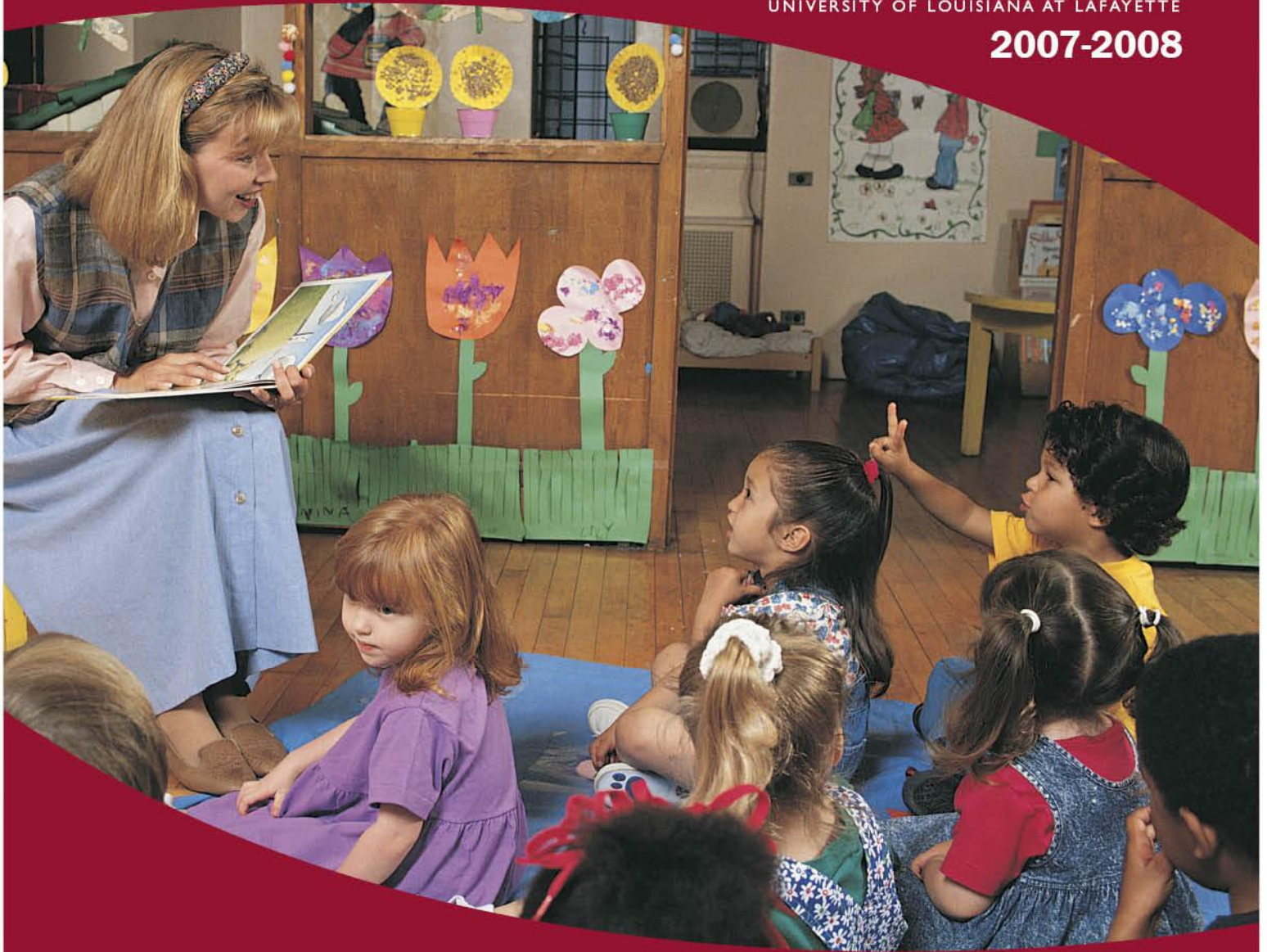


Picard Center

FOR CHILD DEVELOPMENT AND LIFELONG LEARNING
UNIVERSITY OF LOUISIANA AT LAFAYETTE

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LA 4 Longitudinal Report

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Prepared by
**Cecil J. Picard Center for Child Development and Lifelong Learning at
University of Louisiana at Lafayette, Center for Educational Accountability at
University of Alabama at Birmingham and Georgetown University Center on
Health and Education**

Acknowledgements

Louisiana Department of Education

Paul Pastorek

State Superintendent of Education

Ollie Tyler

Deputy Superintendent of Education

Scott M. Norton, PhD

Assistant Superintendent of Education, Office of Student and School Performance

Mary Louise Jones, EdD

Section Supervisor

Marybeth Ridgel

Program Officer, Office of Student and School Performance

Anita Ashford, Loren Barrios, Linda Champion, Jeanette Hidalgo, Nicholy Johnson, Crystalyn Lee, Terri McClellan, Kay Nelson, Cindy Ramagos, and Ivy Starns

Program Consultants

Fen Chou, PhD and Marieanne Hollay, PhD

Education Research Analysts

Carla Amy, Tara Baudean, Penny Black, Stephanie Blanchard, Ellen Howell, April Lauterbach, Rebecca Marcantel, Stacy Marino, Joyce Sjolander, and Libbie Sonnier

LA 4 and Special Education Coordinators

Louisiana State Board of Elementary and Secondary Education

Linda Johnson

President

Eighth District

Leslie Jacobs

Vice President

Member-at-Large

Dale Bayard

Secretary-Treasurer

Seventh District

Penny Dastugue

First District

Louella Givens

Second District

Glenny Lee Buquet

Third District

Walter Lee
Fourth District

Dr. James Stafford
Fifth District

Polly Broussard
Sixth District

Edgar Chase
Member-at-Large

Mary Washington
Member-at-Large

Weegie Peabody
Executive Director

Cecil J. Picard Center for Child Development and Lifelong Learning Research Team at the University of Louisiana at Lafayette

Billy R. Stokes, EdD, MBA
Cecil J. Picard Endowed Fellow in Child Development
Executive Director

Ouida Forsyth, EdS
Project Director, Early Childhood

Gary Asmus, PhD
Director, Management Information Systems

Kara L. Farmer, MS
Research Associate

Georgetown University Center on Health and Education

Craig T. Ramey, PhD
Georgetown Distinguished Professor of Health Studies
Director

Center for Educational Accountability at the University of Alabama at Birmingham

Carl M. Brezausek, MS
Information Systems Specialist III

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Longitudinal Benefits

The high-quality early childhood education provided by LA 4 programs has had a positive impact on children's academic success. From the kindergarten year through fourth grade and according to every empirical measure that has been applied, LA 4 participants demonstrate improved performance when compared with all other children who do not have a record of receiving any public prekindergarten. The following sections provide details of findings in the following areas:

- ***i*LEAP**
- **LEAP**
- **Retention in all grades**
- **Placement in special education**
- **Additive benefit of participation in Louisiana's Reading First Program**

In order to continue monitoring the long-term progress of children who participate in the LA 4 program, each cohort will be followed as they progress through the public schools in Louisiana. To date, LA 4 cohort 1 children (who participated in LA 4 in 2002-03) and have completed the fourth grade during the 2007-08 school year, show greater levels of academic achievement when compared with their peers who did not participate in a public prekindergarten program. Similar results were seen with LA 4 cohort 2 students (who participated in LA 4 in 2003-04) on the third-grade *i*LEAP achievement test when compared with their peers who did not participate in a public prekindergarten program. The performance on the eighth-grade LEAP for cohort 1 will serve as the next longitudinal measure of achievement. This cohort and all subsequent cohorts will be similarly tracked until high school graduation. Additionally, grade retention, special education placement, and participation in Louisiana's Reading First will be analyzed for each cohort as they progress through the public school system.

Policy Brief

1. Research Findings

Four-year-old at-risk children, who participate in the LA 4 prekindergarten program continue to show significant gains in the academic areas of Language, Print, and Math year after year.

The LA 4 program has for the past six years shown that at-risk four-year-olds enter the program at or below the 11th percentile and exit performing at or near the national average (50th percentile) in Language, Print, and Math.

Policy Implications

Continue the delivery of high-quality prekindergarten and school readiness initiatives for targeted at-risk four-year-olds.

Expand prekindergarten programs to serve all at-risk four-year-olds (approximately 35,000).

Implement the LA 4 high-quality components across all funding types including LA 4, Title I, 8(g), Locally Funded, the Nonpublic Schools Early Childhood Development Program, Head Start, Even Start, the Educational Excellence Fund, and the Rural Educational Achievement Program.

2. Research Findings

Participation in the LA 4 program increases student performance on Louisiana's *i*LEAP and LEAP achievement tests, sustaining continued benefits through the fourth grade.

Cohort 1 students who participated in the LA 4 program in 2002-03 outperformed their no-public-prekindergarten peers (NPPK) by scoring at Basic and Above on statewide assessments in similar school environments on the 2007-08 LEAP (as fourth-graders) by 8% in Language, 10% in Math, 6% in Science, and 5% in Social Studies. Similar results were seen with cohort 2 students (who participated in the LA 4 program in 2003-04). Cohort 2 students outperformed their NPPK peers by 9% in Language, 9% in Math, 7% in Science, and 9% in Social Studies on the 2007-08 *i*LEAP.

**The percentages reflect the difference in scores between the two groups scoring at achievement levels Basic and Above.*

Policy Implications

It can be expected that at-risk students who are exposed to the high-quality LA 4 program will score higher in English/Language Arts (ELA), Math, Science, and Social Studies.

3. Research Findings

The LA 4 program significantly reduces the number of students placed in special education.

Cohort 3 LA 4 students (participants in the LA 4 program in 2004-05) and cohort 4 LA 4 students (participants in the LA 4 program in 2005-06) were placed in special education at a relative reduction rate of 33%-43% lower than their NPPK peers in kindergarten.

Policy Implications

Reduce the placement in special education by increasing the participation of students in LA 4 type programs.

Continue the reduction in special education placement and use the dollars freed within the MFP to implement an aggressive intervention program for those students remaining in quartile one at midyear.

Revenue freed within the MFP as a result in the reduction in special education placement should be used to support the integration of students, identified as needing additional services, into regular education classes. This includes providing students with interventionists and reading coaches to support academic learning.

4. Research Findings

Participation in the LA 4 program significantly reduces grade retention in the elementary grades.

