRA indicator of outcome*)

DIBELS data were uploaded by each Reading First school to Wireless Generation, the subcontractor responsible for collecting data on individual students in each school. The data were then aggregated and downloaded by Wireless Generation to DESE. The data files were subsequently given to the evaluator. The accuracy of the analysis reported in this evaluation is based on these files. Discrepancies between student data on file by the Reading First schools and the data transmitted to DESE cannot be controlled by the evaluator.

Data at three time points were reported for **21,691** Kindergarten, first, second, and third grade students in 69 districts and 115 schools. Sample sizes for *DIBELS* subscales by Beginning of Year (BOY), Middle of Year (MOY), and End of Year (EOY) vary widely according to grade and time of year (See Table 29). Data analysis is dependent upon the accuracy of data provided by Wireless Generation.

Table 30

Overall *DIBELS* Data by BOY, MOY, EOY*

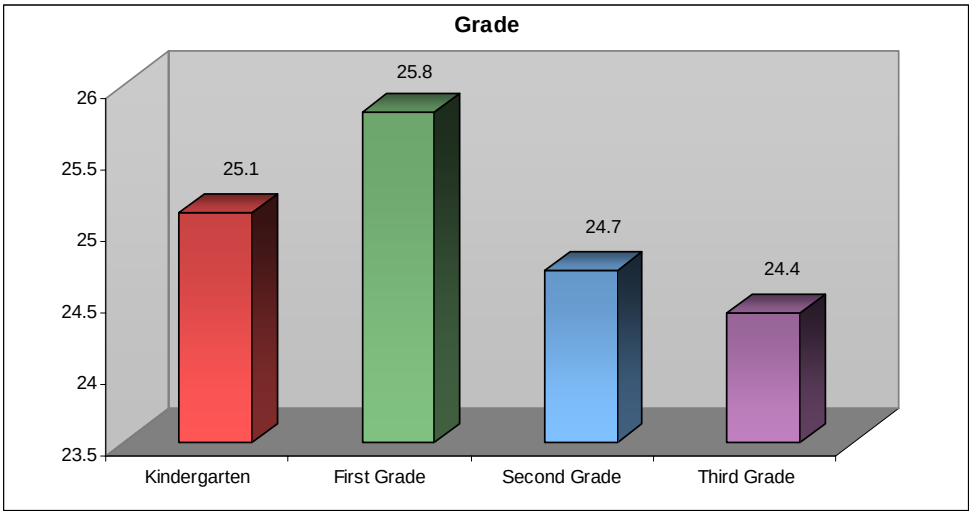
	N	Minimum	Maximum	Mean	SD
Initial Sound Fluency - Beginning of Year	4889	0	320	12.05	11.075
Letter Naming Fluency - Beginning of Year	9856	0	106	28.36	20.454
Phoneme Segmentation - Beginning of Year	4965	0	76	36.55	15.477
Nonsense Word - Beginning of Year	9752	0	142	44.23	28.106
Oral Reading Fluency - Beginning of Year	9581	0	225	60.73	33.102
Initial Sound Fluency - Middle of Year	5147	0	240	33.13	18.196
Letter Naming Fluency - Middle of Year	5148	0	110	37.67	16.571
Phoneme Segmentation - Middle of Year	10365	0	77	38.70	19.284
Nonsense Word - Middle of Year	10346	0	142	42.52	29.603
Oral Reading Fluency - Middle of Year	15186	0	252	68.68	41.913
Initial Sound Fluency - End of Year					
Letter Naming Fluency - End of Year	5301	0	110	48.83	17.046
Phoneme Segmentation - End of Year	10697	0	80	50.31	14.440
Nonsense Word - End of Year	10695	0	144	56.08	31.263
Oral Reading Fluency - End of Year	15649	0	242	87.15	41.782

*Sample sizes vary because subtests are administered to certain grade levels at certain times of the year and also due to missing or unreported data.

DIBELS Demographics

Figure 2

DIBELS Data by Grade Level

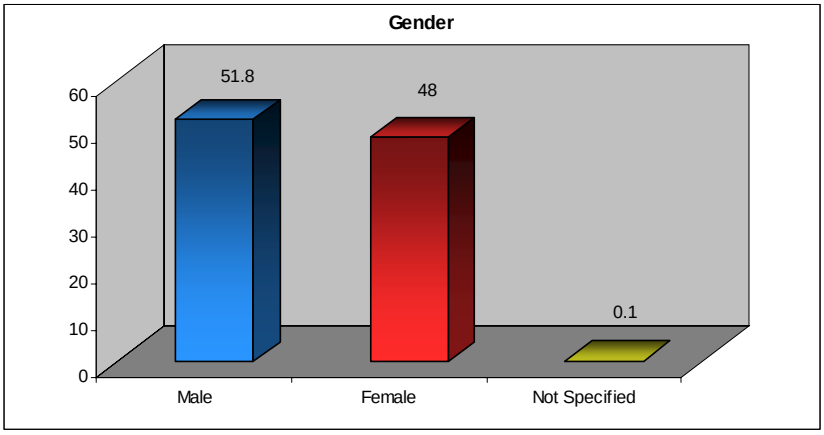


Discussion: *DIBELS* Data by Grade

Enrollment is consistent per grade level, as represented by the frequency of *DIBELS* data across grade levels (Figure 2). Approximately one quarter of the sample or about 5,000 students were in each grade level for a total sample of 21,691.

Figure 3

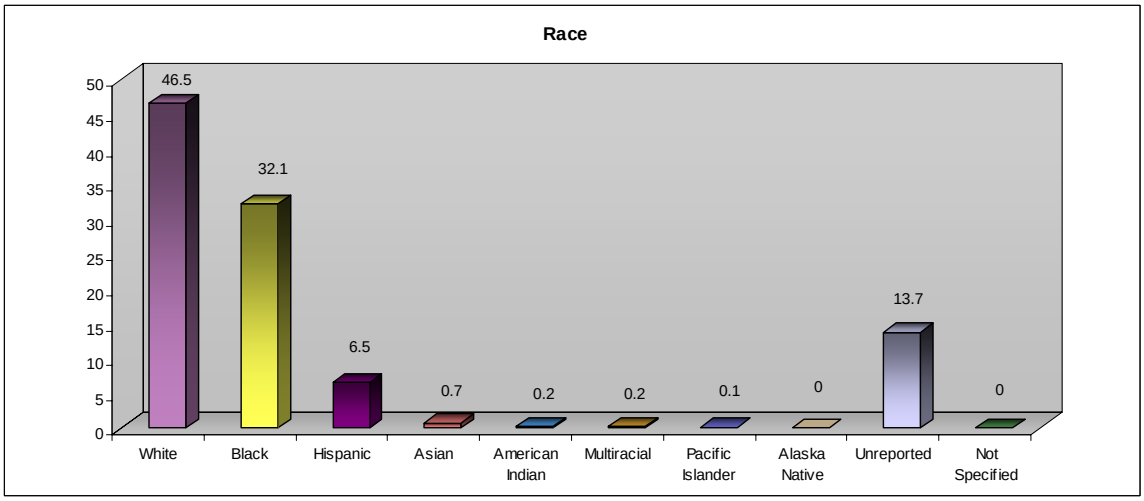
***DIBELS* Data by Gender**



Discussion: *DIBELS* Data by Gender

Gender was also evenly distributed despite a large percentage of missing data (44.7% Male, 41.4% Female, 13.8% unreported data). For future analyses the 27 (.1%) of students whose gender was "not specified" were converted to unreported or missing data, for a total sample size of 21,691.

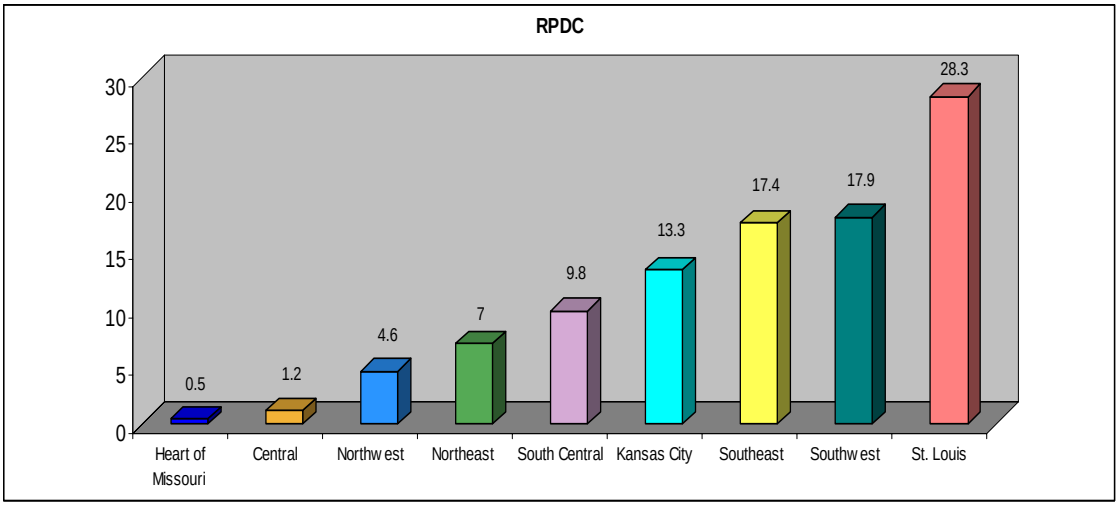
Figure 4
DIBELS Data by Race



Discussion: *DIBELS* Data by Race

White students comprised the largest racial group (46.5% or 10,088 students). Black students were the second largest racial group (32.1%) and Hispanics accounted for 6.5% of the Reading First students. One hundred and forty eight students or .7% of the sample were Asian students. Less than 5% of students were categorized as Students of Other Ethnic Backgrounds. For future analyses, American Indian, Alaska Native, Pacific Islander, Multiracial, Not Specified, and Unreported students were classified as "Other" in terms of race for a total sample size of 21,691.

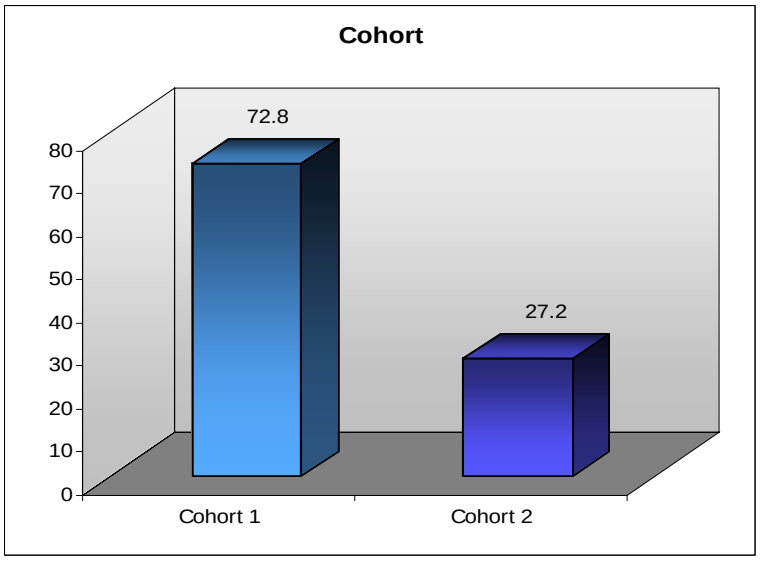
Figure 5
***DIBELS* Data by Regional Professional Development Center (RPDC)**



Discussion: *DIBELS* Data by Regional Professional Development Center (RPDC)

The data were analyzed by Regional Professional Development Center (RPDC) in Figure 5 with the smallest percent of students in Heart of Missouri (.05%) and the largest percent of students in the St. Louis region (28.3%). All nine RPDCs were represented with a total sample size of 21,691.

Figure 6
DIBELS Data by Cohort



Discussion: *DIBELS* Data by Cohort

Data were also analyzed by cohort. Cohort is determined by the school year in which the Reading First Grant was awarded. Cohort 1 was awarded grants in 2004-2005. Data for this cohort has been collected for three years, 2004-2005, 2005-2006, and 2006-2007. Cohort 2 was awarded grants in 2005-2006 and has data collected for two school years. The majority of student scores were collected from schools that entered Reading First in 2004-2005 (Cohort 1) (72.8% or 15,786). There were 5,905 students in Reading First schools that were funded in Cohort 2 (27.2%). The total sample size by Cohort was 21,691.

Additional *DIBELS* Demographics

Additional demographics were collected on the Reading First students including: whether the student was eligible for special education services, whether the student had a disability, economic status, migrant status, and English Language Learner status. However, due to large amounts of unreported or missing data the sample sizes for these variables are much smaller. For Eligibility for Special Education, 1,044 students or 11.6% of the sample (N = 8,998) were eligible for special education. For the Disability variable, 1,273 or 12.6% of the sample (N=10,071) were classified as disabled. In terms of whether the student was economically disadvantaged, 9,226 or 42.5% of the sample were considered economically disadvantaged. For the Free or Reduced variable, 9,954 or 45.9% of students were coded as receiving a free or reduced meal. Fewer students, 130 or 1.5% of the sample (N = 8,845) were migrant students. For English Language Learner status, 642 students or 12.9% of the sample (N=4,993) spoke English as a second language.

A Poverty variable was created by combining the Economically Disadvantaged variable and the Free/Reduced variable. If either variable was coded "Yes" then the Poverty variable was given a value of "Yes." Missing or unreported data was given a value of "No," indicating that the student was neither economically disadvantaged nor receiving a free or reduced meal. Approximately, one-half (49.2% or 10,681) of the sample were considered living in Poverty.

Student Performance on *DIBELS* Benchmarks

The following data describes student achievement as measured by critical *DIBELS* benchmarks. Data were analyzed to determine whether or not the proficiency levels between the *DIBELS* Beginning or Middle Benchmarks and the End Benchmarks are significantly different. Those findings are reported in the student outcomes discussed at each level.

Student Outcomes: Kindergarten

Table 31
Kindergarten Measures

Grade	Initial Sound Fluency	Letter Naming Fluency	Phoneme Segmentation	Nonsense Word Fluency
K-Beg	X	X		
K-Mid	X	X	X	X
K-End		X	X	X

Kindergarten children were assessed with four *DIBELS* measures: Initial Sound Fluency, Letter Naming Fluency, Phoneme Segmentation Fluency, and Nonsense Word Fluency**.** Initial Sound Fluency (ISF) is measured only at beginning of year and middle of year as predictive benchmarks. Phoneme Segmentation Fluency (PSF) is measured only at middle of year and end of year as predictive benchmarks for First Grade.

Kindergarten Initial Sound Fluency (ISF)

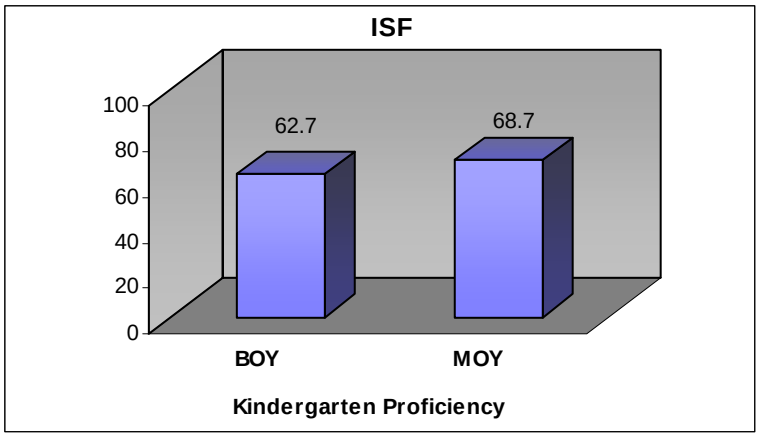
Reading Construct. Phonemic awareness is the ability to hear and manipulate sounds in words. It is essential to learning to read in an alphabetic writing system.

Benchmark Goal. The beginning of the year (BOY) benchmark goal on ISF is for all children to have phonological awareness skills of 8 phonemes. Initial Sound Fluency for the middle (MOY) of Kindergarten children increases to 25 phonemes.

Performance Outcomes. At BOY more than half (62.7%) of Kindergarten children met benchmark. By the middle of the year 68.7% of students were on benchmark or 3,537 of the 5,147 students assessed met benchmark.

Kindergarten ISF Demographic Differences. Females scored higher than males. For ISF BOY, Black students scored higher than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored lower than Blacks, Whites, and Students of Other Ethnic Backgrounds; and Whites scored better than Hispanics but lower than Black students. For ISF MOY, Black students scored higher than Hispanics and Whites; Hispanics scored significantly lower than Blacks, Whites, and Students of Other Ethnic Backgrounds; Whites scored higher than Hispanics and Students of Other Ethnic Backgrounds but lower than Blacks. Students who were eligible for Special Education scored lower than students who were not on ISF MOY. Students economically advantaged scored higher than those who were economically disadvantaged. Students who were not disabled scored higher than those with a disability. Students who spoke English scored higher than those students with limited English proficiency. Schools in Cohort 1 scored higher than schools in Cohort 2 on ISF MOY. Schools in Cohort 2 scored higher than schools in Cohort 1 on ISF BOY. See Appendix F for individual school analyses.

Figure 7
Kindergarten Proficiency



Kindergarten Letter Naming Fluency (LNF)

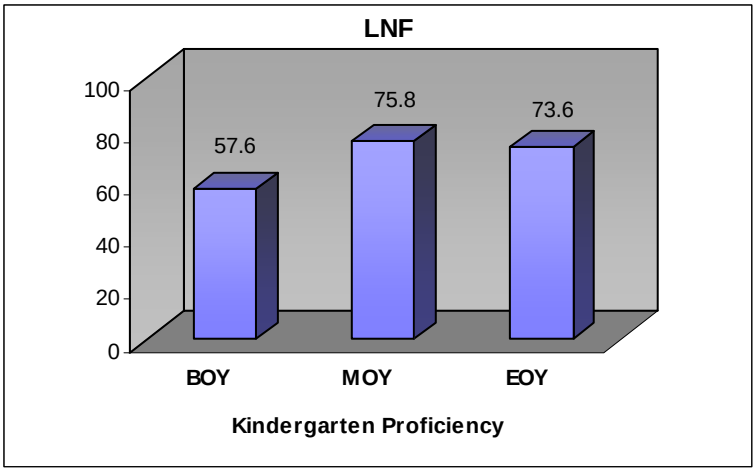
Reading Construct**.** Students are presented with a page of upper- and lower-case letters arranged in a random order and are asked to name as many letters as they can.

Benchmark Goal. A benchmark goal is not provided for LNF because it does not correspond to a "big idea" of early literacy skills (phonological awareness, alphabetic principle, and accuracy and fluency with connected text) and does not appear to be essential to achieve reading outcomes. However, students in the lowest 20 percent of a school district using local norms should be considered at risk for poor reading outcomes, and those between the 20th percentile and 40th percentile should be considered at some risk (Good & Kaminski, 2002).

Performance Outcomes. Approximately three-fourths (73.6%) of Kindergarten students in Reading First classrooms could name a minimum of 40 letters by the end of the Kindergarten year. This is a large increase from the beginning of the year (57.6%) and a slight decrease from the middle of the year (75.8%). Students made significant progress between beginning of year and end of year measures across all demographic classifications of children.

Kindergarten LNF Demographic Differences. Females scored higher than males. For LNF BOY, Asians scored significantly higher than Hispanic students; Black students scored higher than Hispanics, Whites, and Other students; Hispanics scored significantly lower than all Students of Other Ethnic Backgrounds; and Whites scored higher than Hispanics and lower than Asians, Blacks, and Students of Other Ethnic Backgrounds. For LNF MOY, Asians scored higher than Hispanics; Blacks scored higher than Hispanics but lower than Whites; Hispanics scored lower than all Students of Other Ethnic Backgrounds; and Whites scored better than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. For LNF EOY, Asians scored higher than Hispanics; Blacks scored higher than Hispanics and Students of Other Ethnic Backgrounds; Hispanics scored lower than all Students of Other Ethnic Backgrounds; and Whites scored higher than Hispanics and Students of Other Ethnic Backgrounds. Students who were eligible for Special Education scored lower than students who were not. Students who were economically advantaged scored higher than those who were economically disadvantaged. Students who were not disabled scored higher than those with a disability. Students who spoke English scored higher than those students who spoke English as a second language. Schools in Cohort 2 scored higher than schools in Cohort 1 on LNF BOY, but Cohort 1 outperformed Cohort 2 on ISF MOY. See Appendix F for individual school analyses.