Children who participate in the LA 4 program show consistent reductions in kindergarten grade retention year after year. Relative to their NPPK peers, cohort 1 LA 4 students show a 28% reduction in kindergarten grade retention, cohort 2 LA 4 students show a 30% reduction in kindergarten grade retention, cohort 3 LA 4 students show a 39% reduction, and cohort 4 LA 4 students show a 32% reduction in kindergarten grade retention when compared to their NPPK peers.

Policy Implications

Reduce the number of students who are grade retained by increasing the participation of students in LA 4.

Revenue freed as a result of the reduction in grade retentions should be used to provide support and/or intervention for those students who are not retained (i.e. reading coaches, tutors, before and after care, and extended learning programs).

Follow these students as they progress into adulthood in order to validate that they graduated high school and did not drop out of school.

5. Research Findings

Some targeted children will require additional high quality early childhood educational opportunities to become “school ready.”

Each year, about 14% of LA 4 students remain in quartile 1 (students scoring in the lowest 25% of the sample) in Language, 12% remain in quartile 1 in Print, and 22% remain in quartile 1 in Math. The implication is that these children may have needed additional high-quality educational experiences to become more school ready.

Policy Implications

Develop a collaborative strategy for three-year-old at-risk students that transitions into the overall universal prekindergarten policy.

Accountability Achievement Level in Third Grade: A Comparison of Children Who Received the LA 4 Program in Prekindergarten with Those Who Received No Public Prekindergarten

Introduction

This report presents data about the performance of cohort 2 children (those who received the LA 4 full-year program in 2003-04) on the Integrated Louisiana Educational Assessment Program (*iLEAP*). In particular, this report will provide comparisons of students who participated in LA 4 in their prekindergarten year with those children who did not participate in any public prekindergarten program and who have subsequently been administered the *iLEAP* in their third-grade year.

Study Sample

Scores on the *iLEAP* were examined for all third graders taking the test during the spring 2008 semester. We included students who entered public school in 2004-05, were in third grade in the spring of 2008, and had complete *iLEAP* scores in the state's student record file. Scores for those children in the LA 4 cohort 2 group ($n = 2,903$, of whom 2,299 were eligible for FRL services) were compared with those children who did not participate in LA 4 or any other publicly funded prekindergarten program (the NPPK group). The comparison group was enrolled in the same schools as LA 4 cohort 2 students in 2004-05 ($n = 11,267$, of whom 6,912 were eligible for FRL services). The LA 4 cohort 2 group and the NPPK group entered public school kindergarten during the 2004-05 school year and subsequently advanced to third grade on schedule. These two groups were divided into two subgroups, based on their third-grade enrollment status in FRL programs, for the analyses presented here.

The Integrated Louisiana Education Assessment Program

From 1998 through 2005, Louisiana students in grades three, five, six, seven, and nine were assessed using the Iowa Tests, which are norm-referenced tests (NRTs). The Iowa Tests provide data for evaluating Louisiana student performance in comparison with the performance of students across the nation. The No Child Left Behind Act (NCLB), enacted in 2002, requires that state assessments be aligned to state content standards and that student results be expressed in terms of the state's performance standards (i.e., Louisiana's five achievement levels, ranging from *unsatisfactory* to *advanced*). Since the Iowa Tests alone do not fulfill this NCLB requirement, the Integrated Louisiana Educational Assessment Program (*iLEAP*) was developed. In January 2003, the Board of Elementary and Secondary Education (BESE) approved the use of augmented norm-referenced tests, referred to as *iLEAP*, at grades three, five, six, seven, and nine. Additionally, as another benefit, administration of the *iLEAP* made it possible to compare the performance of third, fifth, sixth, seventh, and ninth graders from one year to the next. Beginning in spring 2006, the *iLEAP* tests were administered to public school students in grades three, five, six, seven, and nine. Beginning in 2007-08, NCLB required tests in science: once in grades three through five, once in grades six through nine, and once in grades ten through twelve.

The *iLEAP* assessments were developed to align to Louisiana content standards, benchmarks, and grade-level expectations (GLEs). The *iLEAP* is referred to as an *integrated* LEAP because Louisiana chose to combine a norm-referenced test and a criterion-referenced test. The *iLEAP* tests were constructed using test items from two sources: items from the Iowa Tests and new test items specifically developed to measure certain content standards and GLEs. Through the *iLEAP*, students are able to demonstrate what they understand about the subjects as well as their mastery of

the GLEs. Educators can determine how students are progressing in relation to the content standards from year to year.

Louisiana’s general policy definitions for the five achievement levels are as follows:

- *advanced*: A student at this level has demonstrated superior performance beyond the level of mastery.
- *mastery*: A student at this level has demonstrated competency with challenging subject matter and is well prepared for the next level of schooling.
- *basic*: A student at this level has demonstrated only the fundamental knowledge and skills needed for the next level of schooling.
- *approaching basic*: A student at this level has only partially demonstrated the fundamental knowledge and skills needed for the next level of schooling.
- *unsatisfactory*: A student at this level has not demonstrated the fundamental knowledge and skills needed for the next level of schooling.

Study Findings

***i*LEAP Accountability Achievement Level in the Third Grade**

Table 1 displays the distribution of achievement levels for each of the four study groups (LA 4, FRL; LA 4, no FRL; NPPK, FRL; and NPPK, no FRL) within each major component of the *i*LEAP. Figure 1 displays the distributions of the four groups and Louisiana students statewide based on the proportion of students scoring at the *basic* level and above. For the LA 4, FRL group, the percentage of students at achievement level *basic* and above on the *i*LEAP subtests ranged between 54% and 66%, compared with 47% and 58% for the NPPK, FRL group. The results of the z-test of proportion show that students who participated in the LA 4 program and who were eligible for FRL had higher achievement levels on all *i*LEAP subtests than did their peers who were also eligible for FRL but did not receive any public prekindergarten program. Z-tests of proportion yielded z-scores of 7.48, 7.84, 6.00, and 7.61 with p values < 0.001 in English language arts, math, science, and social studies, respectively.

For the no FRL groups, the z-test of proportion yielded z-scores of 0.67 NS; 1.55 NS; 2.27 with p = 0.02; and 0.73 NS on English language arts, math, science, and social studies, respectively. This indicates that LA 4, no FRL students, had comparable achievement levels on the third-grade English language arts, math, and social studies subtests when compared with their NPPK, no FRL peers.

Table 1. Summary of iLEAP Accountability Achievement Levels in the Third Grade: Comparing Students in LA 4 Cohort 2 with Children Who Received No Public Prekindergarten Program and Who Were Eligible or Ineligible to Receive Free or Reduced Price Lunch Services

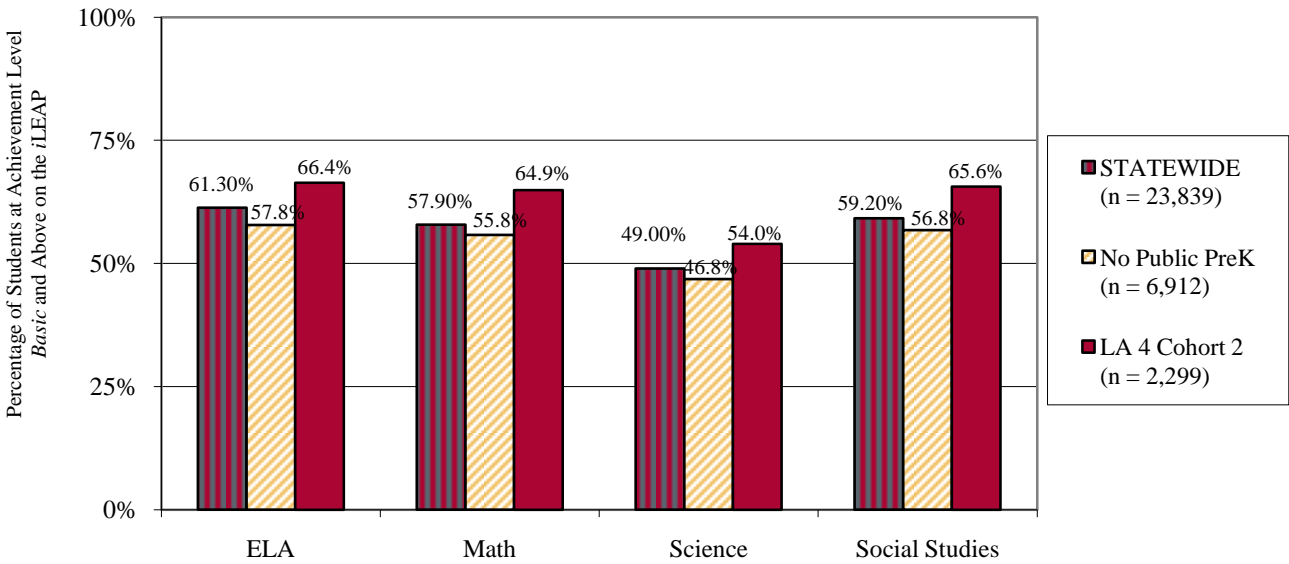
A. Free or Reduced Price Lunch Services

iLEAP Accountability Achievement Level	LA 4 (n = 2,299)				No Public PreK (n = 6,912)			
	ELA	Math	Science	Social Studies	ELA	Math	Science	Social Studies
<i>Unsatisfactory</i>	260 (11.3%)	328 (14.3%)	338 (14.7%)	277 (12.0%)	1,271 (18.4%)	1,571 (22.7%)	1,338 (19.4%)	1,190 (17.2%)
<i>Approaching Basic</i>	513 (22.3%)	480 (20.9%)	720 (31.3%)	515 (22.4%)	1,648 (23.8%)	1,486 (21.5%)	2,337 (33.8%)	1,796 (26.0%)
<i>Basic</i>	1,103 (48.0%)	1,042 (45.3%)	1,001 (43.5%)	1,202 (52.3%)	2,922 (42.3%)	2,789 (40.4%)	2,597 (37.6%)	3,142 (45.5%)
<i>Mastery</i>	363 (15.8%)	324 (14.1%)	205 (8.9%)	267 (11.6%)	949 (13.7%)	811 (11.7%)	535 (7.7%)	694 (10.0%)
<i>Advanced</i>	60 (2.6%)	125 (5.4%)	35 (1.5%)	38 (1.7%)	122 (1.8%)	255 (3.7%)	105 (1.5%)	90 (1.3%)

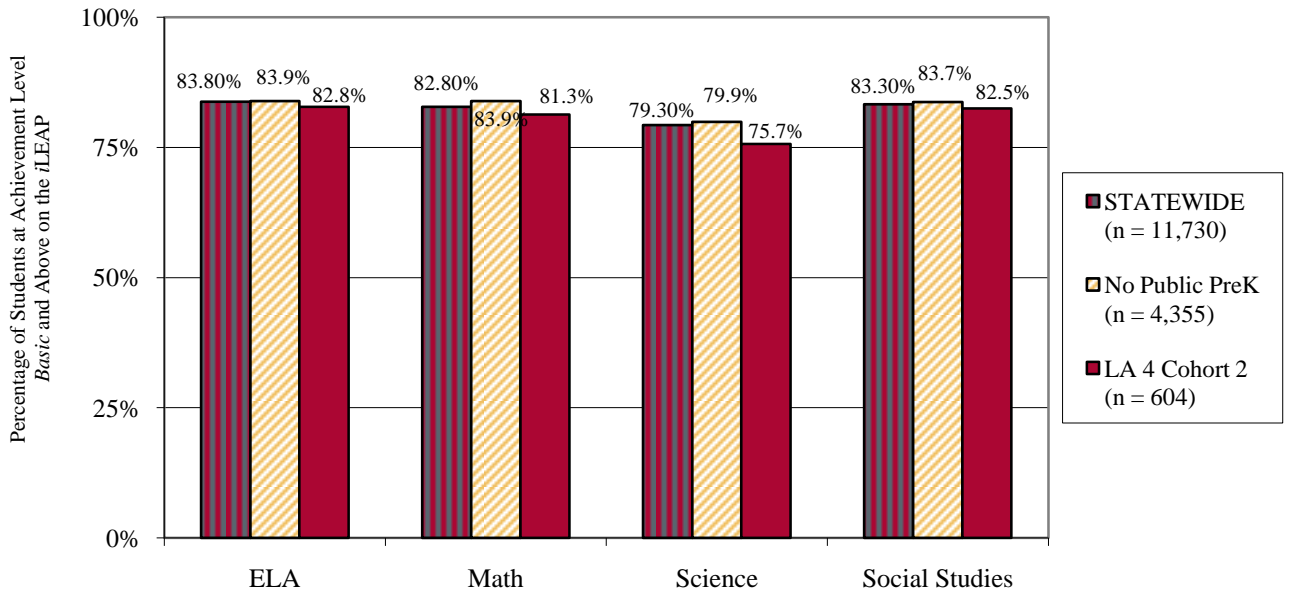
B. No Free or Reduced Price Lunch Services

iLEAP Accountability Achievement Level	LA 4 (n = 604)				No Public PreK (n = 4,355)			
	ELA	Math	Science	Social Studies	ELA	Math	Science	Social Studies
<i>Unsatisfactory</i>	27 (4.5%)	37 (6.1%)	26 (4.3%)	29 (4.8%)	212 (4.9%)	259 (5.9%)	196 (4.5%)	222 (5.1%)
<i>Approaching Basic</i>	77 (12.7%)	76 (12.6%)	121 (20.0%)	77 (12.7%)	490 (11.3%)	444 (10.2%)	679 (15.6%)	489 (11.2%)
<i>Basic</i>	296 (49.0%)	271 (44.9%)	288 (47.7%)	316 (52.3%)	1,834 (42.1%)	1,830 (42.0%)	2,084 (47.9%)	2,160 (49.6%)
<i>Mastery</i>	173 (28.6%)	148 (24.5%)	137 (22.7%)	154 (25.5%)	1,379 (31.7%)	1,147 (26.3%)	1,039 (23.9%)	1,221 (28.0%)
<i>Advanced</i>	31 (5.1%)	72 (11.9%)	32 (5.3%)	28 (4.6%)	440 (10.1%)	675 (15.5%)	357 (8.2%)	263 (6.0%)

A. Free or Reduced Price Lunch Services



B. No Free or Reduced Price Lunch Services



Note: “Statewide” represents students who entered public school kindergarten the same year as cohort 2 students and have completed *iLEAP* tests in the third grade.

Figure 1. Percentage of students scoring at achievement level *basic* and above on the *iLEAP* as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility

iLEAP Accountability Achievement Levels in the Third Grade Related to Demographic Characteristics of Children

A. Ethnic Subgroups

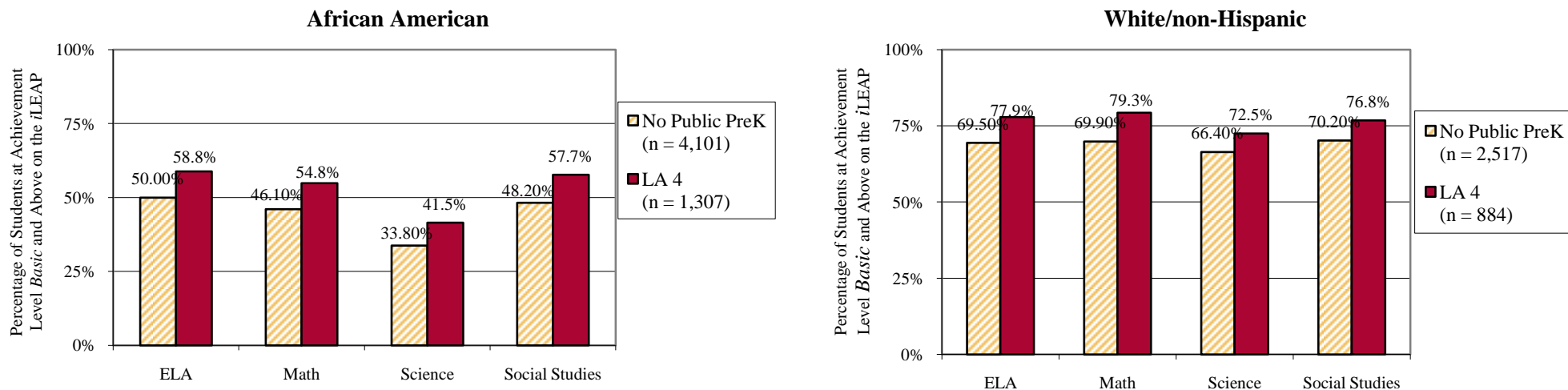
Figure 2 presents findings about the percentage of students at achievement level *basic* and above on third-grade iLEAP subtests by ethnic subgroups. For FRL groups, 57% of LA 4 students are African American and 39% are White/non-Hispanic, while 59% of the NPPK students are African American and 36% are White/non-Hispanic. The percentage of LA 4, FRL, African American students who scored at achievement level *basic* and above was 59% on English language arts, 55% on math, 42% on science, and 58% on social studies. In contrast, the percentage of NPPK, FRL, African American students who scored at achievement level *basic* and above was 50% on English language arts, 46% on math, 34% on science, and 48% on social studies. We conducted statistical tests of significance for these NPPK, FRL, African American students by comparing the proportion of students at achievement level *basic* and above on all the iLEAP subtests for the LA 4 group versus the NPPK group. The z-test of proportion yielded z-scores of 5.61, 5.50, 4.97, and 6.04 with p values < 0.001 on English language arts, math, science, and social studies, respectively. This indicates that African American students who enrolled in the LA 4 program and qualified for FRL services had statistically higher achievement levels in the third grade than did African Americans who did not participate in any public prekindergarten and qualified for FRL services.

The percentage of LA 4, FRL, White/non-Hispanic students who scored at achievement level *basic* and above was 78% on English language arts, 79% on math, 73% on science, and 77% on social studies. For the NPPK, FRL students, 70% of the White/non-Hispanic students scored at achievement level *basic* and above on English language arts, 70% on math, 66% on science, and 70% on social studies. We conducted statistical tests of significance for these FRL, White/non-Hispanic students by comparing the proportion of students at achievement level *basic* and above on all iLEAP subtests for the LA 4 group versus the NPPK group. The z-test of proportion yielded z-scores of 5.03, 5.73, 3.44, and 3.91 with p values < 0.001 on English language arts, math, science, and social studies, respectively. This indicates that FRL, White/non-Hispanic students who enrolled in the LA 4 program had statistically higher achievement levels in the third grade than did FRL, White/non-Hispanics who did not receive any public prekindergarten.

Although a higher percentage of White/non-Hispanic students scored at achievement level *basic* and above than did African American students, there was a significant improvement in the third-grade achievement level for African Americans who participated in the LA 4 program.

For the no FRL groups, 19% of LA 4 students are African American and 77% are White/Non-Hispanic, while 11% of NPPK students are African American and 85% are White/Non-Hispanic. No statistical differences in the third-grade iLEAP achievement levels were found between African Americans in the LA 4 group and African Americans in the NPPK group or between White/non-Hispanics in the LA 4 group and White/non-Hispanics in the NPPK group.

A. Free or Reduced Price Lunch Services



B. No Free or Reduced Price Lunch Services

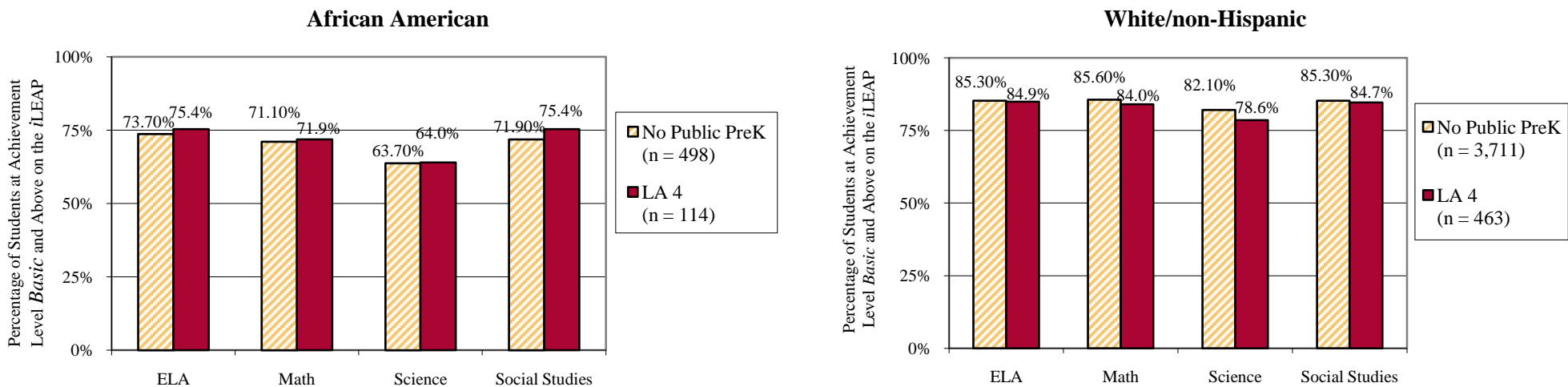


Figure 2. Percentage of students scoring at achievement level *basic* and above on the iLEAP as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility by ethnic group