Figure 8



Kindergarten Phoneme Segmentation Fluency (PSF)

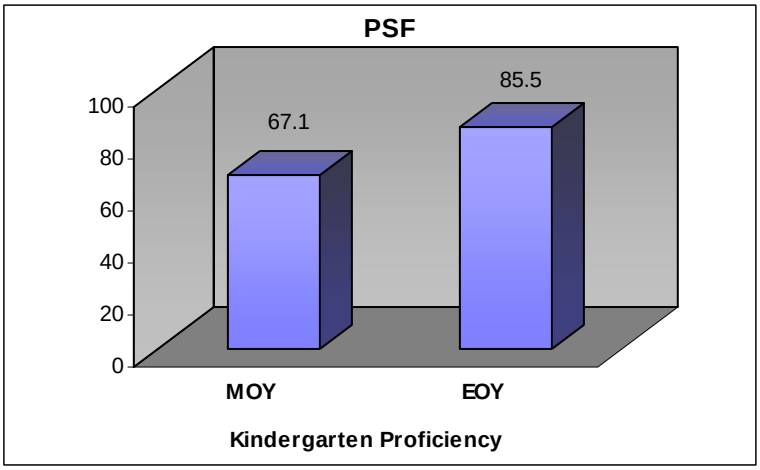
Reading Construct. A phoneme is the smallest contrastive unit in the sound system of a language. Phonemic awareness is the ability to hear and manipulate sounds in words. Phoneme segmentation is the ability to segment three- and four-phoneme words into their individual phonemes fluently. For example, children break a word into its separate sounds, saying each sound as they tap out or count it. The PSF measure has been found to be a good predictor of later reading achievement (Kaminski & Good, 1996).

Benchmark Goal. PSF is administered for the first time at the middle of the year (MOY) with a benchmark set at 18 phonemes. The benchmark increases in difficulty by the end of the year (EOY) for the segmentation of at least 35 phonemes.

Performance Outcomes. The percentage of students who met benchmark rose from 67.1% at the middle of the year (MOY) to 85.5% at the end of the year. A total of 4,529 students out of a pool of 5,297 were on track.

Kindergarten PSF Demographic Differences. Females scored higher than males. For PSF MOY, Asians scored lower than Whites and Students of Other Ethnic Backgrounds; Blacks scored lower than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored lower than Whites and Students of Other Ethnic Backgrounds, but higher than Blacks; and Whites scored higher than all Students of Other Ethnic Backgrounds. For PSF EOY, Asians scored lower than Whites; Blacks scored Lower than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored higher than Blacks and lower than Whites; and Whites scored higher than all Students of Other Ethnic Backgrounds. Students who were eligible for Special Education scored lower than students who were not. Students economically advantaged scored higher than those who were economically disadvantaged. Students who were not disabled scored higher than those with a disability. There were no language differences for PSF. Schools in Cohort 1 scored higher than schools in Cohort 2. See Appendix F for individual school analyses.

Figure 9



Kindergarten Nonsense Word Fluency (NWF)

Reading Construct. NWF is a measure that assesses alphabetic principle skills. The alphabetic principle is composed of two parts:

- Alphabetic Understanding: Words are composed of letters that represent sounds
- Phonological Recoding: Using systematic relationships between letters and phonemes (letter-sound correspondence) to retrieve the pronunciation of an unknown printed string or to spell words.

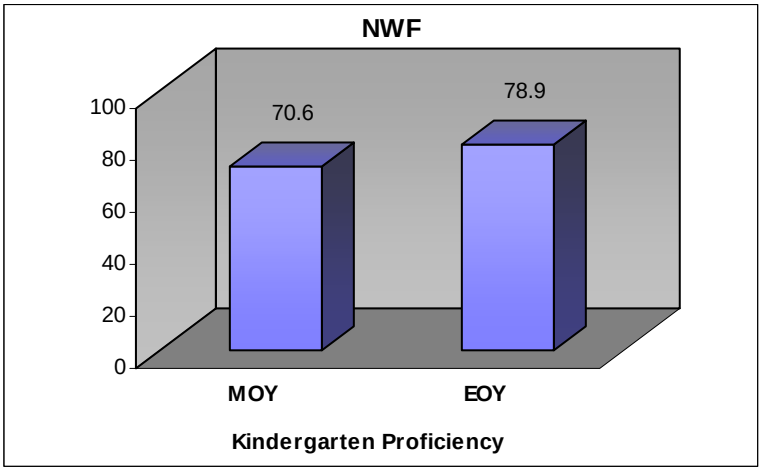
Benchmark Goal. NWF is first administered as a middle of year (MOY) benchmark that is set at decoding 13 nonsense words. End of year (EOY) benchmark is the ability to decode 25 nonsense words accurately and rapidly within one minute.

Performance Outcomes. The majority (70.6%) of students were assessed as low risk at the first benchmark (MOY). The percentage of students at low risk rose to 78.9% by EOY.

Kindergarten NWF Demographic Differences. Females scored higher than males. For NWF MOY, Asians scored lower than Blacks, Whites, and Students of Other Ethnic Backgrounds; Blacks scored higher than Hispanics, but lower than Whites and Students of Other Ethnic Backgrounds; Hispanics scored lower than Blacks, Whites, and Students of Other Ethnic Backgrounds; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. For NWF EOY, Asians scored better than Blacks, Hispanics, and Students of Other Ethnic Backgrounds; Blacks scored lower than Asians and Whites but better than Hispanics; Hispanics scored lower than all Students of Other Ethnic Backgrounds; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. Students who were eligible for Special Education scored lower than students who were not. Students not economically disadvantaged scored higher than those with economic disadvantage status. Students who were not disabled scored higher than those with a disability. Students who spoke English scored higher than those students with limited English proficiency on NWF MOY but not NWF

EOY. Schools in Cohort 1 scored higher than schools in Cohort 2. See Appendix F for individual school analyses.

Figure 10



Student Outcomes First Grade

DIBELS uses three indicators to measure First Grade predictive benchmarks: Phoneme Segmentation Fluency, Nonsense Word Fluency, and Oral Reading Fluency.

First Grade Phoneme Segmentation Fluency (PSF)

Reading Construct. A phoneme is the smallest contrastive unit in the sound system of a language. Phonemic awareness is the ability to hear and manipulate sounds in words. Phoneme segmentation fluency is the ability to segment a spoken word of two to five phonemes into the individual sounds.

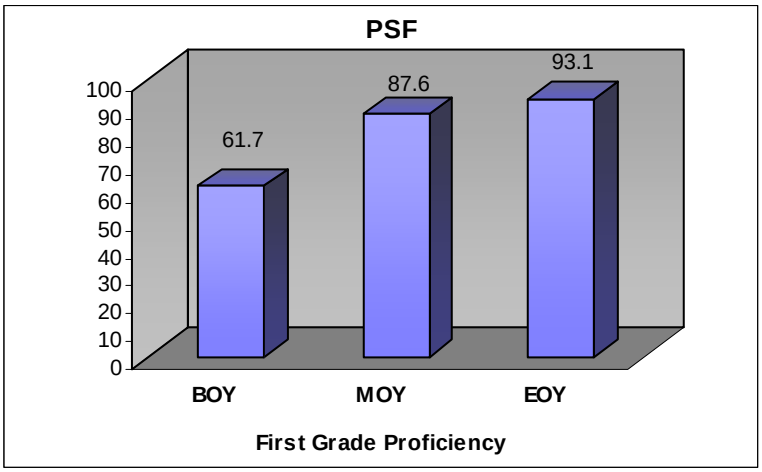
Benchmark Goal. First grade PSF benchmark is 35 phonemes for each of three benchmarks during the year.

Performance Outcomes. The percentage of students who were at benchmark rose steadily from 61.7% at the beginning of the year (BOY), to 87.6% at the middle of the year (MOY), and to 93.1% at the end of the year (EOY). This means that there was an increase in proficiency of 31.4% over time and that by the end of the year only 6.9% of first graders were not at benchmark.

First Grade PSF Demographic Differences. Females scored higher than males. For PSF BOY, Asians scored lower than Whites and Students of Other Ethnic Backgrounds; Blacks scored lower than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored higher than Blacks, but lower than Whites and Students of Other Ethnic Backgrounds; and Whites scored higher than Asians, Blacks, and Hispanics. For PSF MOY, Asians scored lower than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Blacks scored lower than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored higher than Blacks and lower than Whites; and Whites scored higher than all Students of Other Ethnic Backgrounds. For PSF EOY, Blacks

scored lower than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored higher than Blacks; and Whites scored higher than Blacks. Students who were eligible for Special Education scored lower than students who were not. Students who were economically advantaged scored higher than those who were economically disadvantaged. Students who were not disabled scored higher than those with a disability. There were no language differences for PSF. Schools in Cohort 1 scored higher than schools in Cohort 2. See Appendix F for individual school analyses.

Figure 11



First Grade Nonsense Word Fluency (NWF)

Reading Construct. NWF is a measure that assesses alphabetic principle skills. The alphabetic principle is composed of two parts:

- Alphabetic Understanding: Words are composed of letters that represent sounds.
- Phonological Recoding: Using systematic relationships between letters and phonemes (letter-sound correspondence) to retrieve the pronunciation of an unknown printed string or to spell words.

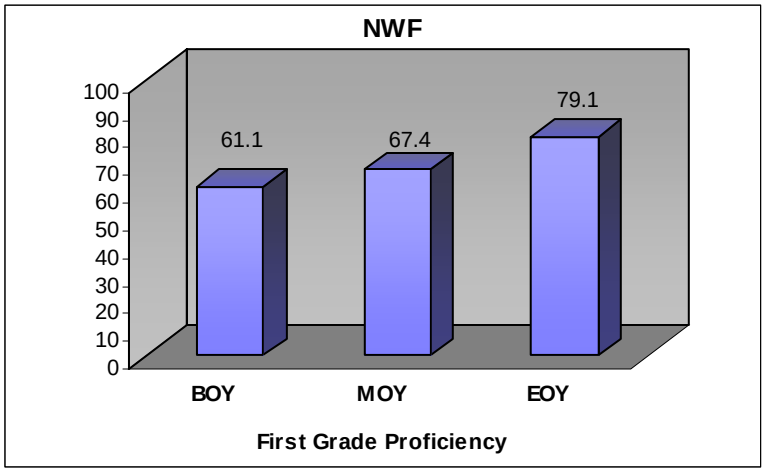
Benchmark Goal. End of year (EOY) benchmark is to decode 50 nonsense words in one minute that indicates an established skill.

Performance Outcomes. The majority (61.1%) of students were assessed as established at the first benchmark (BOY). The percentage of students' proficient steadily increased from 67.4% at MOY to 79.1% by EOY.

First Grade NWF Demographic Differences. Females scored higher than males. For NWF BOY, Asians scored higher than Hispanics; Blacks scored higher than Hispanics and lower than Whites and Students of Other Ethnic Backgrounds; Hispanics scored lower than all Students of Other Ethnic Backgrounds; and Whites scored higher than Blacks and Hispanics. For NWF MOY, Blacks scored lower than Whites and Students of Other Ethnic Backgrounds; Hispanics scored lower than Whites and Students of Other Ethnic Backgrounds; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. For NWF EOY, Blacks scored lower than Whites and Students of Other Ethnic Backgrounds; Hispanics scored lower than Whites and Students

of Other Ethnic Backgrounds; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. Students who were eligible for Special Education scored lower than students who were not. Students who were economically advantaged scored higher than those who were economically disadvantaged. Students who were not disabled scored higher than those with a disability. Students who spoke English scored higher than those students with limited English proficiency on NWF EOY. Schools in Cohort 1 scored higher than schools in Cohort 2. See Appendix F for individual school analyses.

Figure 12



First Grade Oral Reading Fluency (ORF)

Reading Construct. Fluency is the ability to read a text accurately and quickly. Fluent readers read aloud effortlessly and with expression. Their reading sounds natural, as if they are speaking. Readers who have not yet developed fluency read slowly, word by word. Their oral reading is choppy and plodding.

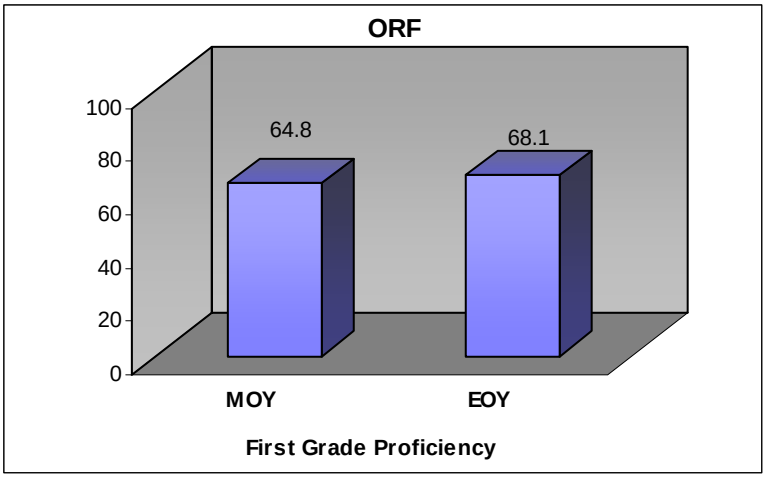
Benchmark Goal. ORF Benchmarks become increasingly difficult at each subsequent benchmark. The middle of year (MOY) benchmark is 20 words per minute. By the end of year (EOY) benchmark students can read accurately 40 words per minute.

Performance Outcomes. At the Middle of Year (MOY) benchmark (first use of ORF), 64.8% of students were proficient. By the end of the year, a total of 68.1% (3,670) students were proficient.

First Grade ORF Demographic Differences. Females scored higher than males. For ORF MOY, Blacks scored higher than Hispanics, but lower than Whites and Students of Other Ethnic Backgrounds; Hispanics scored lower than Blacks, Whites, and Students of Other Ethnic Backgrounds; Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. For ORF EOY, Blacks scored lower than Whites and Students of Other Ethnic Backgrounds; Hispanics scored lower than Whites and Students of Other Ethnic Backgrounds; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. Students who were eligible for Special Education scored

lower than students who were not. Students who were economically advantaged scored higher than those who were economically disadvantaged. Students who were not disabled scored higher than those with a disability. Students who spoke English scored higher than those students with limited English proficiency on ORF MOY and EOY. Schools in Cohort 1 scored higher than schools in Cohort 2. See Appendix F for individual school analyses.

Figure 13



Second Grade Student Performance Outcomes

Oral Reading Fluency is the indicator used to measure fluency and accuracy in reading grade-level passages aloud.

Second Grade Oral Reading Fluency (ORF)

Reading Construct. Fluency is the ability to read a text accurately and quickly. Fluent readers read aloud effortlessly and with expression. Their reading sounds natural, as if they are speaking. Readers who have not yet developed fluency read slowly, word by word. Their oral reading is choppy and plodding.

Benchmark Goal. ORF benchmarks become increasingly difficult at each subsequent benchmark. At the beginning of second grade, the ORF benchmark is set at the accurate reading of 44 words per minute. Middle of year (MOY) benchmark is 68 words per minute. Second grade end of year (EOY) benchmark is to read accurately 90 words per minute.

Performance Outcomes. At the beginning of the year (BOY) roughly half (49.7%) of the second grade students met the benchmark of reading accurately 44 words per minute. Middle of year (MOY) benchmark (68 words) was achieved by 64.9% of students. While by the end of the year the majority of second graders were on track for benchmark this number is slightly lower than those on track at middle of year benchmark.
That is, on the EOY benchmark (90 words) only 62% of students were proficient. The decrease from MOY to EOY is a result of the increasing benchmark (44 words at BOY, 68 words at MOY, and 90 words at EOY).

Second Grade ORF Demographic Differences. Females scored higher than males. For ORF BOY, Blacks scored higher than Hispanics but lower than Whites; Hispanics scored lower than Blacks and Whites; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. For ORF MOY, Blacks scored lower than Whites, Hispanics scored lower than Whites; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. For ORF EOY, Asians scored higher than Hispanics and Students of Other Ethnic Backgrounds; Blacks scored lower than Whites and Students of Other Ethnic Backgrounds; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. Students who were not economically disadvantaged scored higher than those who were economically disadvantaged. Students who were eligible for Special Education scored lower than students who were not. Students who were economically advantaged scored higher than those who were economically disadvantaged. Students who were not disabled scored higher than those with a disability. Students who were proficient in English scored higher than those who had limited English proficiency. Schools in Cohort 1 scored higher than schools in Cohort 2. See Appendix F for individual school analyses.

Third Grade Student Performance Outcomes

Oral Reading Fluency is the indicator used to measure fluency and accuracy in reading grade-level passages aloud.

Third Grade Oral Reading Fluency (ORF)

Reading Construct. Fluency is the ability to read a text accurately and quickly. Fluent readers read aloud effortlessly and with expression. Their reading sounds natural, as if they are speaking. Readers who have not yet developed fluency read slowly, word by word. Their oral reading is choppy and plodding.

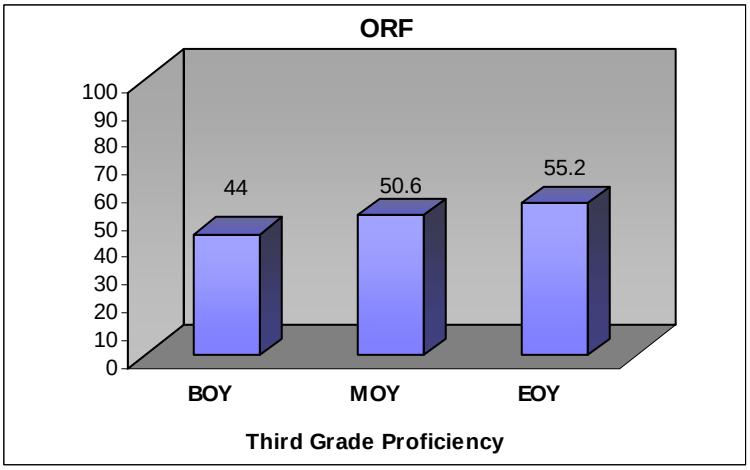
Benchmark Goal. ORF benchmarks become increasingly difficult at each subsequent benchmark. The beginning of year (BOY) benchmark is set at 77 words per minute. While this is less than the second grade end of year (EOY) benchmark of 90 words per minute it allows for over the summer regression in skills and students new to the assessment tool. Middle of year benchmark (MOY) is 92 words per minute. Third grade end of year (EOY) benchmark is to read accurately 110 words per minute.

Performance Outcomes. At the beginning of the year (BOY), 44% of third graders met the benchmark. At MOY, benchmark was achieved by 50.6% of students. The rate increases slightly through the end of year (EOY) when 55.2% of students met benchmark (110 words per minute).

Third Grade ORF Demographic Differences. For 3rd grade students, females scored higher than males. For ORF BOY, Asians scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds; Blacks scored lower than Asians and Whites; Hispanics scored lower than Asians and Whites; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. For ORF MOY, Asians scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. Blacks scored

lower than Asians and Whites; Hispanics scored lower than Asians and Whites; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. For ORF EOY, Asians scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds; Blacks scored lower than Asians, Hispanics, and Whites; Hispanics scored lower than all Students of Other Ethnic Backgrounds; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds. Students who were eligible for Special Education scored lower than those who were not. Those students who were economically advantaged scored higher than those who were economically disadvantaged. Students who were not disabled scored higher than those with a disability. There were no significant differences based on English proficiency. Schools in Cohort 1 scored higher than schools in Cohort 2. See Appendix __ for individual school analyses.

Figure 14



DIBELS Results by Demographic Factors

The following sections analyze the *DIBELS* data by gender, race, cohort, special education eligibility, migrant status, English Language Learner status, disability, and poverty.

Overall DIBELS Proficiency by Gender

Through conversations in the field, two questions have frequently arisen. Additional analysis has been conducted to illuminate those issues and to provide a more longitudinal perspective. The questions addressed by these two analyses are a) What is happening with the boys; are we using effective instructional strategies for them? b) How does cohort and consequently longevity in Reading First impact results?

When the percentage of males and females scoring proficient on each subtest is analyzed for differences, the difference between genders is found to be statistically significant for all of the subscales except for Nonsense Word Fluency BOY. In every subscale at every data point, females scored higher than males. A look at gender differences for multiple measurement points helps us understand the patterns of learning and interpret our effectiveness with different subpopulations.