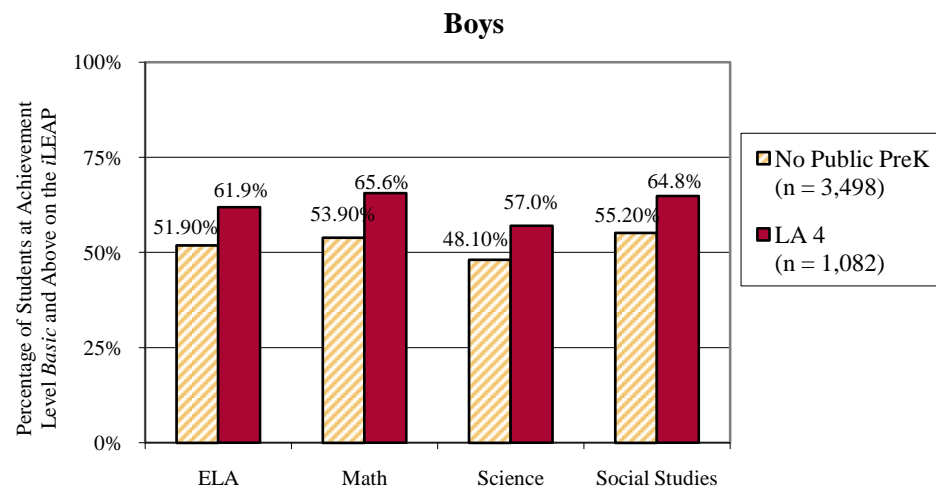
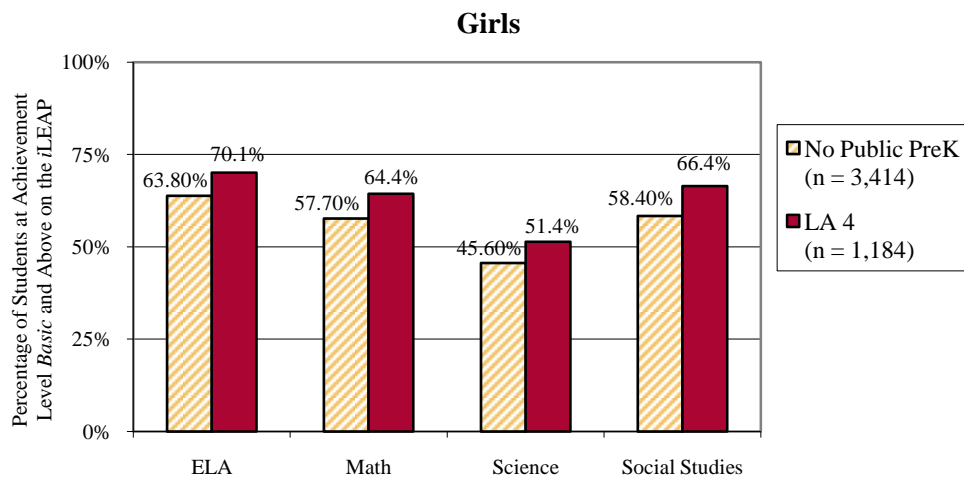
B. Gender

Figure 3 presents findings about the percentage of students at achievement level *basic* and above on the third-grade *iLEAP* subtests by gender. For the LA 4, FRL students, the percentage of girls scoring at achievement level *basic* and above was 70% on English language arts, 64% on math, 51% on science, and 66% on social studies. In contrast, for the NPPK, FRL students, 64% of the girls scored at achievement level *basic* and above on English language arts, 58% on math, 46% on science, and 58% on social studies. We conducted statistical tests of significance for these FRL students by comparing proportions of girls at achievement level *basic* and above on all the *iLEAP* subtests for the LA 4 group versus the NPPK group. The z-test of proportion yielded z-scores of 4.03, 4.11, 3.44, and 4.97 with p values < 0.001 in English language arts, math, science, and social studies, respectively. This indicates that girls who enrolled in the LA 4 program had statistically higher achievement levels on the third-grade *iLEAP* than did girls who did not participate in any public prekindergarten and qualified for FRL services.

A similar pattern was found for the LA 4, FRL boys. The percentage of students who scored at achievement level *basic* and above was 62% on English language arts, 66% on math, 57% on science, and 65% on social studies. For the NPPK, FRL boys, 52% scored at achievement level *basic* and above on English language arts, 54% on math, 48% on science, and 55% on social studies. We conducted statistical tests of significance for these FRL students by comparing proportion of boys at achievement level *basic* and above on all *iLEAP* subtests for the LA 4 group versus the NPPK group. The z-test of proportion yielded z-scores of 5.88, 6.99, 5.16, and 5.72 with p values < 0.001 on English language arts, math, science, and social studies, respectively. This indicates that FRL boys who enrolled in the LA 4 program had statistically higher achievement levels on all third-grade *iLEAP* subtests than did FRL boys who did not participate in any public prekindergarten.

A similar analysis was conducted for no FRL groups. The percentage of LA 4, no FRL girls who scored at achievement level *basic* and above was 88% on English language arts, 81% on math, 74% on science, and 83% on social studies. In contrast, for the NPPK, no FRL girls, 88% scored at achievement level *basic* and above on English language arts, 85% on math, 79% on science, and 85% on social studies. We conducted statistical tests of significance for these no FRL students by comparing proportions of girls at achievement level *basic* and above on all the *iLEAP* subtests for the LA 4 group versus the NPPK group. No statistical differences in the third-grade *iLEAP* achievement levels were found between LA 4, no FRL girls and NPPK, no FRL girls or between LA 4, no FRL boys and NPPK, no FRL boys.

A. Free or Reduced Price Lunch Services



B. No Free or Reduced Price Lunch Services

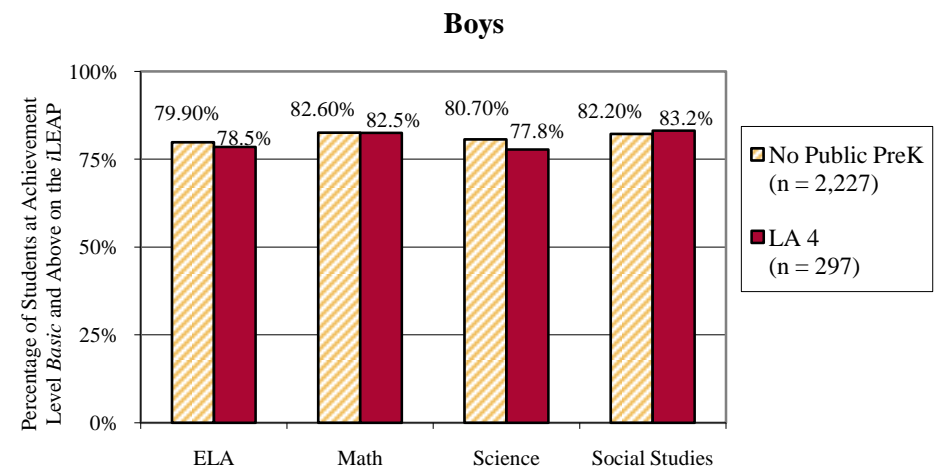
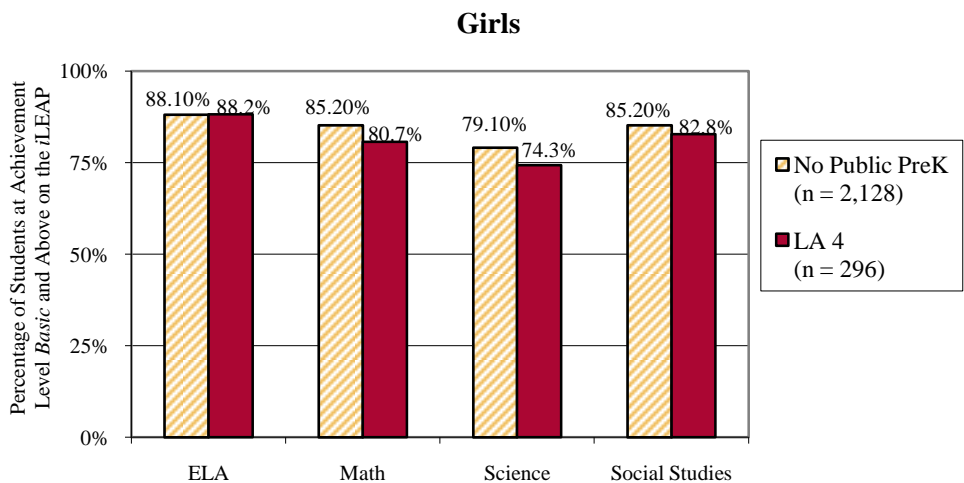


Figure 3. Percentage of students scoring at achievement level *basic* and above on the *iLEAP* as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility by gender

Figure 4 (below) displays the distributions of achievement levels *basic* and above on the third-grade *i*LEAP for students who received the LA 4 program and qualified for FRL services in 2002-03 (cohort 1) and 2003-04 (cohort 2). For LA 4 cohort 2, FRL students, the percentage of students scoring at achievement level *basic* and above ranged between 54% and 66% compared with 57% and 68% for LA 4 cohort 1, FRL students.

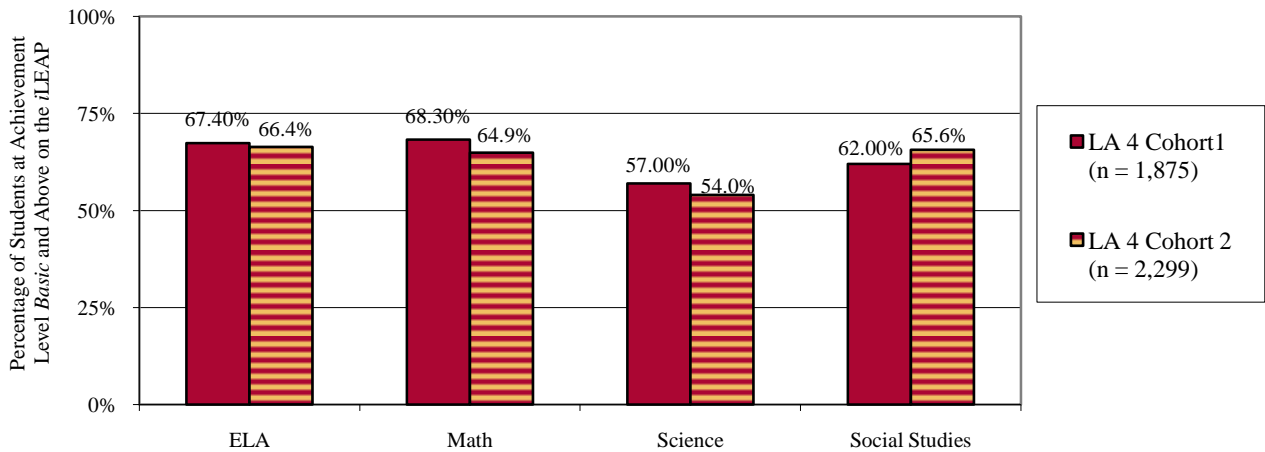


Figure 4. Percentage of students scoring at achievement level *basic* and above on the *i*LEAP as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility by cohort

Summary

Among LA 4 cohort 2 students, there was a statistically significant improvement in third-grade accountability achievement levels for those children who received FRL services in the third grade.

It appears that for children in low income families, as indexed by their FRL participation, the LA 4 program markedly improves their achievement in the third grade. However, for children from higher income families, who are ineligible for FRL services, the LA 4 program did not confer an advantage of improving students’ performances in third grade. These findings also apply when analyzing LA 4 student achievement levels by race and gender.

Accountability Achievement Levels in Fourth Grade: A Comparison of Children Who Received the LA 4 Program in Prekindergarten with Those Who Received No Public Prekindergarten

Introduction

This report presents data about the performance of cohort 1 children (those who received the LA 4 full-year program in 2002-03) on the Louisiana Educational Assessment Program (LEAP). Previous findings show that students who received the LA 4 program in prekindergarten and qualified for FRL services showed significant improvement in third-grade accountability levels on the third-grade *i*LEAP assessment.

This report provides comparisons of students who participated in LA 4 in their prekindergarten year with those students who did not participate in any public prekindergarten program and who have subsequently been administered the LEAP in their fourth-grade year.

Study Sample

Scores on the LEAP were examined for all fourth graders taking the test during the spring 2008 semester. We included students who entered public school in 2003-04, were in fourth grade in the spring of 2008, and had complete LEAP scores in the state's student record file. Scores for those children in the LA 4 cohort 1 group (n = 2,183, of whom 1,764 were eligible for FRL services) were compared with those children who did not participate in LA 4 or any other publicly funded prekindergarten program. The comparison group was enrolled in the same schools as LA 4 cohort 1 students in 2003-04 (n = 8,096, of whom 5,013 were eligible for FRL services). The LA 4 cohort 1 group and the NPPK group entered public school kindergarten during the 2003-04 school year and subsequently advanced to fourth grade on schedule. These two groups were divided into two subgroups, based on their fourth-grade enrollment status in FRL programs, for the analyses presented here.

Study Findings

LEAP Accountability Achievement Levels in the Fourth Grade

Table 2 displays the distribution of achievement levels for each of the four study groups (LA 4, FRL; LA 4, no FRL; and NPPK, FRL) within each major component of the LEAP. Figure 5 displays the distributions of the four groups and Louisiana students statewide based on the proportion of students scoring at the *basic* level and above. For the LA 4, FRL group, the percentage of students scoring at achievement level *basic* and above on the LEAP subtests ranged between 60% and 75%, compared with 54% and 67% for the NPPK, FRL group. The results of the z-test of proportion show that students enrolled in the LA 4 program and eligible for FRL services had higher achievement levels on all LEAP subtests than did their peers who were also eligible for FRL services and did not receive any public prekindergarten program. Z-tests of proportion yielded z-scores of 6.45, 7.65, 4.18, and 3.72 with p values < 0.001 in English language arts, math, science, and social studies, respectively.

For the no FRL groups the z-test of proportion yielded z-scores of 1.79 NS; 1.51 NS; 2.00 with $p = 0.002$ on English language arts, math, science, and social studies, respectively. This indicates that NPPK, no FRL students, had statistically higher achievement levels on the fourth-grade English language arts, science, and social studies subtests than did LA 4, no FRL students.

Table 2. Summary of LEAP Accountability Achievement Levels in the Fourth Grade: Comparing Students in LA 4 Cohort 1 with Children Who Received No Public Prekindergarten Program and Who Were Eligible or Ineligible to Receive Free or Reduced Price Lunch Services

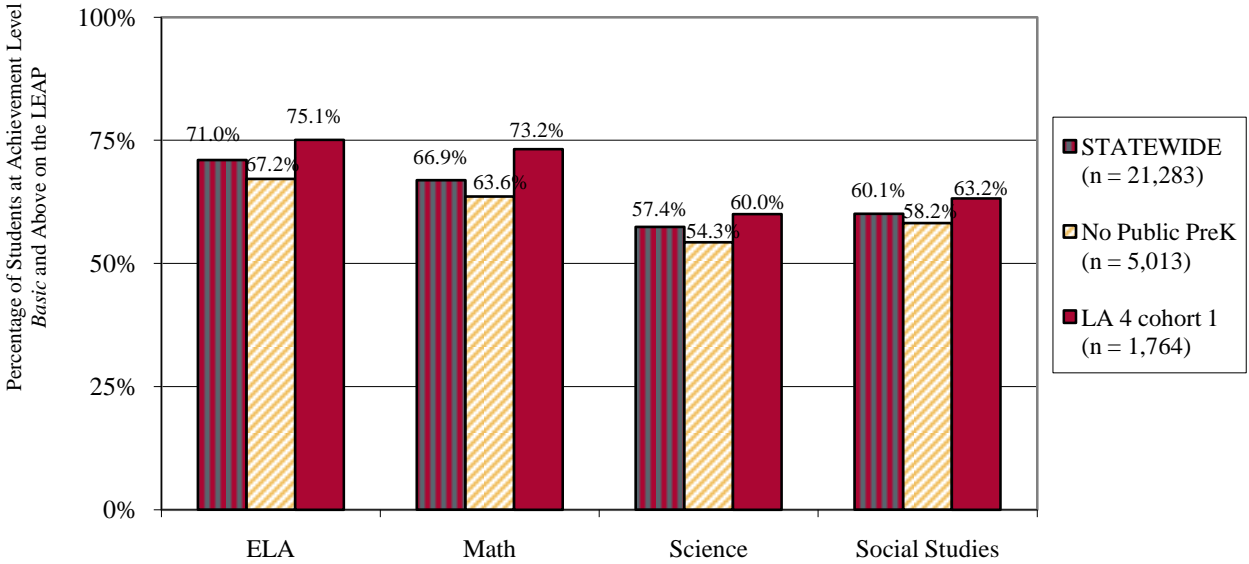
A. Free or Reduced Price Lunch Services

LEAP Accountability Achievement Level	LA 4 (n = 1,764)				No Public PreK (n = 5,013)			
	ELA	Math	Science	Social Studies	ELA	Math	Science	Social Studies
<i>Unsatisfactory</i>	117 (6.6%)	160 (9.1%)	168 (9.5%)	230 (13.0%)	675 (13.5%)	861 (17.2%)	748 (14.9%)	1,013 (20.2%)
<i>Approaching Basic</i>	322 (18.3%)	313 (17.7%)	538 (30.5%)	419 (23.8%)	968 (19.3%)	964 (19.2%)	1,543 (30.8%)	1,081 (21.6%)
<i>Basic</i>	842 (47.7%)	860 (48.8%)	828 (46.9%)	886 (50.2%)	2,293 (45.7%)	2,242 (44.7%)	2,124 (42.4%)	2,351 (46.9%)
<i>Mastery</i>	433 (24.5%)	353 (20.0%)	213 (12.1%)	213 (12.1%)	953 (19.0%)	800 (16.0%)	561 (11.2%)	538 (10.7%)
<i>Advanced</i>	50 (2.8%)	78 (4.4%)	17 (1.0%)	16 (0.9%)	124 (2.5%)	146 (2.9%)	37 (0.7%)	30 (0.6%)

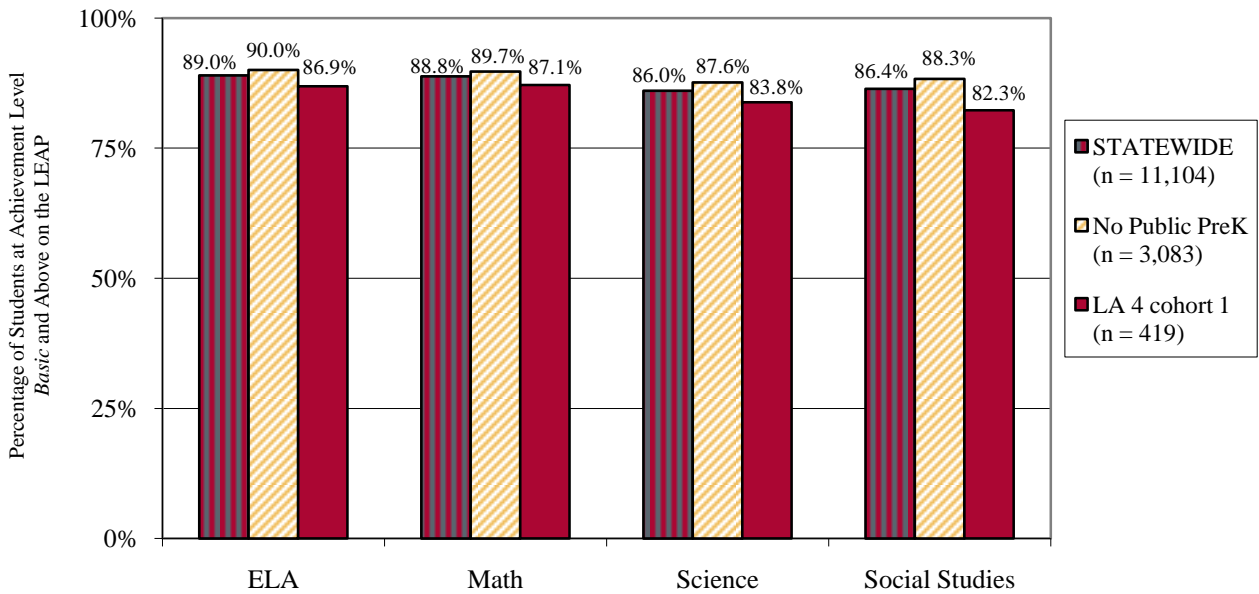
B. No Free or Reduced Price Lunch Services