Table 32

***DIBELS* Mean Scores by Gender**

	Sample	Male	Female	F-test Significance
ISF BOY	3,907	11.22	12.82	19.094***
LNF BOY	8,187	27.51	30.21	35.603***
PS BOY	4,280	35.07	37.27	21.761***
NWF BOY	8,789	44.57	45.24	1.213
ORF BOY	8,998	57.38	65.01	121.373***
ISF MOY	4,102	32.23	34.72	18.428***
LNF MOY	4,102	366.33	39.50	37.983***
PS MOY	8,557	37.44	40.04	39.061***
NWF MOY	8,545	41.98	44.11	11.120**
ORF MOY	13,704	66.70	73.64	94.592***
LNF EOY	4,220	47.31	51.03	51.366***
PS EOY	8,783	49.07	51.79	79.694***
NWF EOY	8,783	55.28	57.97	16.455***
ORF EOY	14,001	84.85	92.51	118.799***

*p < .05, **p < .01, ***p < .001

***Overall DIBELS* Proficiency by Race**

For ISF BOY, Black students scored higher than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored lower than Blacks, Whites, and Students of Other Ethnic Backgrounds; and Whites scored lower than Black students but higher than Hispanic students.

For LNF BOY, Asians scored higher than Hispanics and Students of Other Ethnic Backgrounds; Blacks scored higher than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored lower than all Students of Other Ethnic Backgrounds; and Whites scored lower than Blacks but higher than Hispanics and Students of Other Ethnic Backgrounds.

For PSF BOY, Asians scored lower than Whites and Students of Other Ethnic Backgrounds; Black students scored lower than Hispanics, Whites, and Students of Other

Ethnic Backgrounds; Hispanics scored higher than Black students but lower than Whites and Students of Other Ethnic Backgrounds; and Whites scored higher than Asians, Blacks, and Hispanics.

For NWF BOY, Blacks scored lower than Whites, Hispanics scored lower than Whites, and Whites scored higher than Blacks and Hispanics.

For ORF BOY, Asians scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds; Blacks scored lower than Asians and Whites; Hispanics scored lower than all Students of Other Ethnic Backgrounds; and Whites scored higher than Black, Hispanic, and Other race students.

For ISF MOY, Black students scored higher than Hispanic, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored lower than Black, White, and Students of Other Ethnic Backgrounds; Whites scored higher than Hispanics and Students of Other Ethnic Backgrounds, but lower than Black students.

For LNF MOY, Asians scored higher than Hispanic students; Blacks scored higher than Hispanics but lower than Whites; Hispanics scored lower than all Students of Other Ethnic Backgrounds; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds.

For PSF MOY, Asians scored lower than Whites and Students of Other Ethnic Backgrounds; Blacks scored lower than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored higher than Black students but lower than Whites and Students of Other Ethnic Backgrounds; Whites scored higher than all Students of Other Ethnic Backgrounds.

For NWF MOY, Black students scored lower than White students, Hispanics scored lower than Whites, and Whites scored higher than Black, Hispanic, and Other race students.

For ORF MOY, Asians scored higher than Hispanics and Students of Other Ethnic Backgrounds; Blacks scored higher than Hispanics and Students of Other Ethnic Backgrounds, but lower than White students; Hispanics scored lower than Asians, Blacks, Whites, but higher than Students of Other Ethnic Backgrounds; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds.

For LNF EOY, Asians scored higher than Hispanic students; Blacks scored higher than Hispanic and Students of Other Ethnic Backgrounds; Hispanics scored lower than all Students of Other Ethnic Backgrounds; Whites scored higher than Hispanics and Students of Other Ethnic Backgrounds.

For PSF EOY, Asians scored lower than Whites; Blacks scored lower than Hispanics, Whites, and Students of Other Ethnic Backgrounds; Hispanics scored higher than Blacks and lower than Whites; and Whites scored higher than all Students of Other Ethnic Backgrounds.

For NWF EOY, Blacks scored lower than Whites, Hispanics scored lower than Whites, and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds.

For ORF EOY, Asians scored higher than Blacks, Hispanic, and Students of Other Ethnic Backgrounds; Black students scored lower than Asians and Whites, but higher than Students of Other Ethnic Backgrounds; Hispanics scored lower than Asians and Whites, but higher than Students of Other Ethnic Backgrounds; and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds.

Table 33

***DIBELS* Mean Scores by Race**

	Sample	Asians	Blacks	Hispanics	Whites	Other
ISF BOY	4,889	9.65	13.21	7.93	11.93	12.20
LNF BOY	9,856	31.15	30.47	22.56	28.70	26.04
PSF BOY	4,965	31.62	31.22	35.40	39.70	38.94
NWF BOY	9,752	43.14	39.29	39.77	49.27	37.93
ORF BOY	9,581	66.76	55.32	54.30	65.30	55.44
ISF MOY	5,147	31.46	35.00	26.85	33.48	31.95
LNF MOY	5,148	38.68	37.71	31.99	38.95	36.90
PSF MOY	10,365	34.00	34.08	36.87	42.37	38.65
NWF MOY	10,346	41.23	39.76	38.09	46.18	40.17
ORF MOY	15,186	70.08	63.44	59.69	75.86	55.34
LNF EOY	5,301	53.05	49.69	44.33	49.50	47.62
PSF EOY	10,697	48.01	47.48	50.33	52.52	49.96
NWF EOY	10,695	58.42	53.34	51.98	59.67	53.69
ORF EOY	15,649	92.76	82.21	80.81	93.76	74.85

*p < .05, **p < .01, ***p < .001

Overall *DIBELS* Proficiency by Cohort

Cohort is determined by the school year in which the Reading First Grant is awarded. Cohort 1 was awarded grants in 2004-2005. Data for this cohort has been collected for

three years, 2004-2005, 2005-2006, and 2006-2007. Cohort 2 was awarded grants in 2005-2006 and has data collected for two school years.

When the percentage of students scoring proficient on each subtest is analyzed for differences by cohort, that difference was found to be statistically significant for eleven subscale/data points. See Table 34. In only one subscale/data point (ISF BOY) Cohort 2 outperformed Cohort 1 (a significant difference). See Figure 34.

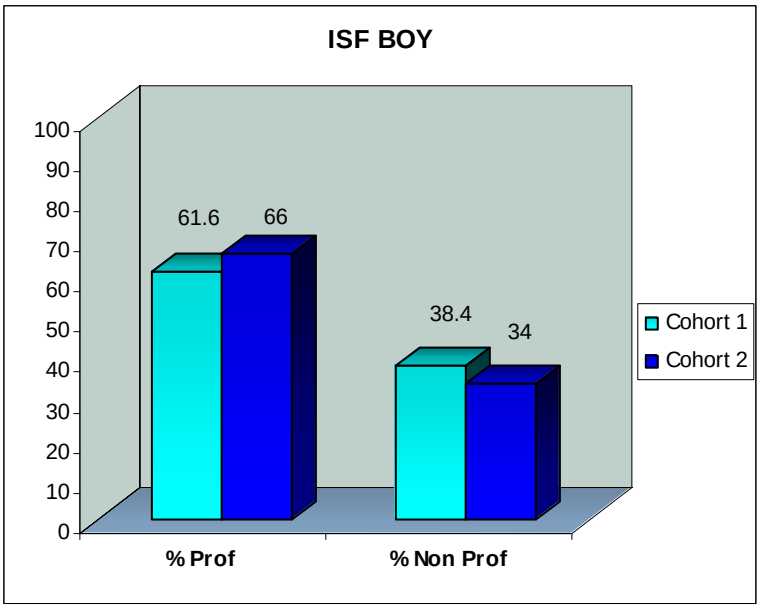
Table 34
***DIBELS* Mean Scores by Cohort Status**

	Sample	Cohort 1	Cohort 2	F-test Significance
ISF BOY	4,889	11.54	13.55	30.937***
LNF BOY	9,856	28.13	29.03	3.639
PS BOY	4,965	38.43	31.04	223.625***
NWF BOY	9,752	46.13	38.66	132.540***
ORF BOY	9,581	63.02	54.14	133.970***
ISF MOY	5,147	33.43	32.24	4.192*
LNF MOY	5,148	37.49	38.19	1.740
PS MOY	10,365	40.27	34.12	203.968***
NWF MOY	10,346	44.10	37.91	86.543***
ORF MOY	15,186	71.01	61.92	137.176***
LNF EOY	5,301	48.76	49.03	.256
PS EOY	10,697	51.42	47.10	185.714***
NWF EOY	10,695	57.08	53.20	31.499***
ORF EOY	15,649	89.23	81.21	111.499***

*p < .05, **p < .01, ***p < .001

Figure 15

Kindergarten Proficiency in Initial Sound Fluency (BOY), Cohort Differences



Overall *DIBELS* Proficiency by Special Education Eligibility

When the percentage of students scoring proficient on each subtest is analyzed for differences by whether or not the student is eligible for Special Education, that difference was found to be statistically significant for thirteen subscale/data points. In every subscale students who were eligible for special education scored lower than students who were not eligible. See Table 35.

Table 35

***DIBELS* Mean Scores by Special Education Eligibility**

	Sample	Yes	No	F-test Significance
ISF BOY	2,199	10.27	12.13	3.402
LNF BOY	4,332	23.90	28.19	15.914***
PS BOY	2,135	28.78	36.83	52.924***
NWF BOY	3,976	33.56	43.16	51.999***
ORF BOY	3,804	40.72	61.63	202.615***
ISF MOY	2,335	26.72	33.48	24.374***
LNF MOY	2,334	29.84	38.46	47.790***
PS MOY	4,577	32.01	38.61	43.832***
NWF MOY	4,570	34.71	42.37	24.733***
ORF MOY	6,211	49.64	68.64	145.894***
LNF EOY	2,406	40.32	49.67	55.099***
PS EOY	4,720	42.89	51.17	130.536***
NWF EOY	4,720	47.51	56.95	33.905***
ORF EOY	6,425	65.21	87.13	199.846***

*p < .05, **p < .01, ***p < .001

Overall *DIBELS* Proficiency by Migrant Status

Five of the fourteen subscale/data points were significantly different by Migrant Status. For Oral Reading Fluency (ORF) BOY, MOY, and EOY students who were categorized as migrants scored lower than students who were not migrants. For Phoneme Segmentation Fluency (PSF) EOY and Nonsense Word Fluency (NWF) EOY students who were migrants scored significantly higher than students who did not have a migrant status.

Table 36

***DIBELS* Mean Scores by Migrant Status**

	Sample	Yes	No	F-test Significance
ISF BOY	1,437	10.04	11.18	.211
LNF BOY	3,033	27.59	27.52	.001
PSF BOY	1,599	36.97	35.60	.245
NWF BOY	4,160	44.25	49.18	1.799
ORF BOY	5,158	49.48	62.00	8.613**
ISF MOY	1,528	29.96	33.10	.880
LNF MOY	1,528	39.25	37.05	.468
PSF MOY	3,215	41.92	38.90	1.462
NWF MOY	3,209	44.48	42.73	.202
ORF MOY	6,987	58.94	75.24	14.499***
LNF EOY	1,581	49.93	47.78	.442
PSF EOY	3,330	54.94	50.69	5.477*
NWF EOY	3,330	66.86	57.04	5.808*
ORF EOY	7,159	80.86	92.79	8.122**

*p < .05, **p < .01, ***p < .001

Overall *DIBELS* Proficiency by English Language Learner Status

Ten of the fourteen subscale/data points were significantly different by English Language Learner status. Students with limited English proficiency scored significantly lower than students who spoke English on ISF BOY, LNF BOY, ORF BOY, ISF MOY, LNF MOY, NWF MOY, ORF MOY, LNF EOY, NWF EOY, and ORF EOY.

Table 37

***DIBELS* Mean Scores by English Language Learner Status**

	Sample	Yes	No	F-test Significance
ISF BOY	1,156	7.36	11.79	17.52***
LNF BOY	2,363	23.42	27.47	11.831**
PSF BOY	1,210	34.94	34.08	.418
NWF BOY	2,235	38.09	40.63	2.209
ORF BOY	2,080	49.74	56.69	9.740**
ISF MOY	1,221	26.47	34.30	33.088***
LNF MOY	1,221	33.28	36.90	7.848**
PSF MOY	2,503	36.84	37.66	.560
NWF MOY	2,498	36.98	41.02	5.920*
ORF MOY	3,471	53.52	63.92	24.658***
LNF EOY	1,268	43.34	48.50	15.609***
PSF EOY	2,597	50.21	49.94	.111
NWF EOY	2,597	51.96	56.09	5.814*
ORF EOY	3,619	73.53	81.94	16.065***

*p < .05, **p < .01, ***p < .001

Overall *DIBELS* Proficiency by Disability Status

Every subscale except for Letter Naming Fluency (LNF) BOY had mean scores that were significantly different by Disability status. That is, students with a disability tended to score significantly lower on the *DIBELS* than students without a disability.

Table 38

***DIBELS* Mean Scores by Disability Status**

	Sample	Yes	No	F-test Significance
ISF BOY	1,691	9.51	11.95	4.614*
LNF BOY	3,524	26.24	27.60	1.664
PSF BOY	1,836	30.11	36.39	34.726***
NWF BOY	4,667	38.37	50.06	81.590***
ORF BOY	5,832	48.68	64.01	147.642***
ISF MOY	1,797	27.77	33.90	16.258***
LNF MOY	1,796	30.59	38.05	31.019***
PSF MOY	3,718	33.40	39.43	36.702***
NWF MOY	3,712	37.70	43.24	12.818***
ORF MOY	7,900	59.01	77.30	175.478***
LNF EOY	1,853	40.43	49.26	43.579***
PSF EOY	3,846	43.30	51.65	130.057***
NWF EOY	3,846	49.27	57.81	27.740***
ORF EOY	8,087	75.88	94.73	190.542***

*p < .05, **p < .01, ***p < .001

Overall *DIBELS* Proficiency by Poverty

Every subscale except for Letter Naming Fluency (LNF) BOY, Nonsense Word Fluency (NWF) BOY, and Initial Sound Fluency (ISF) MOY had mean scores that were significantly different by Poverty status. That is, students who were economically disadvantaged tended to score significantly lower on the *DIBELS* than students who were economically advantaged.

Table 39

***DIBELS* Mean Scores by Poverty**

	Sample	Yes	No	F-test Significance
ISF BOY	4,889	11.67	12.33	4.197*
LNF BOY	9,856	28.15	28.52	.791
PSF BOY	4,965	35.71	37.27	12.678***
NWF BOY	9,752	43.75	44.72	2.906
ORF BOY	9,581	57.76	64.53	99.779***
ISF MOY	5,147	32.66	33.48	2.581
LNF MOY	5,148	36.90	38.25	8.353**
PSF MOY	10,365	37.59	39.59	27.613***
NWF MOY	10,345	41.29	43.51	14.370***
ORF MOY	15,186	67.18	70.33	21.433***
LNF EOY	5,301	48.24	49.28	4.833*
PSF EOY	10,697	49.89	50.64	7.156**
NWF EOY	10,695	54.30	57.51	27.893***
ORF EOY	15,649	85.63	88.80	22.431***

*p < .05, **p < .01, ***p < .001

Statewide Achievement on *DIBELS* at the End of the Year

Table 40

Initial Sounds Fluency (ISF) Percent Proficient
End of Year 2007
All Assessed Students in Reading First Schools

Kindergarten	Grade 1	Grade 2	Grade 3	All
na	na	na	na	na

*ISF is not assessed at end of year.

Table 41
Letter Naming Fluency (LNF) Percent Proficient
End of Year 2007
All Assessed Students in Reading First Schools

Kindergarten	Grade 1	Grade 2	Grade 3	All
73.64%	* na	na	na	73.64%

* One student was assessed off-schedule and is not reported in this table.

Table 42
Phonemic Segmentation Fluency (PSF) Percent Proficient
End of Year 2007
All Assessed Students in Reading First Schools

Kindergarten	Grade 1	Grade 2	Grade 3	All
85.50%	93.09%	* na	na	89.32%

* One student was assessed off-schedule and is not reported in this table.

Table 43
Nonsense Word Fluency (NWF) Percent Proficient
End of Year 2007
All Assessed Students in Reading First Schools

Kindergarten	Grade 1	Grade 2	Grade 3	All
78.95%	99.98%	* na	na	89.57%

* One student was assessed off-schedule and is not reported in this table.

Table 44
Oral Reading Fluency (ORF) Percent Proficient
End of Year 2007
All Assessed Students in Reading First Schools

Kindergarten	Grade 1	Grade 2	Grade 3	All
* na	68.06%	61.98%	55.23%	61.88%

One student was assessed off-schedule and is not reported in this table.

Between-Year Analysis of *DIBELS*

For between year analyses, 44 school districts with 68 schools have between-year data on the *DIBELS*. The between-year analyses included two parts. The first part described the percentage of students who were proficient at each time of measurement. The second part analyzed the between-year growth trend for students at each grade level. In addition, the covariates (gender, racial background, economic status, disabilities status, and English proficiency status) were included in the analyses to investigate the effects of the Reading First Program on students with different demographic characteristics.

It should be noted that ISF was not included in the analysis since it had no between-year data. Also, *DIBELS* subscales had different numbers of between-year measurement occasions. The implications were that the analyses were done according to the grade level. For example, PSF was analyzed for Kindergarten students only since these students had between-year data (i.e., Kindergarten and when they were in Grade 1), but there were no between-year data for Grade 1 students. The data points when applicable include two years of data (Year 1 and Year 2).

Part One: Trend in Proficiency Level by Grade

For Kindergarten Students:

The following table shows the trend in percentage of proficiency level for Kindergarten students. In the tables, "P" equals Proficient and "NP" indicates Not Proficient.

Table 45

Kindergarten_LNF_BOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		1227	63.3	63.3	63.3
	NP	711	36.7	36.7	100.0
	Total	1938	100.0	100.0	

Table 46

Kindergarten_LNF_EOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		247	12.7	12.7	12.7
	NP	510	26.3	26.3	39.1
	P	1181	60.9	60.9	100.0
	Total	1938	100.0	100.0	

Table 47

First LNF BOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		184	9.5	9.5	9.5
	NP	531	27.4	27.4	36.9
	P	1223	63.1	63.1	100.0
	Total	1938	100.0	100.0	

Table 48

Kindergarten PSF MOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		247	12.7	12.7	12.7
	NP	627	32.4	32.4	45.1
	P	1064	54.9	54.9	100.0
	Total	1938	100.0	100.0	

Table 49

Kindergarten PSF EOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		246	12.7	12.7	12.7
	NP	226	11.7	11.7	24.4
	P	1466	75.6	75.6	100.0
	Total	1938	100.0	100.0	

Table 50

First PSF BOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		184	9.5	9.5	9.5
	NP	510	26.3	26.3	35.8
	P	1244	64.2	64.2	100.0
	Total	1938	100.0	100.0	

Table 51

First PSF MOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		226	11.7	11.7	11.7
	NP	128	6.6	6.6	18.3
	P	1584	81.7	81.7	100.0
	Total	1938	100.0	100.0	

Table 52

First PSF EOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		235	12.1	12.1	12.1
	NP	94	4.9	4.9	17.0
	P	1609	83.0	83.0	100.0
	Total	1938	100.0	100.0	

Table 53

Kindergarten NWF MOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		175	9.0	9.0	9.0
	NP	582	30.0	30.0	39.1
	P	1181	60.9	60.9	100.0
	Total	1938	100.0	100.0	

Table 54

Kindergarten NWF EOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		246	12.7	12.7	12.7
	NP	369	19.0	19.0	31.7
	P	1323	68.3	68.3	100.0
	Total	1938	100.0	100.0	

Table 55

First NWF BOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		173	8.9	8.9	8.9
	NP	533	27.5	27.5	36.4
	P	1232	63.6	63.6	100.0
	Total	1938	100.0	100.0	

Table 56

First NWF MOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		226	11.7	11.7	11.7
	NP	478	24.7	24.7	36.3
	P	1234	63.7	63.7	100.0
	Total	1938	100.0	100.0	

Table 57

First NWF EOY Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		235	12.1	12.1	12.1
	NP	316	16.3	16.3	28.4
	P	1387	71.6	71.6	100.0
	Total	1938	100.0	100.0	

For Grade 1 Students:

The following table shows the trend in percentage of proficiency level for Grade 1 students. In the tables, “P” equals Proficient and “NP” indicates Not Proficient.