LEAP Accountability Achievement Level	LA 4 (n = 419)				No Public PreK (n = 3,083)			
	ELA	Math	Science	Social Studies	ELA	Math	Science	Social Studies
<i>Unsatisfactory</i>	16 (3.8%)	12 (2.9%)	10 (2.4%)	21 (5.00%)	85 (2.8%)	97 (3.1%)	56 (1.8%)	104 (3.4%)
<i>Approaching Basic</i>	39 (9.3%)	42 (10.0%)	58 (13.8%)	53 (12.6%)	223 (7.2%)	220 (7.1%)	326 (10.6%)	256 (8.3%)
<i>Basic</i>	187 (44.6%)	192 (45.8%)	230 (54.9%)	236 (56.3%)	1,216 (39.4%)	1,291 (41.9%)	1,489 (48.3%)	1,543 (50.0%)
<i>Mastery</i>	153 (36.5%)	139 (33.2%)	109 (26.0%)	106 (25.3%)	1,223 (39.7%)	1,048 (34.0%)	1,004 (32.6%)	1,020 (33.1%)
<i>Advanced</i>	24 (5.7%)	34 (8.1%)	12 (2.9%)	3 (0.7%)	336 (10.9%)	427 (13.9%)	208 (6.7%)	160 (5.2%)

A. Free or Reduced Price Lunch Services



B. No Free or Reduced Price Lunch Services



Note: Statewide represents students who entered public school kindergarten the same year as cohort 1 students and have completed LEAP tests in the fourth grade.

Figure 5. Percentage of students scoring at achievement level *basic* and above on the LEAP as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility

LEAP Accountability Achievement Levels in the Fourth Grade Related to Demographic Characteristics of Children

A. Ethnic Subgroups

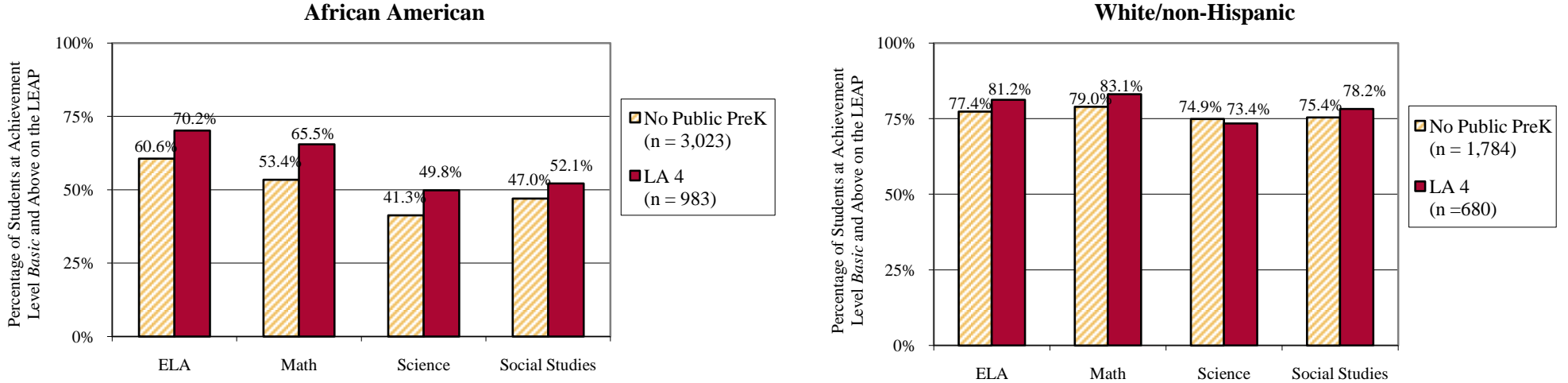
Figure 6 presents the findings about the percentage of students scoring at achievement level *basic* and above on fourth-grade LEAP subtests by ethnic subgroups. For FRL groups, 56% of LA 4 students are African American and 39% are White/non-Hispanic, while 60% of the NPPK students are African American and 36% are White/non-Hispanic. The percentage of LA 4, FRL, African American students who scored at achievement level *basic* and above was 70% on English language arts, 66% on math, 50% on science, and 52% on social studies. In contrast, for the NPPK, FRL, African American students who scored at achievement level *basic* and above was 61% on English language arts, 53% on math, 41% on science, and 47% on social studies. We conducted statistical tests of significance for these African American, FRL students by comparing the proportion of students at achievement level *basic* and above on all the LEAP subtests for the LA 4 group versus the NPPK. The z-test of proportion yielded z-scores of 5.62 with p value < 0.001, 6.85 with p value < 0.001, 4.65 with p value < 0.001, and 2.78 with p value < 0.01 in English language arts, math, science, and social studies, respectively. This indicates that LA 4, FRL, African American students had statistically higher achievement levels in the fourth grade than did NPPK, FRL, African American students.

For LA 4, FRL students, the percentage of White/non-Hispanic students who scored at achievement level *basic* and above was 81% on English language arts, 83% on math, 73% on science, and 78% on social studies. For the NPPK, FRL students, the percentage of White/non-Hispanic students who scored at achievement level *basic* and above was 77% on English language arts, 79% on math, 75% on science, and 75% on social studies. We conducted statistical tests of significance for these White/non-Hispanic, FRL students by comparing the proportion of students at achievement level *basic* and above on all LEAP subtests for the LA 4 group versus the NPPK group. The z-test of proportion yielded z-scores of 2.12 with p = 0.03, 2.37 with p = 0.02, 0.76 NS, and 1.49 NS in English language arts, math, science, and social studies, respectively. This indicates that LA 4, FRL, White/non-Hispanic students had statistically higher achievement levels in the fourth grade on English language arts and math subtests than did NPPK, FRL, White/non-Hispanic students.

Although a higher percentage of White/non-Hispanic students scored at achievement level *basic* and above than did African American students, there was a significant improvement in the fourth-grade achievement level for African American students who participated in the LA 4 program.

For the no FRL groups, 20% of LA 4 students are African American and 77% are White/non-Hispanic, while 11% of NPPK students are African American and 85% are White/non-Hispanic. No statistical differences in the fourth-grade LEAP achievement levels were found between African Americans in the LA 4 group and African Americans in the NPPK group or between White/non-Hispanics in the LA 4 group and White/non-Hispanics in the NPPK group (with the exception of the social studies subtest).

A. Free or Reduced Price Lunch Services



B. No Free or Reduced Price Lunch Services

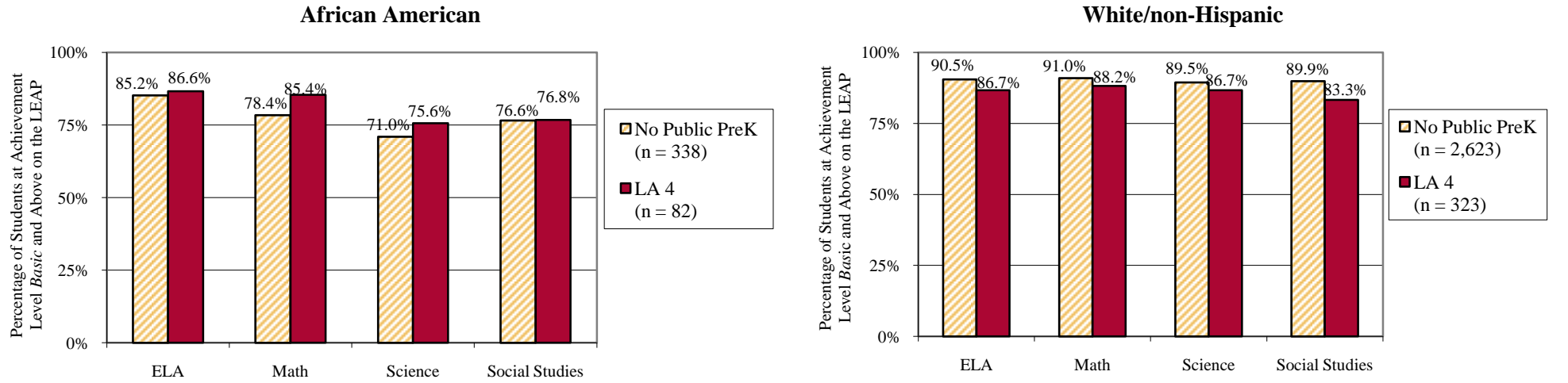


Figure 6. Percentage of students scoring at achievement level *basic* and above on the LEAP as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility by ethnic subgroup