Table 58

First_ORF_MOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		416	15.7	15.7	15.7
	NP	1012	38.3	38.3	54.0
	P	1216	46.0	46.0	100.0
	Total	2644	100.0	100.0	

Table 59

First_ORF_EOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		375	14.2	14.2	14.2
	NP	949	35.9	35.9	50.1
	P	1320	49.9	49.9	100.0
	Total	2644	100.0	100.0	

Table 60

Second Grade_ORF_BOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		306	11.6	11.6	11.6
	NP	1121	42.4	42.4	54.0
	P	1217	46.0	46.0	100.0
	Total	2644	100.0	100.0	

Table 61

Second Grade_ORF_MOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		305	11.5	11.5	11.5
	NP	869	32.9	32.9	44.4
	P	1470	55.6	55.6	100.0
	Total	2644	100.0	100.0	

Table 62

Second Grade_ORF_EOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		770	29.1	29.1	29.1
	NP	499	18.9	18.9	48.0
	P	1375	52.0	52.0	100.0
	Total	2644	100.0	100.0	

For Grade 2 Students:

The following table shows the trend in percentage of proficiency level for Grade 2 students. In the tables, “P” equals Proficient and “NP” indicates Not Proficient.

Table 63

Year 1: Second Grade_ORF_BOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		426	17.0	17.0	17.0
	NP	1148	45.8	45.8	62.8
	P	933	37.2	37.2	100.0
	Total	2507	100.0	100.0	

Table 64

Year 1: Second Grade_ORF_EOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		266	10.6	10.6	10.6
	NP	1087	43.4	43.4	54.0
	P	1154	46.0	46.0	100.0
	Total	2507	100.0	100.0	

Table 65

Year 2: Third Grade_ORF_BOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		302	12.0	12.0	12.0
	NP	1160	46.3	46.3	58.3
	P	1045	41.7	41.7	100.0
	Total	2507	100.0	100.0	

Table 66

Year 2: Third Grade_ORF_MOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		326	13.0	13.0	13.0
	NP	1054	42.0	42.0	55.0
	P	1127	45.0	45.0	100.0
	Total	2507	100.0	100.0	

Table 67

Year 2: Third Grade_ORF_EOY_Proficient

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid		943	37.6	37.6	37.6
	NP	349	13.9	13.9	51.5
	P	1215	48.5	48.5	100.0
	Total	2507	100.0	100.0	

The data showed that there was an increase in percentage of proficiency between years across all grade level. There also appeared to be a summer regression effect since the percentage of proficiency at the end of year tended to be a bit higher than at the beginning of the next school year.

Part Two: Analyses of Growth trends with Covariates

The analyses in this part pertain to between-year growth trends for students at each grade level by key demographics. This analysis was made possible by merging two years of data together (Year 1 BOY, MOY, and EOY and Year 2 BOY, MOY and EOY) and tracking student scores over time.

For the LNF variable there are four data points (Kindergarten BOY, MOY, EOY and First Grade BOY). It must be noted that the First Grade LNF BOY is optional, but since data were available, the analysis was completed for students with data on all four measurement occasions. The following five graphs include visual representations for the Kindergarten then First Grade students by race, gender, limited English proficiency, economic disadvantage, and disability over the four data points. For the Race variable: Blank = Not Specified, B = Black, MU = Multiracial, and W = White.

LNF: **Kindergarten students**

Special Note:

Time in the following graphs uses

1 = K-BOY, 2 = K-MOY, 3 = K-EOY, 4 = First-BOY

Figure 16

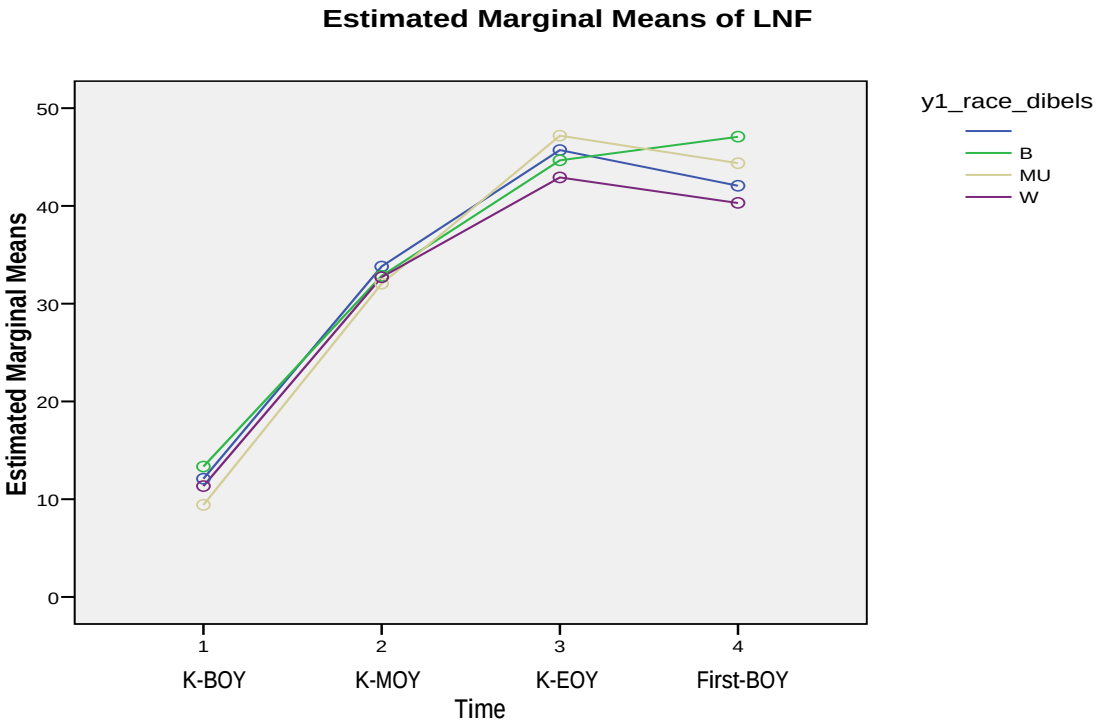


Figure 17

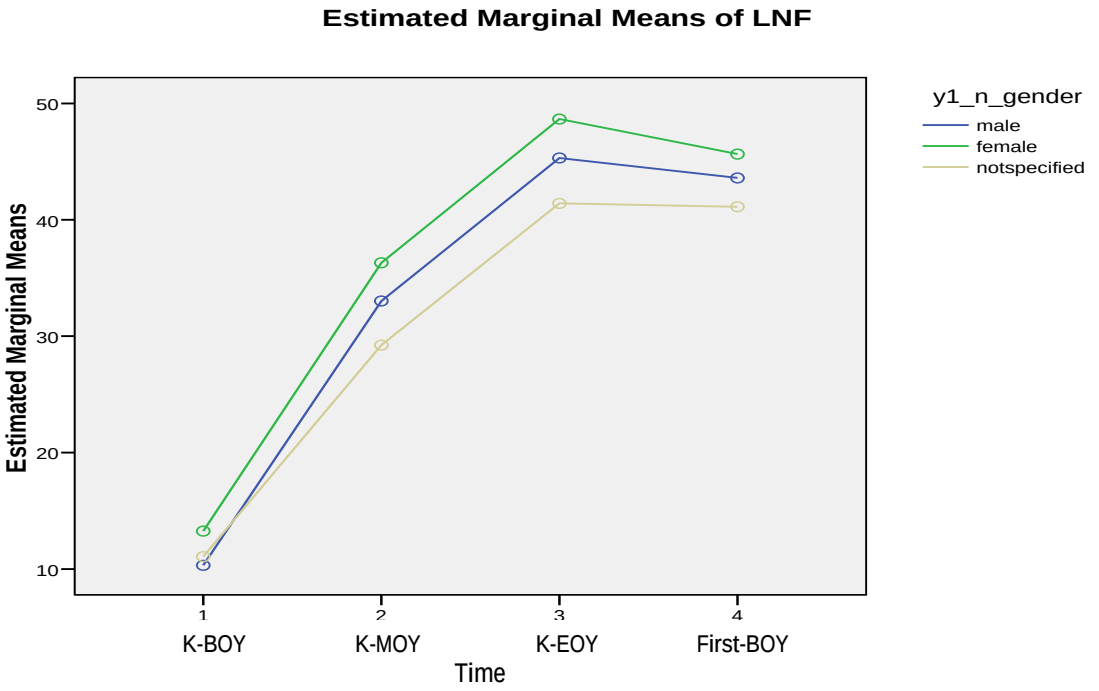


Figure 18

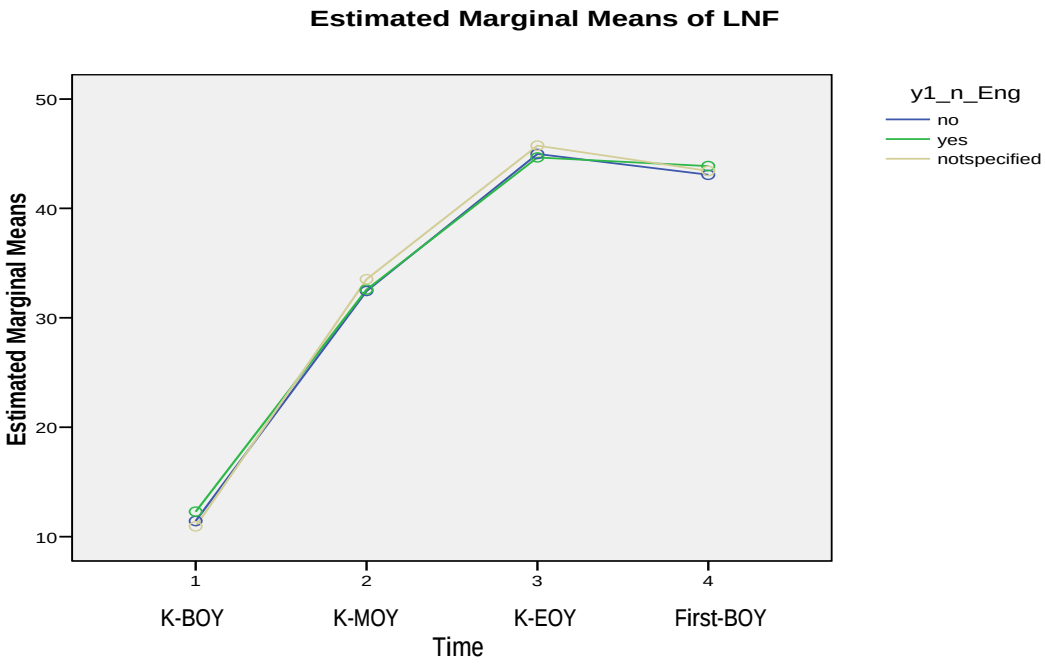


Figure 19

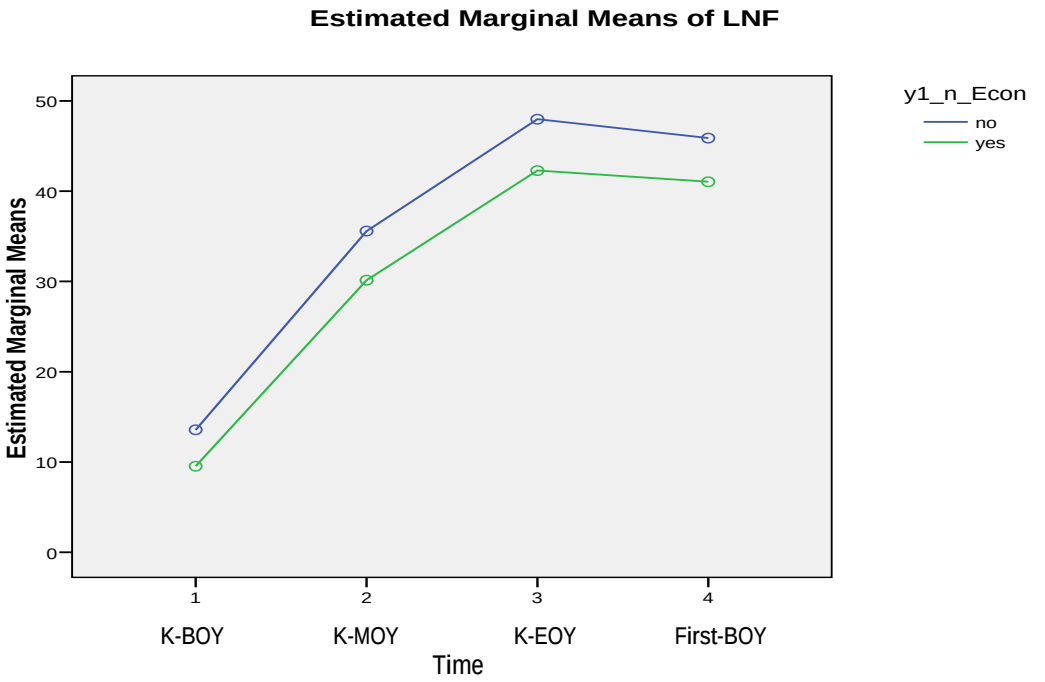
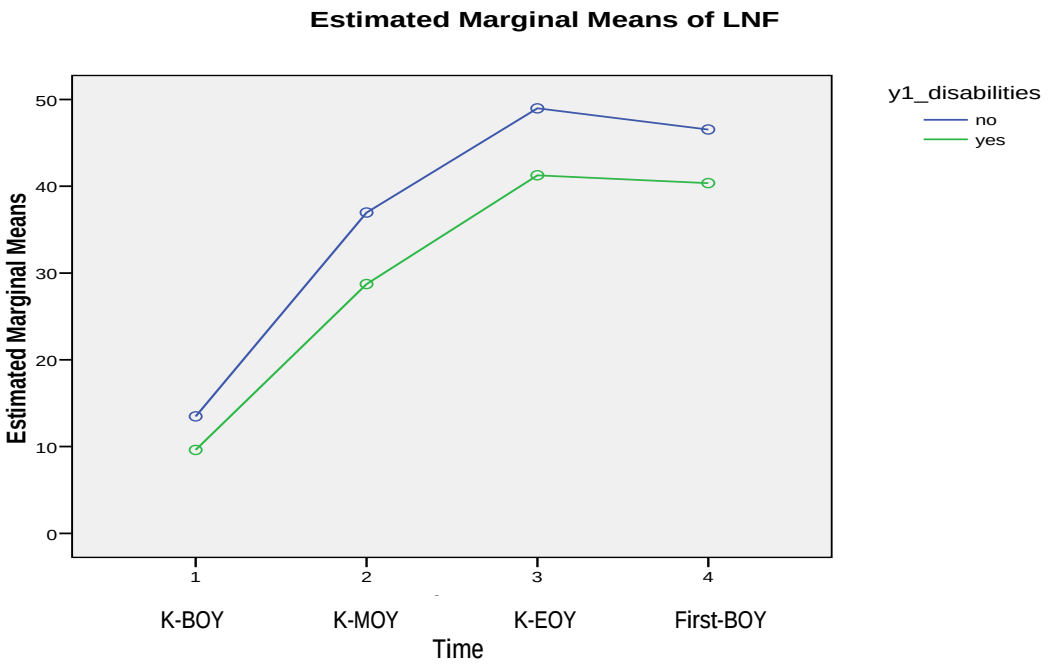


Figure 20



The data indicated that there was an increase in LNF scores for all Kindergarten and First grade students over time. The score tended to decrease at the beginning of the first grade year. This may reflect the summer regression effect. In addition, the data also seemed to indicate that there was an achievement gap that widened over time. Specifically, Black students, females, students who were economically advantaged, and students who were not disabled had higher LNF scores than the rest of the students at the end of the assessment (i.e., at the beginning of first grade).

PSF: Kindergarten Students

For the PSF variable there are five data points (Kindergarten MOY, EOY and First Grade BOY, MOY, and EOY). The following five graphs include visual representations for the Kindergarten then first grade students by race, gender, limited English proficiency, economic disadvantage, and disability over the five data points.

Special Note:

Time in the following graphs uses:

1 = K-MOY, 2 = K-EOY, 3 = First-BOY,

4 = First-MOY, 5 = First-EOY

Figure 21

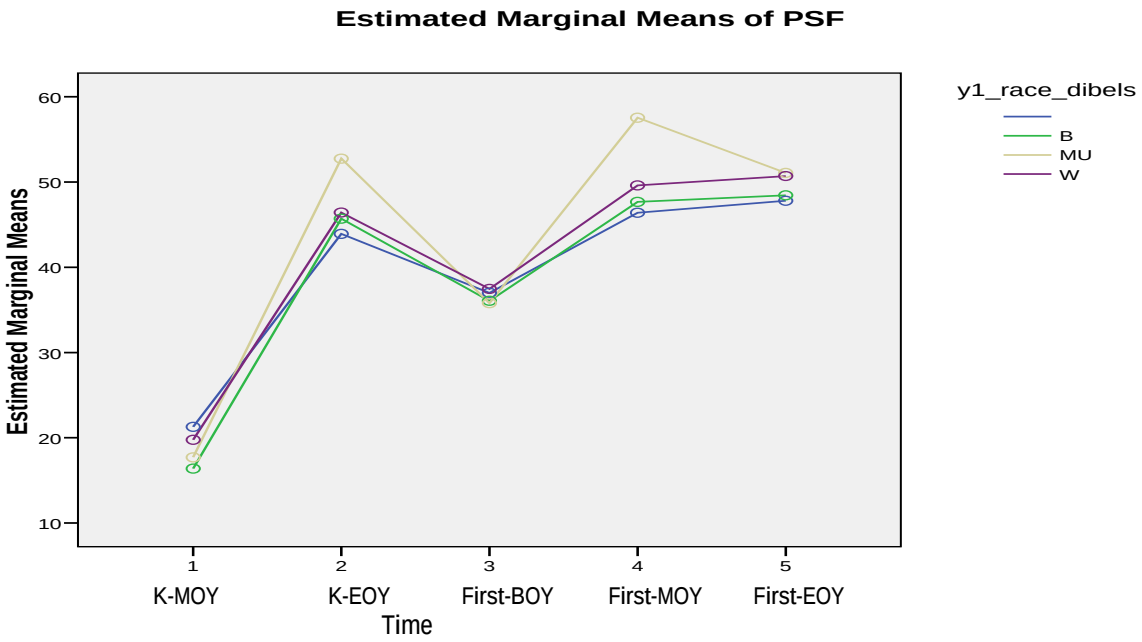


Figure 22

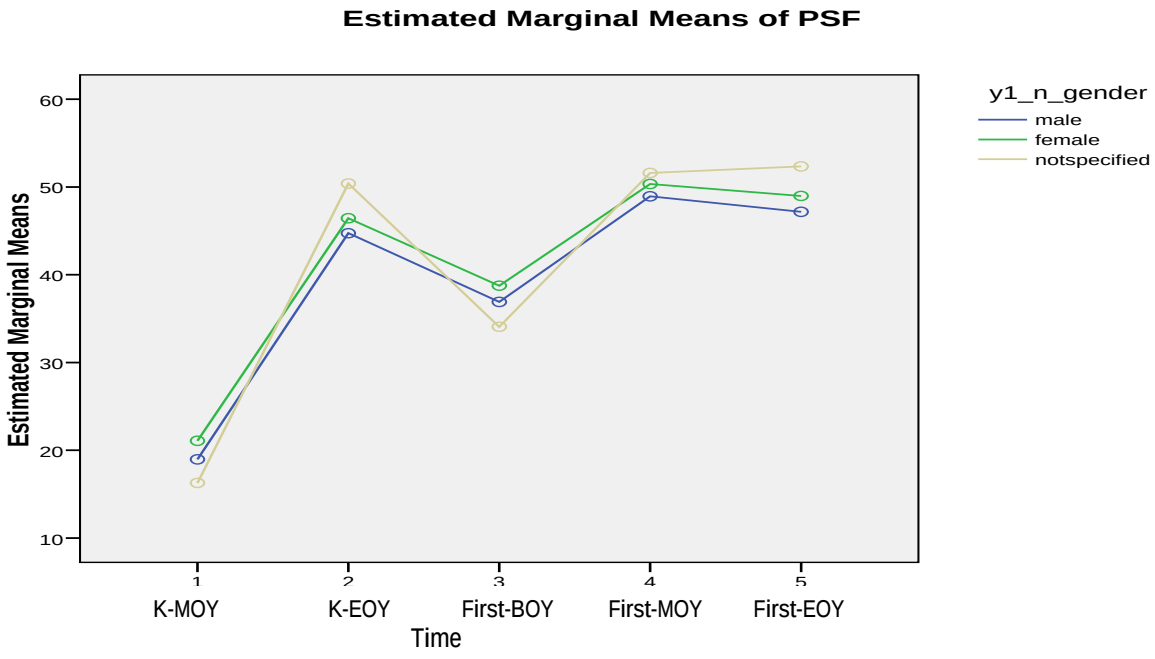


Figure 23

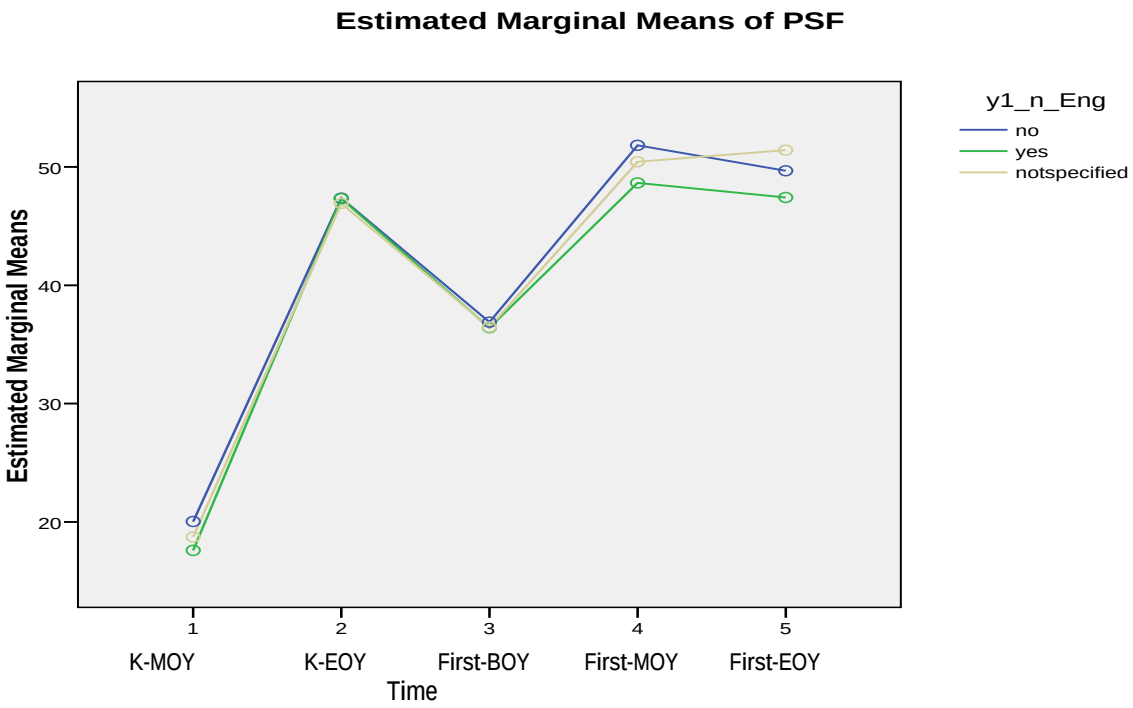


Figure 24

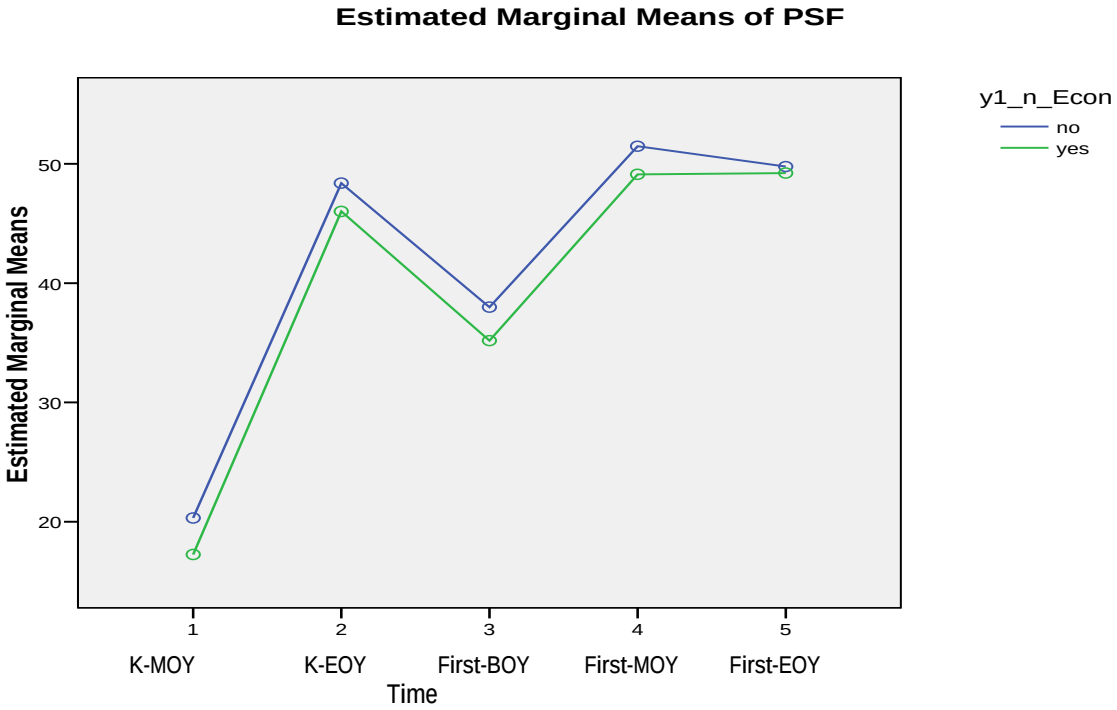
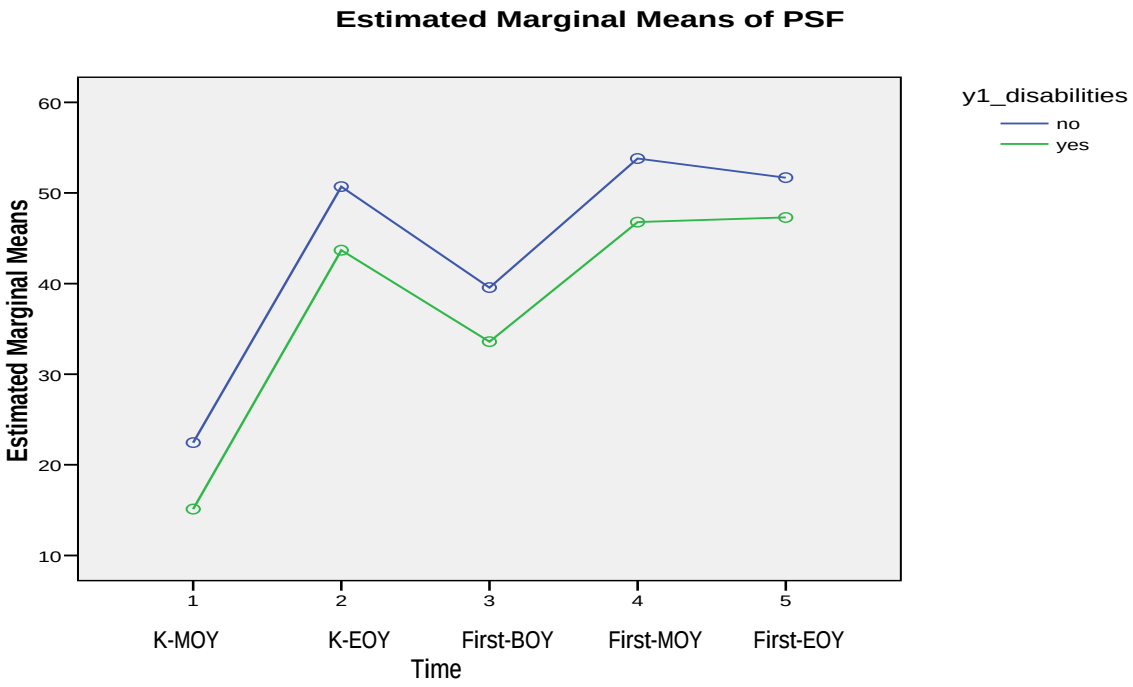


Figure 25



For PSF, the data indicated that there was a sharp decrease at the beginning of first grade (Time = 3), but the score tended to increase during the remainder of the first grade year. In addition, the data also seemed to indicate that there were significant differences in achievement by demographic characteristics, although these differences seemed to be small. Specifically, multiracial students, females, students with non specified gender, students who were economically advantaged, students who were not disabled, and students who were proficient in English or not specified had higher PSF scores than the rest of the students.

NWF: Kindergarten Students

For the NWF variable there are five data points (Kindergarten MOY, EOY and First Grade BOY, MOY, and EOY). The following five graphs include visual representations for the Kindergarten then First Grade students by race, gender, limited English proficiency, economic disadvantage, and disability over the five data points.

Special Note:

Time in the following graphs uses

1 = K-MOY, 2 = K-EOY, 3 = First-BOY,
4 = First-MOY, 5 = First-EOY

Figure 26

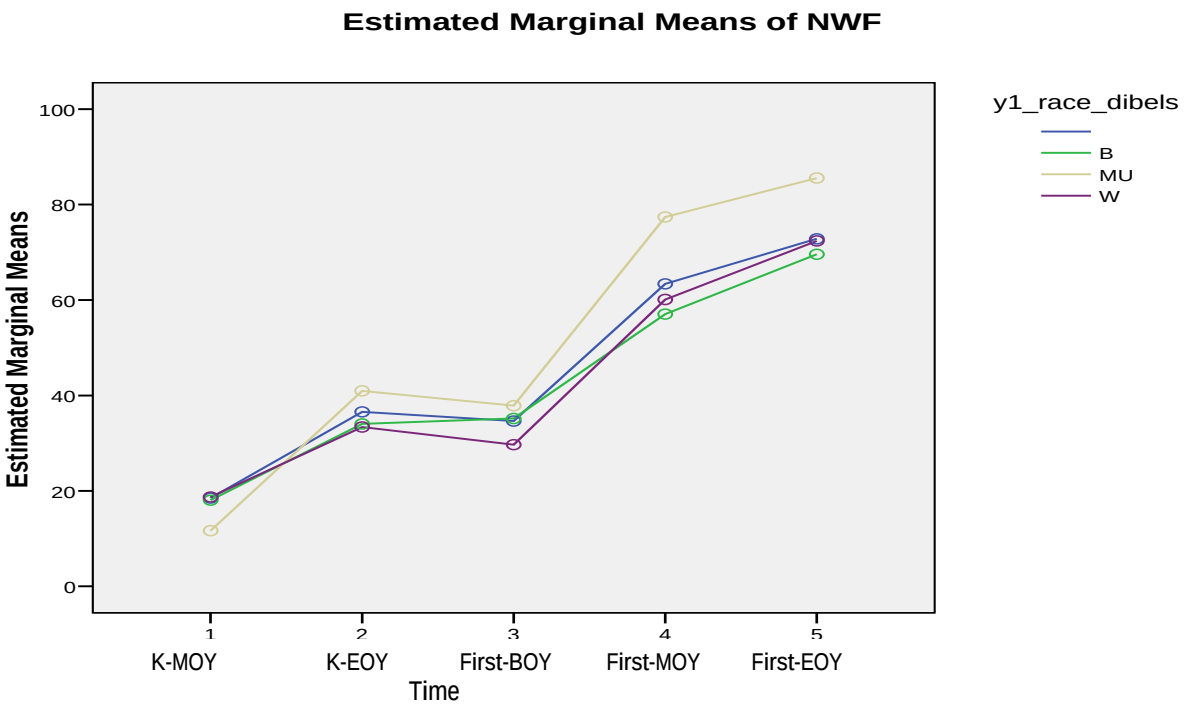


Figure 27

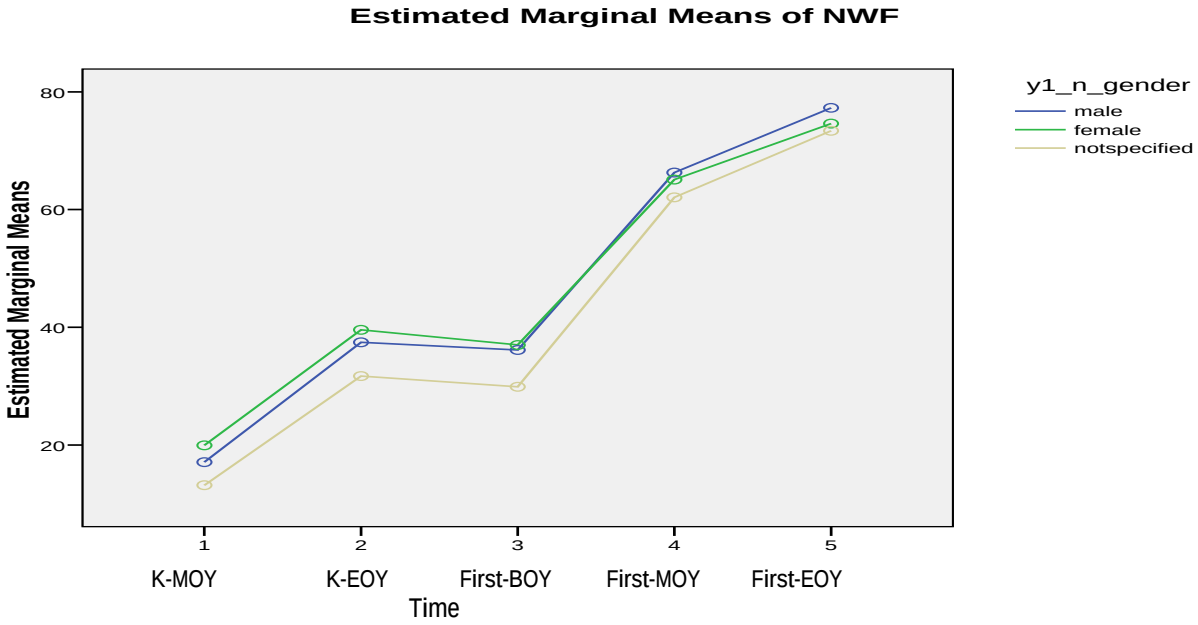


Figure 28

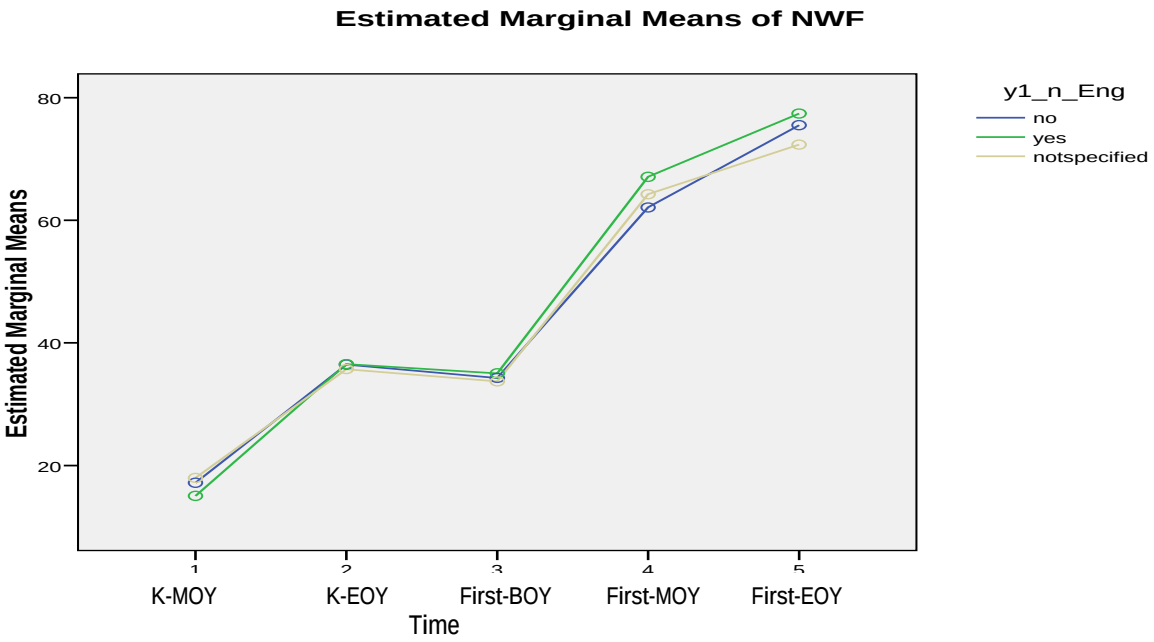


Figure 29

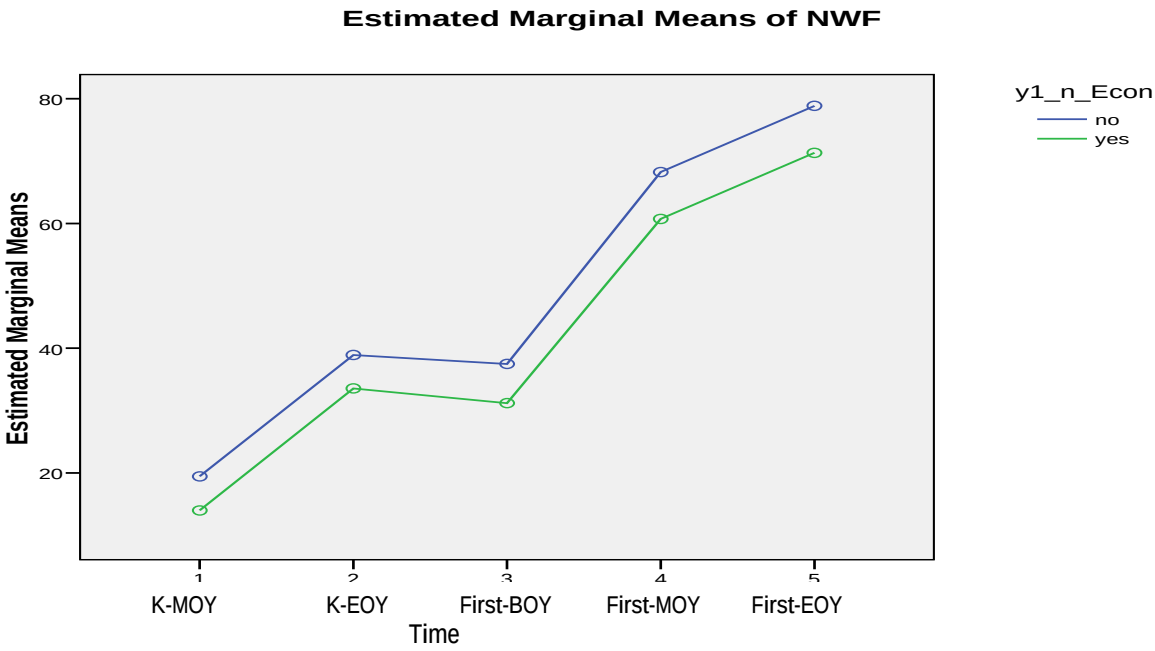
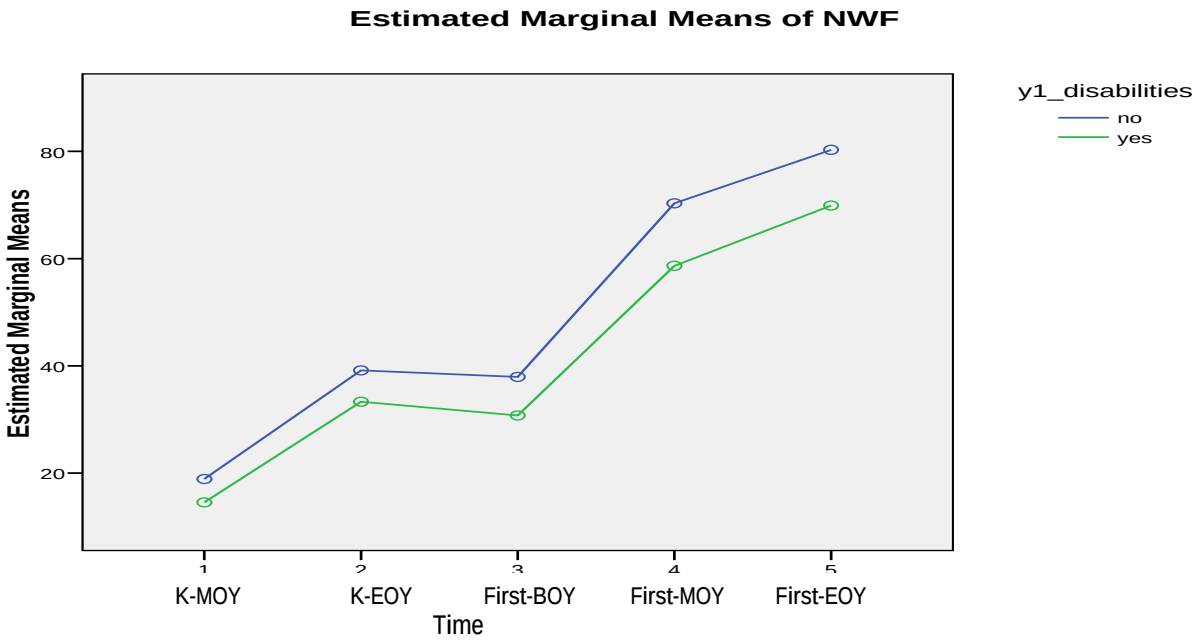


Figure 30



The data indicated that there was a sharp increase in NWF score for students from the BOY assessment in First Grade (Time = 3) through the end of the first grade year (Time = 5). It was interesting to note that little summer regression occurred between Kindergarten EOY (Time = 2) and First Grade BOY (Time = 3). In addition, the data seemed to indicate that there were significant differences in achievement by demographic characteristics. Specifically, students who were economically advantaged and students who were not disabled had higher NWF scores than the rest of the students.