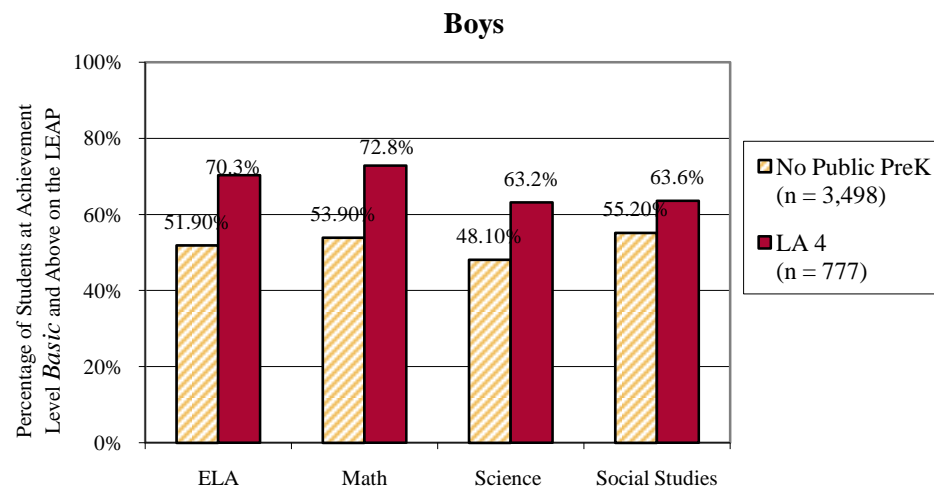
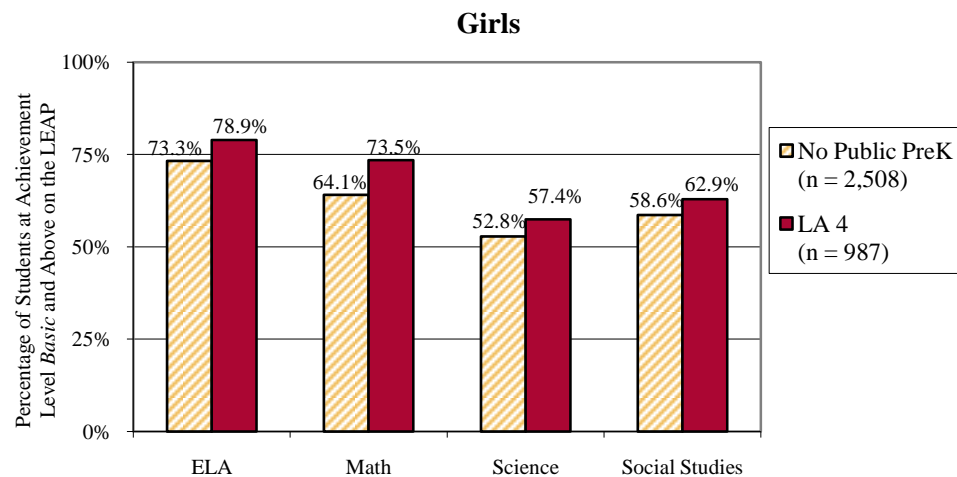
B. Gender

Figure 7 presents the findings about the percentage of students scoring at achievement level *basic* and above on the fourth-grade LEAP subtests by gender. For the LA 4, FRL students, the percentage of girls scoring at achievement level *basic* and above was 79% on English language arts, 74% on math, 57% on science, and 63% on social studies. In contrast, for the NPPK, FRL students, 73% of the girls scored at achievement level *basic* and above on English language arts, 64% on math, 53% on science, and 59% on social studies. We conducted statistical tests of significance for these FRL students by comparing the proportion of girls scoring at achievement level *basic* and above on all LEAP subtests for the LA 4 group versus the NPPK group. The z-test of proportion yielded z-scores of 3.57 with $p < 0.001$, 5.53 with $p < 0.001$, 2.47 with $p < 0.05$, and 2.36 with $p < 0.05$ on English language arts, math, science, and social studies, respectively. This indicates that girls who enrolled in the LA 4 program and qualified for FRL services had statistically higher achievement levels on the fourth-grade LEAP than did girls who did not participate in any public prekindergarten program and qualified for FRL services.

A similar pattern was found for the LA 4, FRL boys. The percentage of students scoring at achievement level *basic* and above was 70% on English language arts, 73% on math, 63% on science, and 64% on social studies. For the NPPK, FRL boys, 52% scored at achievement level *basic* and above on English language arts, 54% on math, 48% on science, and 55% on social studies. We conducted statistical tests of significance for these FRL students by comparing the proportion of boys at achievement level *basic* and above on all LEAP subtests for the LA 4 group versus the NPPK group. The z-test of proportion yielded z-scores of 4.77 with $p < 0.001$, 5.20 with $p < 0.001$, 3.66 with $p < 0.001$, and 2.87 with $p < 0.01$ on English language arts, math, science, and social studies, respectively. This indicates that FRL boys who enrolled in the LA 4 program had statistically higher achievement levels on all fourth-grade LEAP subtests than did NPPK, FRL boys.

A similar analysis was conducted for the no FRL groups. The percentage of LA 4, no FRL girls who scored at achievement level *basic* and above was 90% on English language arts, 85% on math, 80% on science, and 83% on social studies. In contrast, for the NPPK, no FRL girls, 93% scored at achievement level *basic* and above on English language arts, 89% on math, 87% on science, and 89% on social studies. We conducted statistical tests of significance for these no FRL students by comparing the proportion of girls scoring at achievement level *basic* and above on all LEAP subtests for the LA 4 group versus the NPPK group. The z-test of proportion yielded z-scores of 1.38 NS, 1.59 NS, 2.17 with $p < 0.05$, and 2.26 with $p < 0.05$ on English language arts, math, science, and social studies, respectively. This indicates that there were no significant differences between LA girls who did not qualify for FRL services and NPPK girls who did not qualify for FRL services on the English language arts and math subtests. However, LA 4, no FRL girls had statistically lower achievement levels than did the NPPK, no FRL girls in the areas of science and social studies. Finally, no significant differences were found between LA 4, no FRL boys and NPPK, no FRL boys in English language arts, math, and science. However, LA 4, no FRL boys had statistically lower achievement levels in social studies than did NPPK, no FRL boys. The z-test of proportion yielded z-scores of 2.09 with $p < 0.05$.

A. Free or Reduced Price Lunch Services



B. No Free or Reduced Price Lunch Services

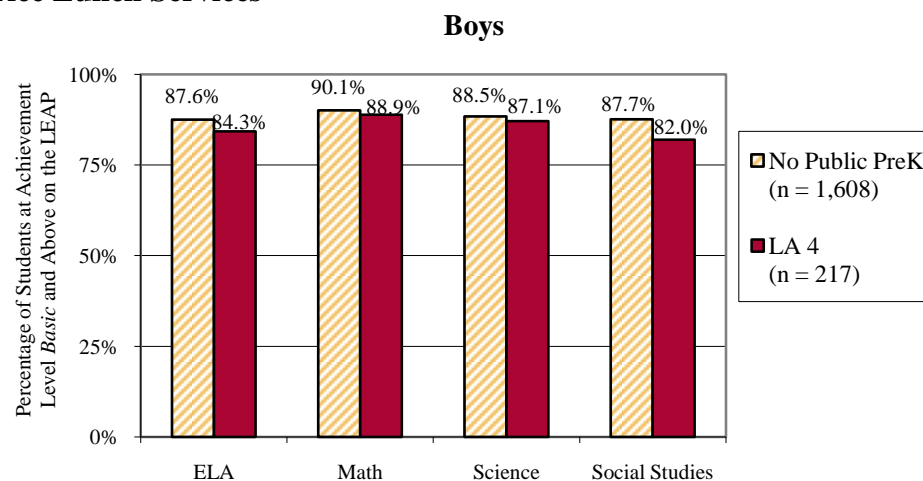
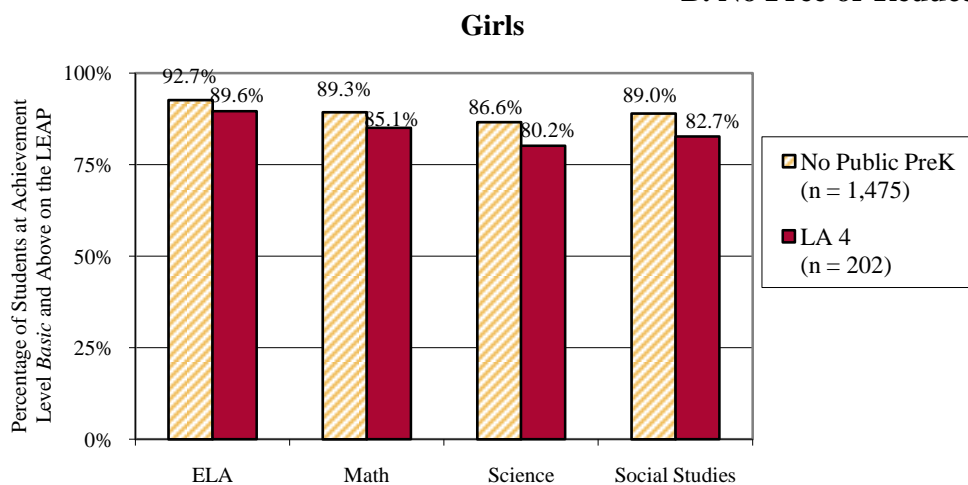


Figure 7. Percentage of students scoring at achievement level *basic* and above on the LEAP as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility by gender

Summary

For LA 4 cohort 1 students qualifying for FRL services, there was a statistically significant improvement in fourth-grade accountability achievement levels.

It appears that for children in low income families, as indexed by their FRL participation, the LA 4 program markedly improves their achievement in the fourth grade. For the LA 4, FRL group, the percentage of students scoring at achievement level *basic* and above on the LEAP subtests ranged between 60% and 75% compared with 54% and 67% for the NPPK, FRL group. These findings also apply when analyzing LA 4 student achievement levels by race and gender.

Grade Advancement versus Retention After the Kindergarten Year: A Comparison of Children Who Received the LA 4 Program in 2005-06 with Those Who Received No Public Prekindergarten

Introduction

This report presents data about the progress of children who received the LA 4 program in 2005-06 (referred to as LA 4 cohort 4). Previous findings regarding children in the LA 4 cohorts 1, 2, and 3 showed that there was a statistically significant reduction in overall rates of retention in kindergarten. For children who received free or reduced price lunch services (FRL) in kindergarten, the kindergarten grade retention rate for the LA 4 group, relative to the comparison group was reduced by approximately 35.8%, 35.9%, and 38.8% for cohorts 1, 2, and 3, respectively.

This report presents data about children's promotion rates from kindergarten to first grade, as well as rates of kindergarten repetition for LA 4 cohort 4 children.

Study Design

We selected two major groups of children to compare with the LA 4 children. Both of the comparison groups include children whose coding in the state database designates that they did not participate in any public prekindergarten program but attended the same schools as LA 4 cohort 4 children in the kindergarten school year. The first comparison group includes children who were eligible for FRL services in kindergarten. This group is compared directly with those LA 4 children who were also eligible for FRL services in kindergarten (comprises 80.6% of LA 4 cohort 4). This first comparison group is labeled "no public PreK and FRL."

The second major comparison group includes children who did not receive any public prekindergarten program and who were ineligible to receive FRL services—that is, children from higher income families. This second comparison group is labeled "no public PreK and no FRL."

Finally, we conduct several additional analyses for this report that consider whether specific characteristics place children at significantly elevated risk for repeating kindergarten. We focused on two characteristics of children that historically have been strongly associated with higher rates of grade retention, namely, (1) child gender, with boys at a higher risk than girls for early grade retention and (2) child race, with African American children being at higher risk than White/non-Hispanic children. The policy issue we address is twofold: first, if these historical patterns of differential risk for grade retention are still occurring, and second, if participation in the LA 4 program is associated with significant benefits resulting in a reduction in relative risk for retention of boys, for African American children, or for both groups.