ORF: First Grade Students

For the ORF variable there are five data points (First Grade MOY and EOY, and Second Grade BOY, MOY, and EOY). The following five graphs include visual representations for the First then Second grade students by race, gender, limited English proficiency, economic disadvantage, and disability over the five data points.

Special Note:
Time in the following graphs uses:
1 = First-MOY, 2 = First-EOY, 3 = Second-BOY,
4 = Second -MOY, 5 = Second -EOY

Figure 31

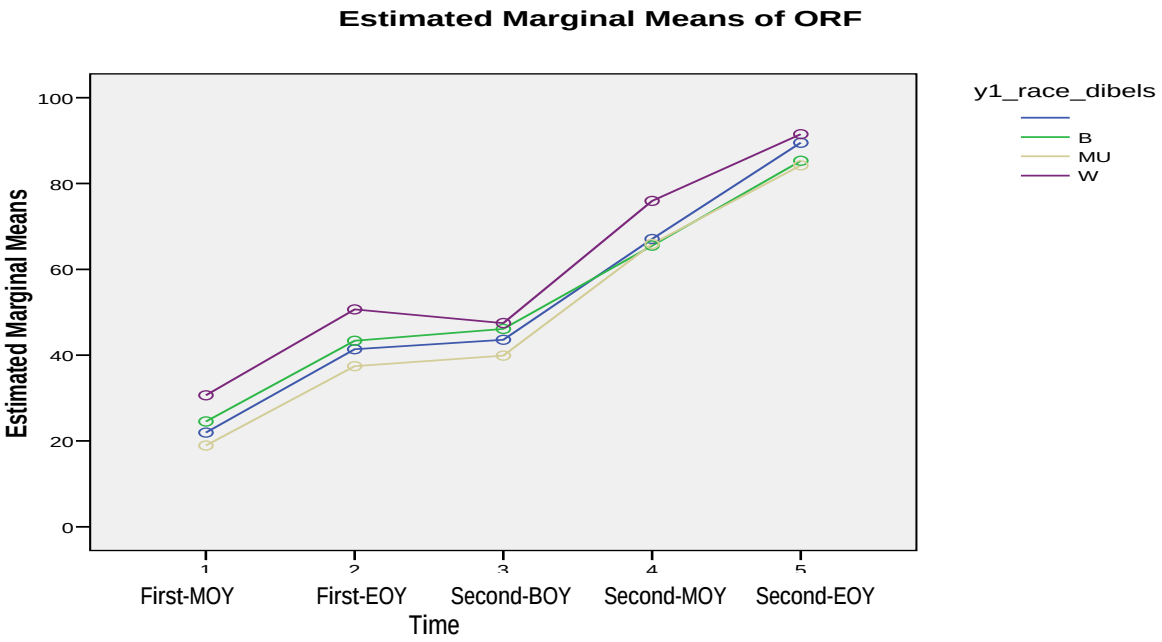


Figure 32

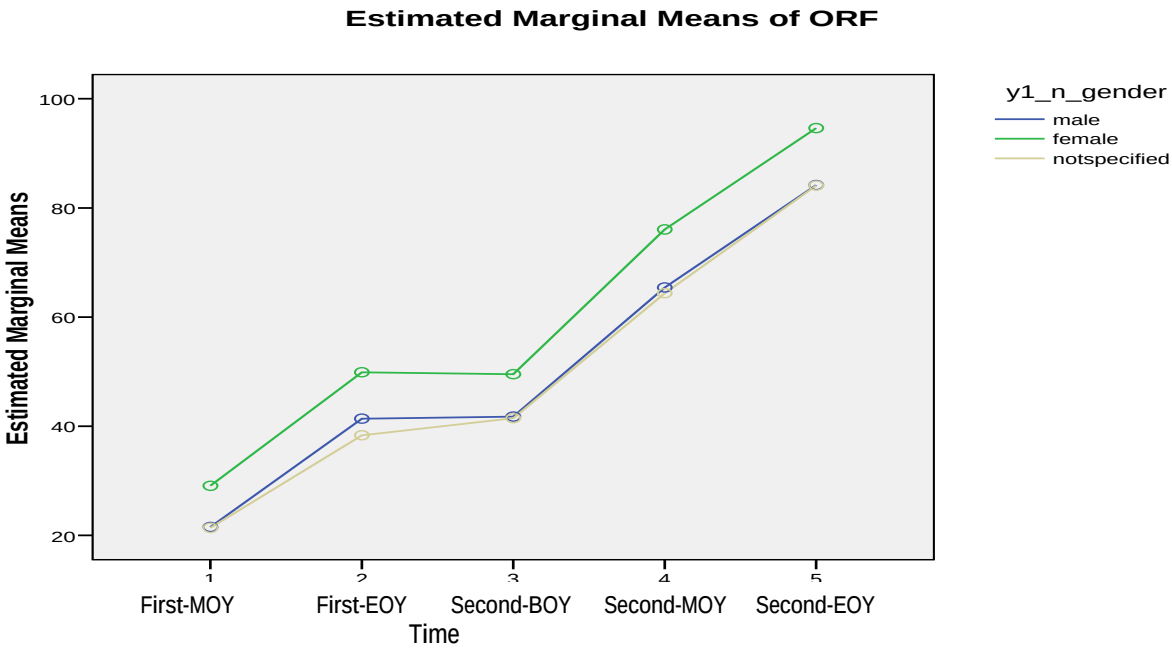


Figure 33

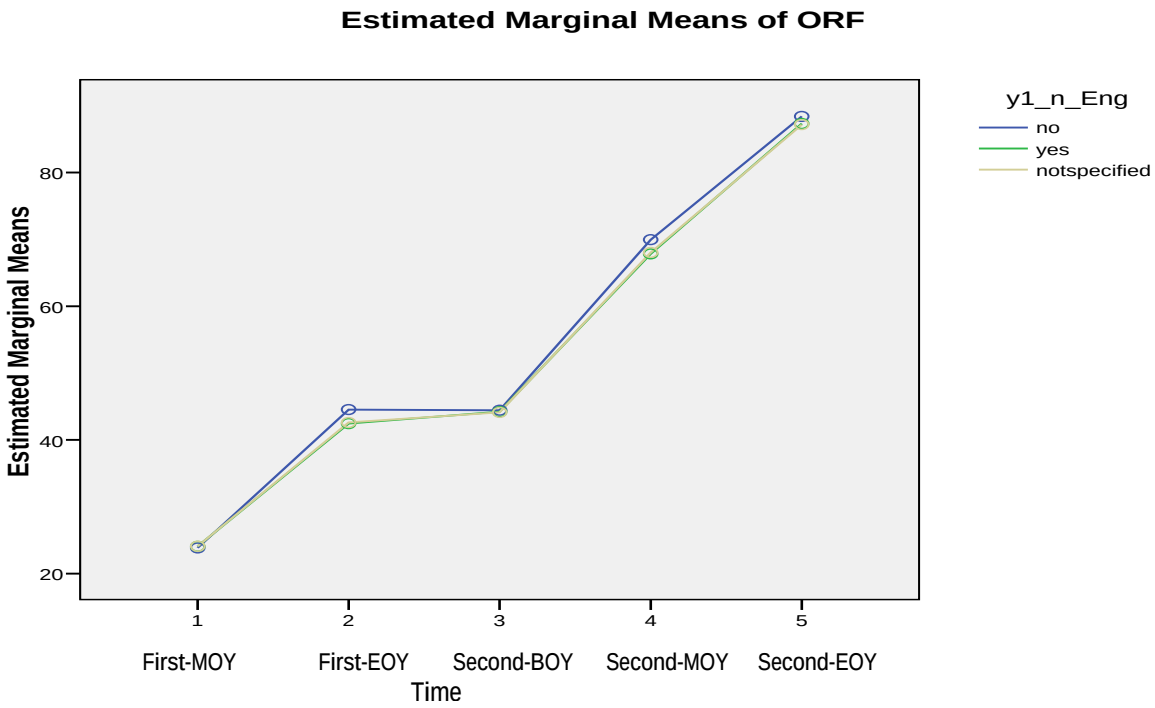


Figure 34

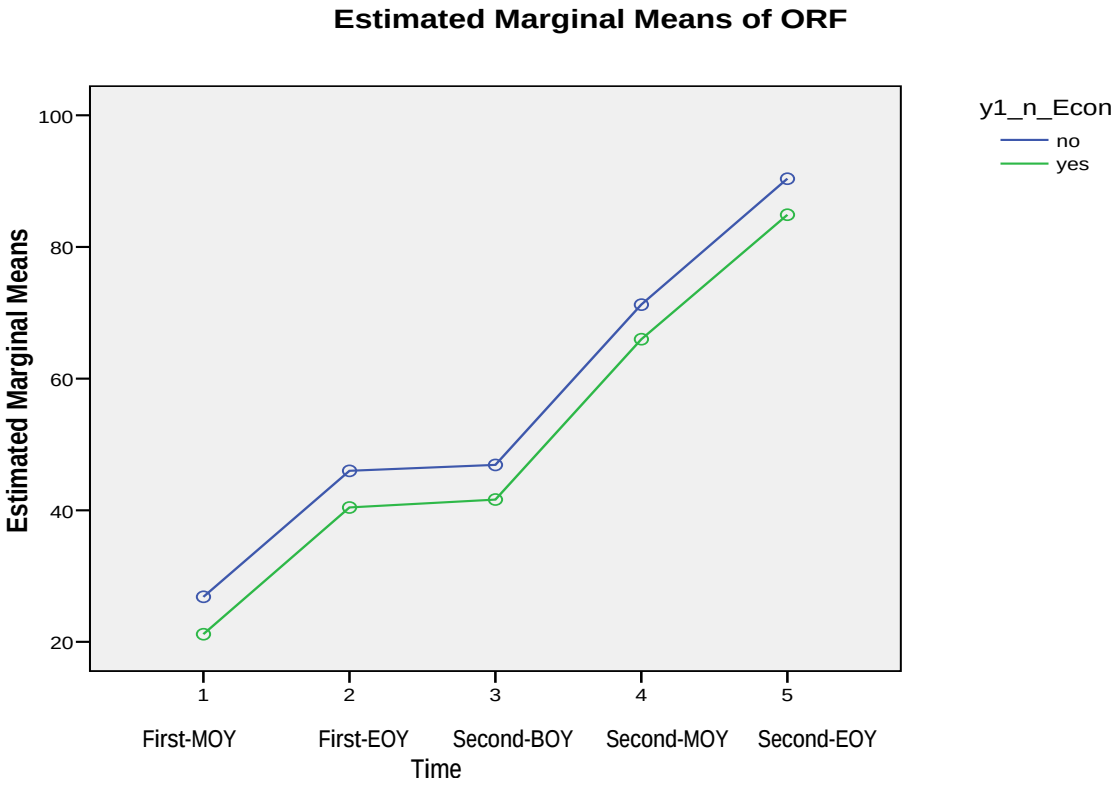
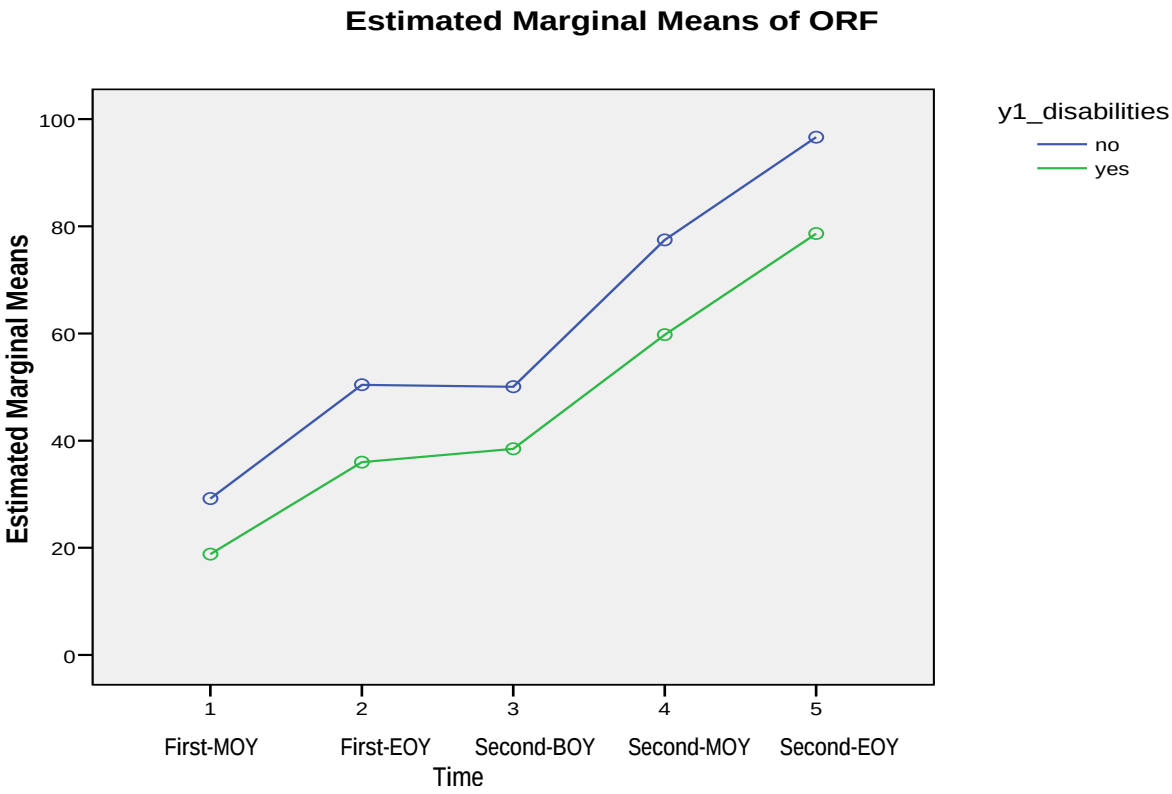


Figure 35



Similar to NWF, the data indicated that there was a sharp increase in ORF scores during the second grade year (from Time 3 to 5). It was interesting to note that little to no summer regression occurred between the First Grade EOY (Time = 2) and Second Grade BOY (Time = 3). In addition, the data seemed to indicate that there were significant differences in achievement. Specifically, White students, female students, students who were economically advantaged, and students who were not disabled had higher ORF scores than the rest of the students.

ORF: Second Grade Students

For the ORF variable there are five data points (Second Grade BOY and EOY, and Third Grade BOY, MOY, and EOY). The following five graphs include visual representations for the Second then Third Grade students by race, gender, limited English proficiency, economic disadvantage, and disability over the five data points.

Special Note:
Time in the following graphs uses:
1 = Second-BOY, 2 = Second-EOY, 3 = Third-BOY,
4 = Third-MOY, 5 = Third-EOY

Profile Plots

Figure 36

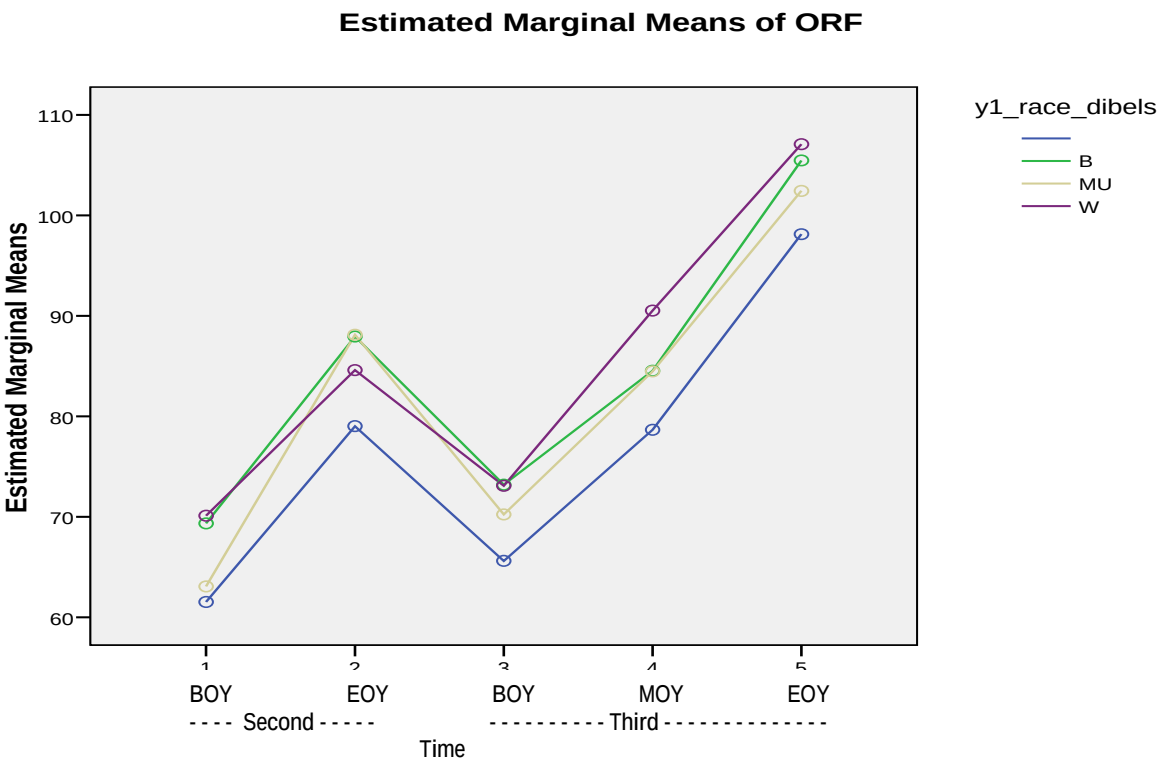


Figure 37

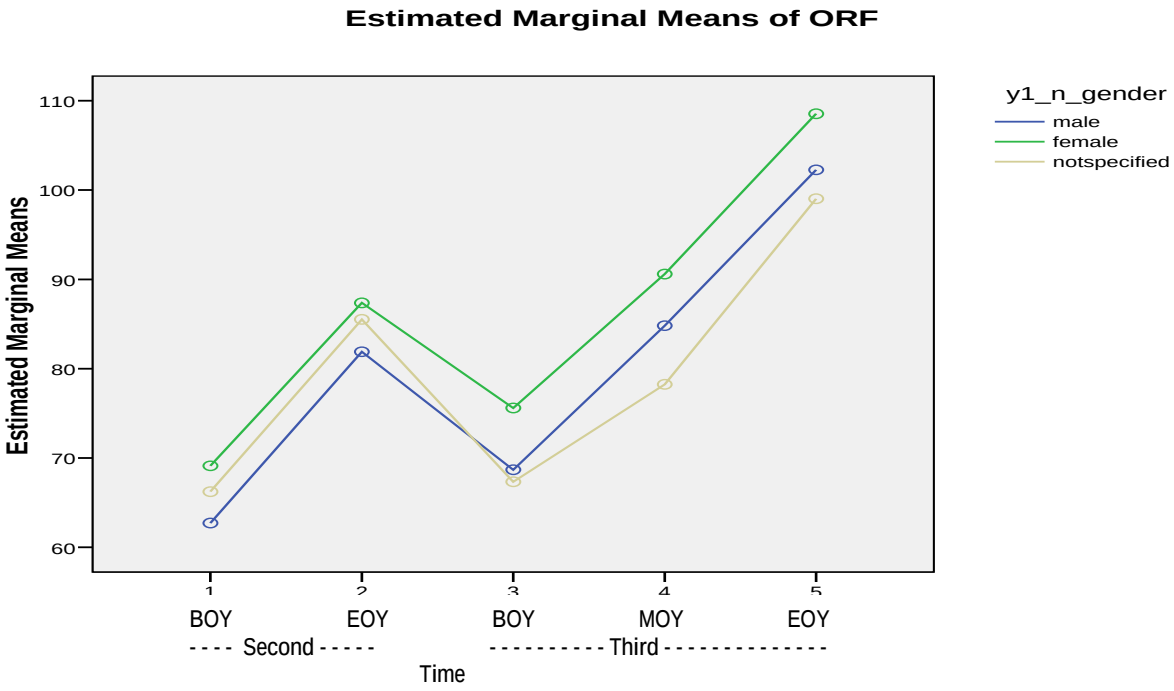


Figure 38

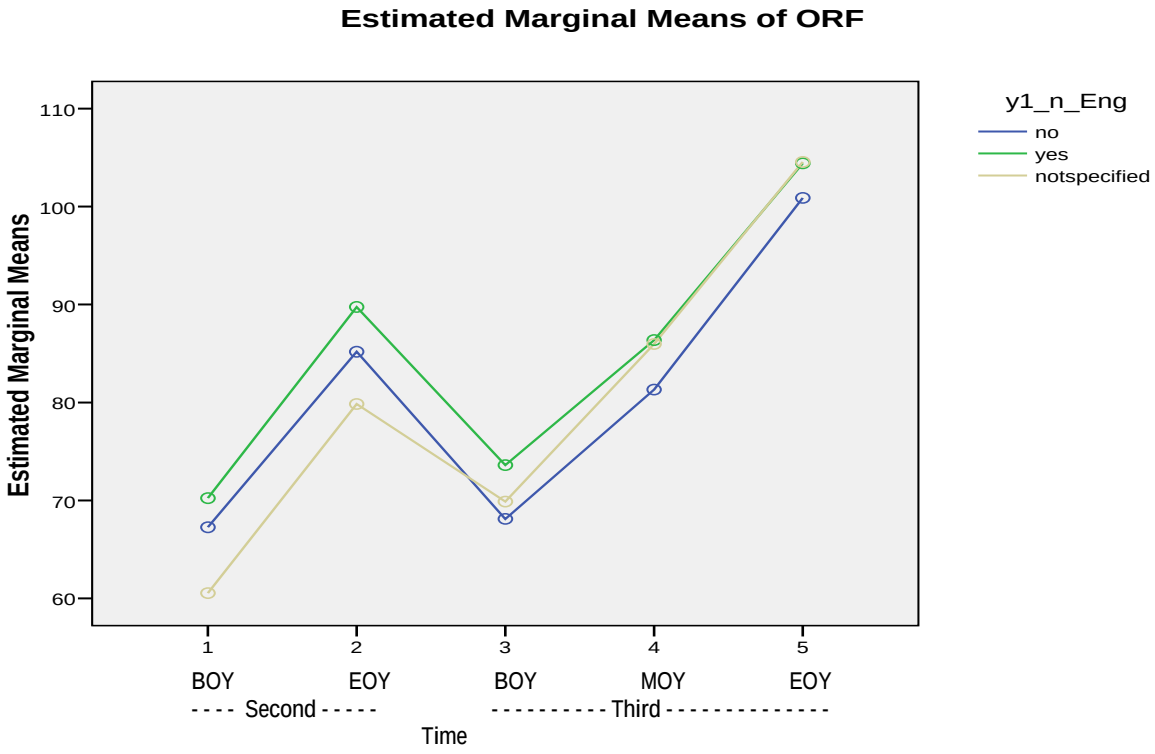


Figure 39

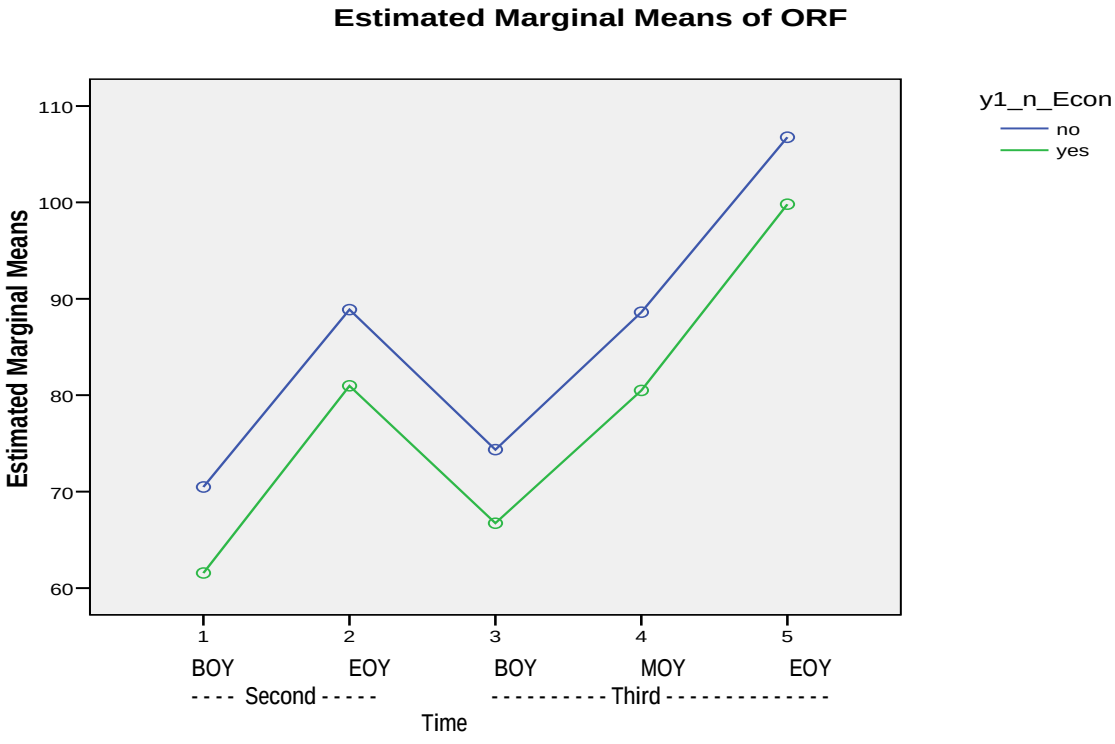
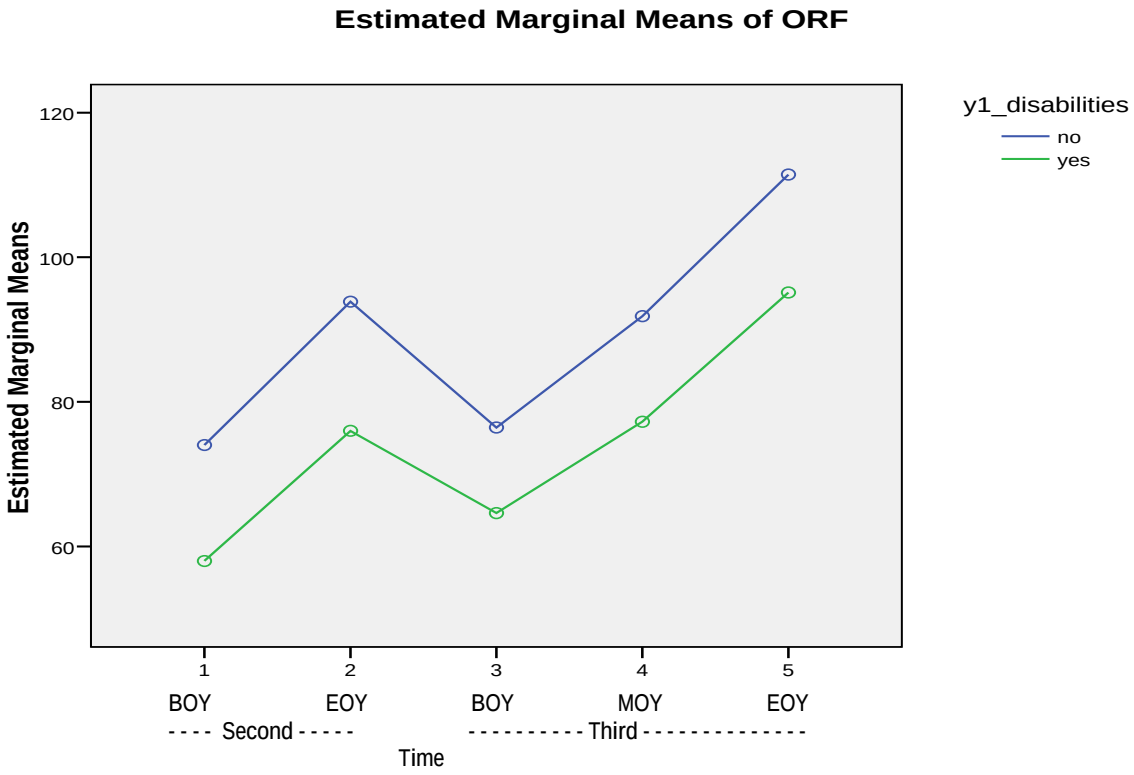


Figure 40



For these students, the data indicated that there was a sharp decrease at the beginning of third grade (Time = 3), but the score increased during the remainder of the third grade year (Times 4 & 5). In addition, the data seemed to indicate that there were significant differences in achievement by demographic characteristics. Specifically, White students, female students, students who were economically advantaged, students who were not disabled, and students who were proficient in English had higher ORF scores than the rest of the students.

Correlation Between the Instruments to Measure Student Performance

A correlation is a bivariate measure of association or strength between two variables. It ranges from -1 to +1, with 0 indicating no relationship. A value of +1 indicates a perfect positive relationship and a value of -1 indicates a perfect negative relationship.

Using data from a merged data set, the following correlations were computed:

a. Correlation between Third Grade EOY_ORF and MAP Communication Art Score and was 0.685**

b. Correlation between Third Grade EOY_ORF and the MAP *TerraNova* was 0.620**

c. Correlation between the End of Year *DIBELS* scores for LNF, PSF, NWF, and ORF and the six *TerraNova* Scaled Scores ranged from 0.188** to 0.728**

These correlations are fairly strong and positive. That is, students who tended to score high on the *DIBELS* End of Year (EOY) scores also scored high on the MAP and *TerraNova* Scaled Scores.

Chapter V

Department of Elementary and Secondary Education Management of Missouri Reading First

According to federal policy each funded state education agency (SEA) is responsible for implementation and compliance monitoring of Missouri Reading First. This chapter addresses the evaluation question, "To what extent has the Department of Elementary and Secondary Education (DESE) met Missouri Reading First requirements and implemented the program components detailed in the application?"

State Implementation

Missouri designed a multi-leveled infrastructure to implement Reading First. Each level is described below.

Level 1

Once the LEA sub-grants were awarded, the Missouri Reading First Reading Specialists assisted districts and schools to implement their sub-grants by

- Implementing and analyzing assessments.
- Providing on-going high quality professional development based on scientifically based reading research.

Sixteen regional Reading Specialists provided professional development and on-site technical assistance. On-site assistance was provided through school visits, coaches meetings, and grade level meetings for teachers. Professional development with a consistent message was delivered in a variety of settings. The Reading Specialists provided *DIBELS* and LETRS training and guidance in their regions during the reporting year.

Reading First schools put into practice on-going systematic assessment using *DIBELS* and publisher criterion-referenced measures. Most (but not all) classroom teachers use handheld Palm Pilot® technology to perform *DIBELS* assessments. Those teachers not directly engaged in assessing had coaches or aides in their classrooms assisting with the process. Evaluators noted enthusiastic responses from most coaches and teachers. The successful use of Palms has encouraged teachers to ask about other classroom uses of educational technology. Benefits cited included immediate feedback on student progress to guide instructional decision-making.

Implementation of the 3-Tier Decision Making model (University of Texas) was challenging for many teachers. Tier 1's flexible grouping and use of small groups were topics of regional coaches' and grade level meetings throughout the year.

Level 2

Initially, DESE's Federal Instructional Improvement Staff assisted local schools with their Reading First applications. At the time of this report, the Federal Instructional Improvement (FIP) section does not directly work with Reading First. The role of the FIP staff is to work with Title I schools that are not funded by Reading First. The former director participated in developing the initial state application. Once a Reading First administrative structure was set up at DESE, the Instructional Improvement section was no longer involved with Reading First.

Level 3

Technical Assistance from Federal Discretionary Grants staff: A workshop was provided by Federal Discretionary Grants staff on December 13, 2006 in Jefferson City for eligible districts interested in applying for Reading First grants. Staff provided districts individual support as needed throughout the year.

Level 4

DESE's Federal Programs has a webpage for Missouri Reading First. It is divided into eight sections: forms, LEA application, SEA application, funding, eligibility, resources, annual performance report and current issues. Each section is populated with a variety of resources. Links to other sites of interest are included. Information is updated periodically.

Applications for funding completed by eligible districts are not posted on the site. They are kept on file at DESE and are available for review. Key information for applicants is entered in a database and available by contacting the department or the district. Other information initially planned for web posting (training schedules, list-serve) is handled regionally by the Reading Specialists rather than on the statewide platform.

DESE Federal Programs Webpage Reading First postings include:

- Missouri Reading First Guidance, including SBRR information
- Sub-grant application forms and directions for completion
- Contact information for key DESE staff, Missouri Reading First Reading Specialists' Link to DESE's "Best Practices, Reading" web page

Building a Statewide Infrastructure: Missouri Reading First Leadership Team
(*GPRA indicator of input*)

The SEA established the Missouri Reading First Leadership Team. According to the state's plan for Reading First, the responsibility of the Leadership Team is to oversee the efficient and effective implementation of Missouri Reading First by

- Meeting periodically to review Missouri Reading First progress;
- Communicating with people across the state about the importance of the efforts to implement research-based reading in all schools;
- Generating recognition of the importance of improved reading instruction;
- Annually reviewing data from participating schools and districts to assess the implementation of Missouri Reading First;
- Making recommendations for improvement;
- Determining continued funding for participating schools and districts, especially at the end of three years; and
- Providing broad direction for the evaluator.

The role of the Leadership Team to date has been one of oversight and review of the state plan for Reading First. That is, they review plans provided by DESE staff, offer input during their annual (one day) meeting, and endorse the strategic direction for Missouri Reading First. There is no governance leader appointed to the Team, its function is more to be receptive than prescriptive of implementation efforts led by DESE. DESE's administrators stated that the team may also offer procedural guidance if a district grant recipient would be found in non-compliance. However, to date, this has not occurred. Additionally, in the event of federal budget reductions the Leadership Team may assist in determining how to implement probable budget and service reductions through the state. DESE staff note that given the uncertain budgetary climate, the Leadership Team may meet at least twice in 2007-08.

The process for determining how funding will be continued or discontinued for participating schools and districts is still at the DESE policy formation level. The Leadership Team is aware of its role to review these policies but was not involved with any discontinuation of funding decisions during the program year.

DESE Administrative Appointments (*GPRA indicator of input*)

DESE provides administrative oversight for Missouri Reading First and monitors compliance issues in terms of local and statewide fidelity. According to the SEA Reading First plan all DESE staff connected to Missouri Reading First will be involved extensively in the training of SBRR content.

The Federal Discretionary Grants' staff consisting of one director and two supervisors manages the Missouri Reading First sub-grants. One supervisor serves as a liaison between DESE staff, the Reading Leadership Team, the contractors for evaluation, professional developers, and technical assistance. The second supervisor works with Reading Specialists to assist in providing high quality professional development.

The SEA committed the following staff to administer the Missouri Reading First Program:

Stan Johnson, Assistant Commissioner, DESE Division of School Improvement

- The Assistant Commissioner has ultimate responsibility of overseeing the Missouri Reading First Program as designated by the Missouri Commissioner of Education. **He** provides division level support for Reading First staff and oversees project administration.
- Approximately 5%-10% of his time is devoted to the Reading First Program.

Becky Kemna, DESE Coordinator of Federal Programs

- The Coordinator of Federal Programs directs division staff and coordinates activities for Missouri Reading First. **She** oversees statewide Reading First operations and ensures that grant requirements are met across the state.
- Approximately 20% of her time is devoted to the Reading First Program.

Craig Rector, Director DESE Federal Discretionary Grants

- The Director of Federal Discretionary Grants manages the overall project and serves as primary liaison to the U.S. Department of Education. He ensures that staff members remain on target relative to grant requirements and provides resources to meet programmatic objectives.
- Mr. Rector manages fiscal policy and provides oversight for the Missouri Reading First program. He also works closely with grant recipients and the RPDCs on various budgetary issues.
- Approximately 20% of his time is devoted to the Reading First Program

Kathy Parris, Supervisor DESE Discretionary Grants & State Reading First Contact

- The Supervisor of Discretionary Grants and State Reading First Contact coordinates all Reading First meetings and professional development. Ms. Parris also assists the Director in dealing with the Department of Education and the State Reading First Leadership Team. She communicates regularly with Reading First directors in other states and works with Missouri higher education representatives relative to programmatic undertakings. She and her staff concentrate on monitoring local program fidelity, and work closely with local principals and reading coaches regarding instructional pedagogy. She approves local grant expenditures for materials, equipment, and supplies. Ms. Parris also serves as liaison to RPDCs, Reading Specialists, superintendents, principals, and reading coaches.
- 100% of her time is assigned to the Reading First Program.

De Frink-Hedglin, DESE Supervisor, Discretionary Grants

- The DESE Supervisor of Discretionary Grants works with Reading Specialists to assist in providing high quality professional development for grant recipients, for non-funded, and for private schools.
- She assists with monitoring local program fidelity, and works closely with local principals and reading coaches regarding instructional pedagogy.
- She is currently working to develop local plans and training for Reading First sustainability following the present funding cycle. A major focus is on Cohort 1 and 2 schools approaching the end of funding.
- 100% of her time is devoted to the Reading First Program.

Implementation and/or Operation Challenges Encountered by DESE

The evaluator interviewed DESE Reading First staff to identify and address implementation and/or operational challenges. Information collected revealed the following challenges.

New Reading First Grants Awards. Forty one new schools representing 17districts were awarded Reading First Grants to begin in 2007-08. All district personnel required professional development. Scheduling this intense training in addition to cohort 1 and 2 sessions presented a challenge for DESE and RPDC staff. DESE addressed this issue by conducting required trainings in central locations; this action helped assure that the sessions were provided in an efficient and productive manner.

Reading Specialists Additions and Staffing Changes. The inclusion of new Reading First Schools necessitated additional reading specialists positions across the state. Rolla added one full-time position as did the Southeast region. The Southwest region added a half-time specialist and the Central region went from one full-time position to two specialists at three-quarters time (1.5 FTE). The Kansas City RPDC also experienced turnover in a specialist position.

Additionally, the Four Corners Project was implemented to work with non-funded schools which added five half-time specialists' positions in five areas of the state – NE, SE, NW, SW, and West Central. Training and placement of the new staff positions created yet another challenge for DESE and RPDC staffs.

Continuing Struggles with Reading First Pedagogy for ELL populations. Cultural and English language barriers relative to ELL populations continue to present difficulties. In both cohorts, students for whom English is a second language continue to achieve less than Black or White students on all performance measures at all grade levels. Discussions continue regarding how to reduce the isolation of ELL populations and encourage proactive integration and academic achievement of all ethnic groups in the Reading First program.

Reading First Sustainability Beyond the Funding Cycle. Concerns regarding continuing local Reading First programs beyond the current funding cycle are evident. Moreover, as with all states, Missouri is facing potential federal Reading First funding reductions this

year of anywhere from 36% to 63%. Finding the necessary local resources to sustain programs or working within the constraints of a reduced budget is problematic.

Two ways that DESE is addressing the sustainability challenge are

1. DESE's Reading First staff is working with Title I administrators to coordinate provision of services wherever possible to help school districts maintain necessary support staff to carry out both Title I programs and Reading First pedagogy.
2. DESE is also calling upon the Central Region Reading First Technical Assistance Center (CRRFTAC) for provision of sustainability training for local Reading First administrators and staffs.

The statewide infrastructure of Reading Specialists providing professional development and local technical assistance will continue. It is expected that the RPDC Reading Specialists will be available to carry out necessary training (e.g. LETRS, Three Tier, Differentiated Instruction, etc.) and technical support; albeit stringent federal cutbacks could alter plans.

Non-Compliance Issues and Written Policy

There are a number of non-negotiable tenets of Missouri Reading First (see Chapter I). While there is no specific written policy relative to schools found to be non-compliant with Reading First programmatic mandates, there are procedures in place to identify and address non-compliance concerns.

Each year ten to fifteen schools are selected for DESE compliance site visits. Schools chosen for compliance visits are often identified by the RPDC reading specialists or the state evaluators as struggling with Reading First tenets. DESE staff note that evaluator site visit reports, conclusions, and recommendations are particularly helpful in identifying compliance incongruities. Non-compliance issues are addressed on a case by case basis and involve two-way communications between the school and DESE. Schools usually comply with policy and make the necessary adjustments to meet state standards.

Last year, the state evaluator expressed concerns regarding the absence of written policy and procedures for Reading First programmatic mandates. Since then, written policies have been developed for a number of procedural and program requirements; including *DIBELS* assessments, the 3-tier model, integration with Special Education or Title I, MAP or TerraNova assessments, and other non-negotiable requirements. A new DESE web site is under construction which will include all Reading First and related policies in one area.

Reported Impact of Reading First on the Statewide Effort to Improve Reading Instruction and Raise Student Achievement.

LEA Orientation to the Grant Competition (*GPRA indicator of output*)

A new grant competition was held this year. DESE conducted an LEA orientation to the grant meeting in December 2006. The purpose of this meeting was to alert and advise districts about the requirements of and instructions for completing the Missouri Reading First grant application.

New Grant Awards. (*GPRA indicator of outcome*)

Grant applications were reviewed by teams of no fewer than three readers, using a rubric aligned with the SEA application, to individually score each application. Reviewers then compared scores and built a composite score for each application. These composite scores were used to rank each application, and to determine the list of awardees. Grants were awarded to 17 districts across the state. Five districts included multiple buildings, creating a third cohort of 41 buildings.

Table 68
Cohort 3 LEAs Funded for Reading First 2007-08

County-District Code	District Name
012-109	Poplar Bluff R-I
032-055	Maysville R-I
035-097	Clarkton C-4
035-098	Senath-Hornersville C-8
041-005	Ridgeway R-V
048-072	Hickman Mills C-1
060-077	McDonald County R-I
061-158	Macon County R-IV
067-055	East Prairie R-II
071-091	Morgan County R-I
072-073	Gideon 37
074-187	Nodaway-Holt R-VII
075-085	Thayer R-II
078-005	South Pemiscot County R-V
080-118	LaMonte R-IV
082-108	Louisiana R-II
096-111	Riverview Gardens

Table 69
Cohort 2 LEAs Funded for Reading First 2005-2006

County-District Code	District Name
005-127	Shell Knob # 78
009-080	Woodland R-IV
027-057	Prairie Home R-V
029-002	Dadeville R-II
029-004	Greenfield R-IV
046-135	Glenwood R-VIII
055-104	Miller R-II
058-106	Linn Co. R-I
061-156	Macon Co. R-I
094-076	Bismarck R-V
096-109	Normandy
102-081	North Shelby
115-115	St. Louis City

Table 70
Cohort 1 LEAs Funded for Reading First 2004-2005

County-District Code	District Name
005-128	Monett R-I
007-121	Miami R-I (Bates)
015-003	Climax Springs R-IV
018-047	East Carter Co. R-II
018-050	Van Buren R-I
025-001	Cameron R-I
029-001	Lockwood R-I
030-093	Dallas Co. R-I
032-056	Union Star R-II
032-058	Stewartsville C-2
033-091	Oak Hill R-I
035-102	Kennett 39
036-133	Lonedell R-XIV
036-137	Sullivan
038-044	King City R-I
040-104	Laredo R-VII
041-004	Gilman City R-IV
043-003	Weaubleau R-III
044-083	Mound City R-II
046-137	Junction Hill C-12
047-062	Arcadia Valley R-II
048-078	Kansas City 33
049-140	Sarcoxie R-II

County-District Code	District Name
055-105	Pierce City R-VI
055-110	Aurora R-VIII
055-111	Verona R-VII
058-112	Brookfield R-III
061-154	LaPlata R-II
062-070	Marquand-Zion R-VI
062-072	Fredericktown R-I
065-096	North Mercer Co. R-III
066-103	Miller County R-III
072-066	Risco R-II
072-068	Portageville
075-084	Couch R-I
077-101	Bakersfield R-IV
078-001	North Pemiscot Co. R-I
078-002	Hayti R-II
078-012	Caruthersville 18
085-044	Richland R-IV
090-075	Centerville R-I
090-077	Bunker R-III
091-093	Ripley Co. R-IV
094-087	West St. Francois Co.
096-089	Ferguson-Florissant R-II
097-116	Miami R-I (Saline)
099-078	Gorin R-III
099-082	Scotland Co R-I
101-107	Eminence R-I
105-123	Green City R-I
105-124	Milan C-2
106-001	Bradleyville R-I
108-144	Sheldon R-VIII
112-103	Seymour R-II
114-114	Mountain Grove R-III
114-115	Mansfield R-IV

Discontinued Reading First Programs.

No Reading First subgrant awards have been discontinued.

Non-Public School Participation

DESE hosted its second conference for non-public schools on May 4-5, 2007. Participants from 13 schools attended this two day event. Participants attended workshops on scientifically based reading instruction, selecting core reading series, and using assessment to drive instruction. Attendance was slightly higher than last year, though fewer schools were represented.

Table 71

Non-Public School Conference Participants

School District	School Name
036-137, Sullivan	St. Anthony
048-078, Kansas City	Islamic School of Greater KC
048-078, Kansas City	Gillis
048-078, Kansas City	Glad Tidings Christian Academy
048-078, Kansas City	Calvary Lutheran
072-068, Portageville	St Eustachius School
115-115, St Louis City	Dwight McDaniels Jr School of Christian Education
115-115, St Louis City	Immaculate Heart of Mary
115-115, St Louis City	St James The Greater School
115-115, St Louis City	St Ambrose School
115-115, St Louis City	St Margaret of Scotland School
115-115, St Louis City	King of Glory Lutheran School
115-115, St Louis City	Central Institute for the Deaf

Non-public schools were given opportunities to become involved in professional development at the regional level. A total of 55 non-public schools were offered the same professional development opportunities provided to grantees. Some schools participated in Reading First program planning and indicated they intend to involve teachers in future professional development offerings. None of the seven schools contacted provided a response.

Non-public school principals, according to the following criteria reported in Table 72, assessed their school's participation in Reading First:

Table 72
Consultation with Non-Public Schools

School District	Nonpublic Schools	1	2	3	4	5
005-128, Monett R-I	St. Lawrence Catholic School	X				
	Trinity Lutheran		X			
012-109, Poplar Bluff R-I	Sacred Heart School		X			
029-001, Lockwood R-I	Immanuel Lutheran	X				
048-072, Hickman Mills	Universal Academy					
	Our Lady of Peace School					
	Islamic School of Greater KC					
	St. John Regis School					
048-078, Kansas City 33	St. Elizabeths School					X
	Visitation School	X				
	Holy Cross School					X
	Our Lady of Angels	X				
	Calvary Lutheran School					
	St. Peter's School		X			
	St. Stephen's School					X
	St. Ann's School					X
	Nativity BVM School	X				
	Englewood Christian Academy					
	Saint Monica School					X
	Our Lady of Guadalupe School	X				
	Notre Dame De Sion Elementary	X				
	Glad Tidings Assembly of God					
055-104, Miller R-II	Round Grove Christian Academy		X			
055-105 Pierce City R-VI	St. Mary's School	X				
061-156 Macon Co R-I	Immaculate Conception	X				
School District	Nonpublic Schools	1	2	3	4	5
	Tri-County Christian	X				

096-088, Hazelwood	St. Sabina		X			
	St. Angela Merici	X				
	St. Ferdinand		X			
	Salem Lutheran School		X			
	Christ, Light of Nations		X			
	St. Norbert	X				
096-089 Ferguson-Florissant R-II	Our Lady of Guadalupe		X			
	North County Christian School					X
096-109, Normandy	St. Anns School		X			
096-011, Riverview Gardens	Grace Chapel Lutheran School					X
	Dwight McDaniels Jr Sch Christ					X
100-063, Sikeston R-6	St. Francis Xavier School	X				
114-114, Mountain Grove R-III	Mountain Grove Christian Academy		X			
115-115 St. Louis City	St Cecilia	X				
	Holy Trinity	X				
	Cathedral Basilica of St. Louis	X				
	St James the Greater	X				
	St Ambrose	X				
	St Stephen Protomartyr	X				
	St Margarets	X				
	St John the Baptist	X				
	River Roads Lutheran		X			
	St. Lukes Lutheran School		X			
	Cent. Catholic/St Nicholas	X				
	St Francis Cabrini Academy	X				
	City Academy		X			
	St. Louis Catholic Academy	X				
	King of Glory Lutheran School		X			

The column numbers in Table xx indicate the level of involvement as described below:

1 - Administrator and/or teachers in my school have been involved in the planning of these projects. I plan for my teachers and/or students to participate in these programs.

2 - I was invited to participate in planning but chose not to do so. My school will not participate in these programs.

3 - Administrators and/or teachers in my school have been involved in the planning of the projects. I do not plan for my teachers to participate in these programs because of philosophical, religious, or other reasons.

4 - Administrators and/or teachers in my school have been involved in the planning of these projects, but the option for nonpublic participation does not seem equitable. Until changes are made for equitable options, I do not plan for my teachers to participate.

5 - Administrators and/or teachers in my school have not been properly involved in the planning of these projects. I need more information before I can decide whether or not my school should participate.

Expenditure of Reading First Funds to Implement the Program

The accuracy of the data provided in Tables 73, 74, 75 and 76 were not verified by the evaluators. The analysis was completed by DESE.

Table 73
2003-2004 Reading First Funds

Account	Encumbered Amount	Spent (Paid)
Flow Thru	$2,108,744	$4,130,315
Administration	$0	$528
Professional Development	$1,601,710	$224,708
Technical Assistance	$333,222	$0

Table 74
2004-2005 Reading First Funds

Account	Encumbered Amount	Spent (Paid)
Flow Thru	$11,701,022	$0
Administration	$0	$39,934
Professional Development	$254,580	$0
Technical Assistance	$128,225	$0

Table 75
2005-2006 Reading First Funds

Account	Budget	Encumbered Amount	Spent (Paid)
Flow Thru	$14,150,347	$0	$14,150,347
Administration	$353,759	$1730	$265308
Professional Development	$2,299,431	$656,4010	$779,552
Technical Assistance	$736,137	$32,890.	$703,247
Teaching and Learning Project	$148,260	$0	$148,260

Table 76
2006-2007 Reading First Funds

Account	Budget	Encumbered Amount	Spent (Paid)
Flow Thru	$13,679,969	$0	$858,195
Administration	$341,999	$185	$9,827
Professional Development	$2,222,995	$1,399,950	$563
Technical Assistance	$854,998	$266,077.29	$358,843
Teaching and Learning Project	$145,927	$0	$145,927

Chapter VI

Conclusions

The evaluation describes student reading achievement outcomes for 21,691 students in 69 school districts including 115 buildings. All elements of the Reading First program and evaluation designs remained constant since the previous evaluation. These conclusions address questions that guided the logic model design of the evaluation.

Do activities supported by Reading First promote gains in student reading achievement and lead to the desired goal of all children reading on grade level by third grade?

Yes. Chapter 1 and Chapter 5 of this report describe statewide Reading First design and the implementation of a professional development model that was provided to all Reading First administrators, coaches, and teachers as well as interested staff in Non-Funded public and Non-Public schools. Additional technical reports provided to DESE by the evaluator provide further analysis of these activities.

MAP. Chapter 2 provides a detailed analysis of Missouri Assessment Program (MAP) outcomes for third grade students. This analysis of grade level student achievement is disaggregated by cohort, gender, ethnicity, economic level, and English Language Learner status at various geopolitical levels, regions, districts (LEA), and schools.

As we consider whether the Reading First program is promoting student gains, we need to remember that Reading First Schools were some of the lowest performing in the state prior to participation in the program. The data showed that while significant differences existed between two groups of metropolitan in 2005 (with Non-Reading First schools Annual Proficiency significantly higher than Reading First schools) in 2006 and 2007 there is no longer a significant difference between the two groups. This finding indicates that Reading First schools are catching up with non-Reading First schools in metropolitan districts. Non-metropolitan districts were not of sufficient size to make comparisons between Reading First and non-Reading First schools. Data were also not available on a statewide level to compare Reading First LEAs with non-funded LEAs in Missouri.

Marginal differences among mean scores on the MAP by region indicate that movement is not isolated to particular areas of the state. Although the percentage of proficient third graders in Reading First Schools did not grow substantially in 2007, neither did the total number of proficient students across the state. Reading First students grew 0% while students across the state grew 0.3%.

The differences at the macro level indicate that growth among Reading First Schools is fairly evenly developed. However, a microview indicates some schools do better than others. An important consideration is that the 13 (11.8%) of the Reading First schools made the State's Annual Proficiency targets every year for three consecutive years. When considered in conjunction with Reading First schools being the lowest performing schools and having not achieved the Annual Proficiency at least once in the years prior to

inclusion in the program, this consistent improvement is an important indicator of growth.

An analysis of length of participation in Reading First as defined by Cohort, indicates that Cohort 1 schools performed better than Cohort 2 schools. When a program is impacting the achievement of students, the longer the time the students participate in the program, the greater the impact that is expected. Combined with the indicators of growth in the above paragraphs, it can be concluded that Reading First is a positive factor impacting student reading growth in Missouri.

Even with these positive signs, some trends remain areas of concern. One trend is that schools tend to make a large gain the first year in the program and substantially smaller gains in subsequent years. We need to investigate how accelerate gains in the second and third years. A second trend is the lower achievement rates in metropolitan/urban areas. In 2007, 75% of schools where 80% or more students failed to score at proficient or above levels on the MAP were from metropolitan/urban districts. While all student demographic groups are making gains, the traditional achievement gaps remain. How do we accelerate the growth rates of students who are males, minorities, economically disadvantaged, or who have special education needs?

TerraNova. The *TerraNova* includes norm-referenced, criterion-referenced, and performance level information on six subscales: Reading, Vocabulary, Reading Comprehension, Language, Language Mechanics, and Language Comprehension. For the *TerraNova* test administered to kindergarten through second grade students, data do not answer the question, "Did student achievement in reading measurably and significantly improve on the *TerraNova*?" A response requires comparisons of student scores from one year to the next. Last year students did not have state identification or workable local identifiers. The evaluators were unable to match student scores from last year with their scores from this year and thus are unable to confirm that students significantly improved. However, this year, students from kindergarten, first, and second grades did not achieve the mean score at or above the Missouri's proficiency cut off score. Missouri students, on average, do as well or better than national mean scores.

In comparison to national norms, Missouri Reading First schools scored above the 50^{th} percentile and above the fifth stanine. The evaluators cautiously conclude that students are significantly improving because the schools in the Reading First program were some of the lowest scoring schools in the state and their performance measured against the national average is above that average on the *TerraNova* test. A concern also exists that the Normal Curve Equivalency score is lower in reading comprehension than other reading related subtest across the grade levels. This data may indicate an imbalance of instruction among the five critical reading components.

Do Reading First LEA's/schools/classrooms meet end-of-school-year goals in phonemic awareness, phonics ability, fluency, vocabulary, and comprehension?

There are differences between school performance outcomes at all grade levels. Students demonstrate progress across grade levels, however, traditional achievement gaps remain. That is, students not at the poverty level tend to do better on the DIBELS than students at the poverty level. On most DIBELS measures, White students out performed students of

other ethnic categories. Males scored lower than females on most DIBELS measures. While there is progress across reading skills in all regions, few schools met end-of-year goals in the essential reading constructs. The number of students proficient at benchmark on DIBELS peaks at the end of kindergarten then steadily declines by approximately 6% per year through the end of third grade. The following discussion provides further analysis of student achievement.

DIBELS Proficiency. By the end of the school year, 68.1% (3,670) of first grade students were proficient on the DIBELS measure of fluency, which measures the ability to read text accurately and fluently. Traditional achievement gaps prevail. On this same measure (Oral Reading Fluency) slightly less than 62% of students in second grade were proficient with similar demographic patterns. The rate decreases significantly by the end of third grade when only 55.2% of students met benchmark.

Gender. Gender difference is found to be statistically significant for all subtests at all grade levels except for Nonsense Word Fluency at the beginning of first year. Females scored higher than males in every subscale at every data point.

Ethnicity. Overall, DIBELS proficiency by race analysis for Oral Reading Fluency (ORF) end of year benchmarks show that Asians scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds; Black students scored lower than Asians and Whites, but higher than Students of Other Ethnic Backgrounds and Whites scored higher than Blacks, Hispanics, and Students of Other Ethnic Backgrounds.

Cohorts. With the exception of kindergarten Initial Sound Fluency (ISF) beginning of year benchmark, Cohort 1 outperformed cohort 2 on all subscale data points.

Special Education. In every DIBELS subscale, students who were eligible for special education scored lower than students who were not eligible.

Limited English Proficiency. Students with limited English language proficiency scored significantly lower than students who spoke English on ten of the 14 subscale data points.

Disability. Students with a disability tended to score significantly lower on the DIBELS than students without a disability.

Progress Over Time. Forty-four school district comprised of 68 schools were analyzed for between-year differences on DIBELS. Data showed an increase in percentage of proficiency across all grade levels. A possible summer regression effect was implied because the percentage of proficiency at the end of the year tended to be a bit higher than at the beginning of the next school year.

Over time, students who are white, female, economically advantaged and not disabled perform better on DIBELS measures than the rest of the students.

Concluding Discussion

Learning to read becomes more complex as students progress through grade levels. Rapid gains between benchmarks are expected in kindergarten because many children

experience their first formal exposure to alphabet letters and connections between the letters and the sounds. For some children, kindergarten is their first exposure to rhyming and handing books. For most students, kindergarten provides their first opportunity to become aware of patterns within words.

First grade reading instruction is more developed than kindergarten as students master a core set of sight words. These are words that appear most often in text (ex., the, we, saw) and need to be identified immediately without "thinking" about letter-sound connections. First graders learn other words through new decoding strategies in which they use individual phonemes, onsets, rimes, and syllables to determine how to say words. After students can pronounce the word, they can apply their knowledge of words to help students understand what they are reading. Words not in their oral language may require specific vocabulary instruction and development of vocabulary strategies.

Decoding and vocabulary instruction spiral in complexity throughout second grade when students are constructing meaning and learning new things by reading. Students are expected to read passages with many words made up of complex structures (i.e., prefixes, suffixes and multiple syllables) and new vocabulary. Although many students master the essential reading principles (phonemic awareness, decoding print, vocabulary, fluency), the majority of Missouri Reading First students entering third grade continue to be challenged. This fragility of understanding regarding how reading "works" prevents many students from being able to transfer what they already know about reading to what they need to understand by reading. In relation to the state standards for reading proficiency, more students are meeting state standards for reading proficiency in Reading First schools than were proficient before the program. Students who participate longer appear to be making greater gains than students with less exposure to the Reading First program.

Prior to being awarded a Reading First grant, none of the schools in either cohort, whether rural or metropolitan, had experienced three consecutive years of making adequate yearly progress on the MAP Communication Arts program. On the state assessment, MAP, this year, 5,198 (34%) third grade students were proficient or above; and 13 (11.8 %) schools in the Reading First Program had three consecutive years of meeting annual yearly progress on the MAP Communication Arts.

Performance outcomes across measures analyzed in this report indicate steady student progress at all grade levels on all measures of reading skills. This progress may be reflective of substantial changes in teacher knowledge about the scientific constructs of reading and its application in the classroom. This possibility will be further explored in future evaluation reports presented to the Missouri Department of Elementary and Secondary Education. By better understanding how professional development and instructional leadership function within Missouri Reading First, it is more likely that successful strategies will be replicated beyond the funding stream.