Study Sample

Retention in the LA 4 program was examined by tracking students who received the LA 4 program during the first two years they were in public school in Louisiana. We included the LA 4 cohort 4 (n = 7,139) who entered public kindergarten in the 2006-07 school year. An additional 659 LA 4 students were lost to follow-up in kindergarten (due to families moving out of state or children transferring outside of the public school system). They are not included in the analysis.

Study Findings: Children Retained in Kindergarten

Table 3 presents findings about the number and percentage of children who were retained in kindergarten (i.e., did not advance to first grade as expected). Because we hypothesized that children eligible for FRL services represent a group of children at elevated risk for poor school achievement, we conducted separate analyses to account for this variable, which serves as a marker for family income.

For the LA 4, FRL children who entered kindergarten in 2006-07, 7.4% were grade retained. In contrast, for the NPPK, FRL children who enrolled in the same schools as LA 4 students, their rate of kindergarten grade retention was 11.0%.

We conducted statistical tests of significance for these children by comparing rates of grade retention for the LA 4 group versus the NPPK group. The z-test of proportion yielded a z-score of 8.05, with $p < 0.001$, indicating that the difference was statistically significant.

Similarly, we compared rates of kindergarten grade retention for the no FRL children. For the LA 4, non FRL children, 4.3% were grade retained. In contrast, for the NPPK, no FRL children who enrolled in the same schools as LA 4 students, their rate of kindergarten grade retention was 6.0%.

We conducted statistical tests of significance for these no FRL children by comparing rates of grade retention for the LA 4 group versus the NPPK group. The z-test of proportion yielded a z-score of 2.75, with $p < 0.01$, indicating that the difference was statistically significant.

Table 3. Summary of Kindergarten Grade Retention Rates Comparing Children in LA 4 With Children Who Received No Public Prekindergarten Program and Who Were Eligible or Ineligible to Receive Free or Reduced Price Lunch (FRL) Services

Cohort 4	Free or Reduced Price Lunch Services in Kindergarten				No Free or Reduced Price Lunch Services in Kindergarten				Total	
	Total n in K (2006-07)	Lost to follow-up in 1 st (2007-08)	Final n (2007-08)	K Grade Retention	Total n in K (2006-07)	Lost to follow-up in 1 st (2007-08)	Final n (2007-08)	K Grade Retention	n	K Grade Retention
Participation in LA 4 (in 2005-06)	5,754	237 (4.12%)	5,517	410 (7.43%)	1,385	89 (6.43%)	1,296	56 (4.32%)	6,813	466 (6.84%)
No Public Prekindergarten Program	15,896	1,233 (7.76%)	14,663	1,606 (10.95%)	9,428	905 (9.60%)	8,523	514 (6.03%)	23,186	2,120 (9.14%)

Figure 8 (below) displays graphically the above findings about the difference in kindergarten repetition rates for children who received the LA 4 program compared to children who did not receive any public prekindergarten program, for both the FRL and no FRL subgroups.

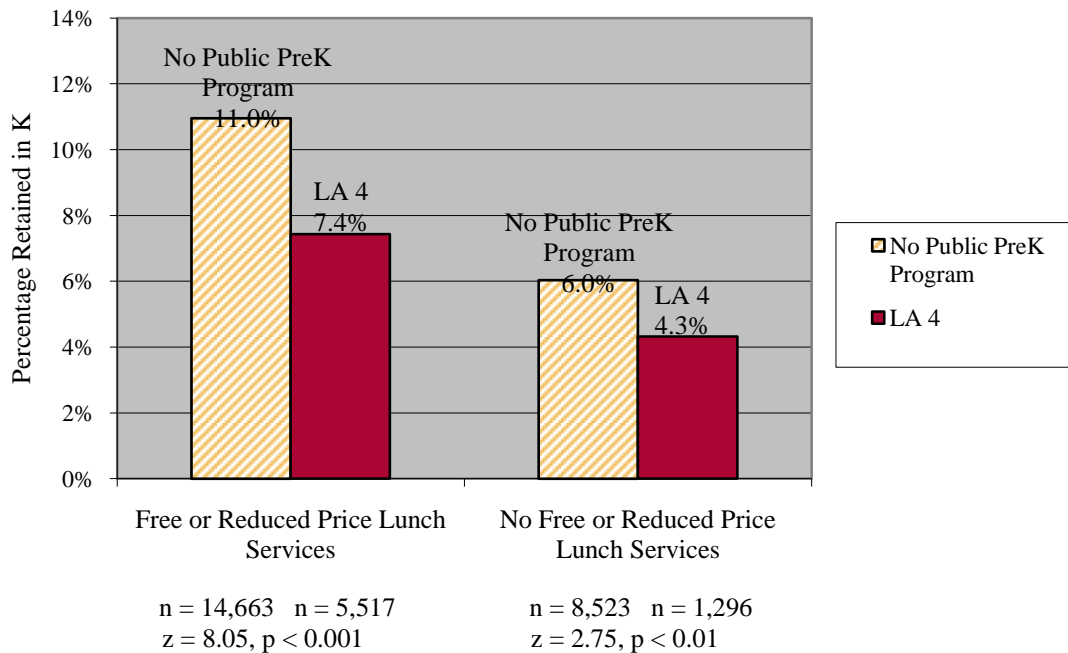


Figure 8. Kindergarten grade retention rates as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility

Kindergarten Grade Retention Related to Demographic Characteristics of Children

A. Gender

Table 4 presents findings about the number and percentage of children who were retained in kindergarten, by gender. For the LA 4, FRL girls, 5.6% were grade retained. In contrast, for the NPPK, FRL girls, 8.9% were retained in kindergarten. We conducted statistical tests of significance for these FRL girls by comparing rates of grade retention for the LA 4 group versus the NPPK group. The z-test of proportion yielded a z-score of 5.78, with $p < 0.001$, indicating that the kindergarten retention rate for girls who participated in the LA 4 program was statistically less than their peers who enrolled in the same schools but did not participate in any public prekindergarten program.

Although boys were at higher risk than girls for grade retention, there was a significant reduction in kindergarten grade retention for boys who participated in the LA 4 program. For the LA 4, FRL boys, 9.3% were grade retained. In contrast, for the NPPK, FRL boys, 12.7% were retained in kindergarten. We conducted statistical tests of significance for these FRL boys by comparing rates of grade retention for the LA 4 group versus the no public prekindergarten group. The z-test of proportion yielded a z-score of 5.11, with $p < 0.001$, indicating that kindergarten retention rate for boys who participated in LA 4 was statistically less than their peers who enrolled in the same schools but did not participate in any public prekindergarten program.

For the no FRL children, no statistical differences in kindergarten grade retention were found between girls in the LA 4 group and girls in the NPPK group. However, boys who participated in

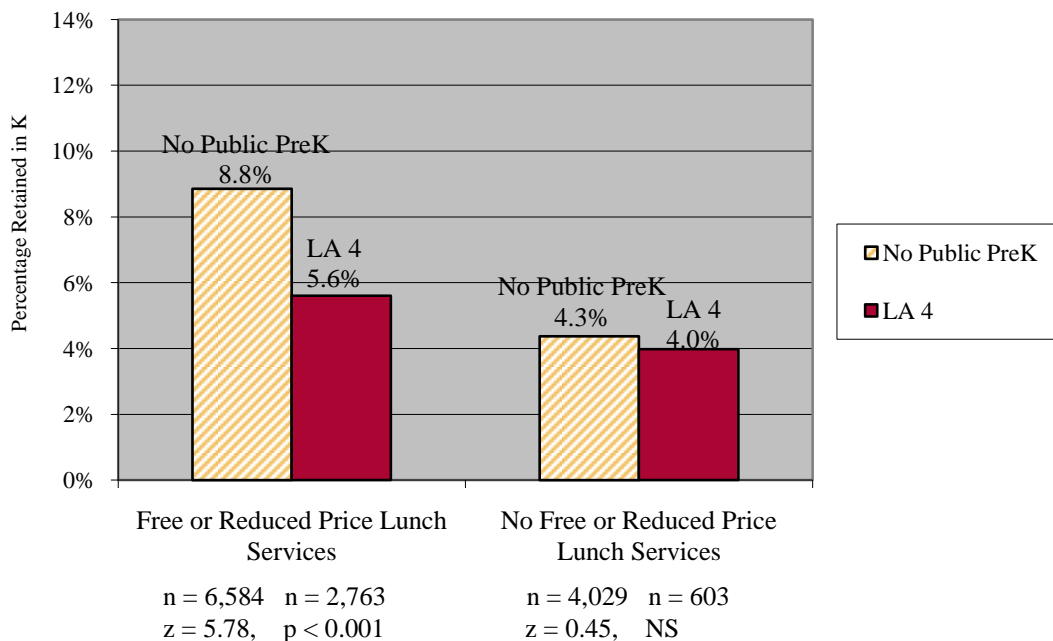
LA 4 had statistically lower kindergarten retention rates than boys who received NPPK. The z-test of proportion yielded a z-score of 3.26 with $p < 0.001$.

Table 4. Summary of Kindergarten Grade Retention Rates Comparing Children in LA 4 with Children Who Received No Public Prekindergarten Program and Who Were Eligible or Ineligible to Receive Free or Reduced Price Lunch Services by Gender

Cohort 4	Free or Reduced Price Lunch Services in Kindergarten				No Free or Reduced Price Lunch Services in Kindergarten			
	Girls		Boys		Girls		Boys	
	Final n (2007-08)	K Grade Retention	Final n (2007-08)	K Grade Retention	Final n (2007-08)	K Grade Retention	Final n (2007-08)	K Grade Retention
LA 4 (in 2005-06)	2,763	155 (5.61%)	2,754	255 (9.26%)	603	24 (3.98%)	693	32 (4.62%)
No Public Prekindergarten Program	6,584	583 (8.85%)	8,079	1,023 (12.66%)	4,029	176 (4.37%)	4,494	338 (7.52%)

Figure 9 below displays graphically the above findings about the differences in kindergarten retention rates for children who received the LA 4 program compared with those who did not participate in any public prekindergarten program and who were eligible or ineligible for FRL services by gender.

A. Girls



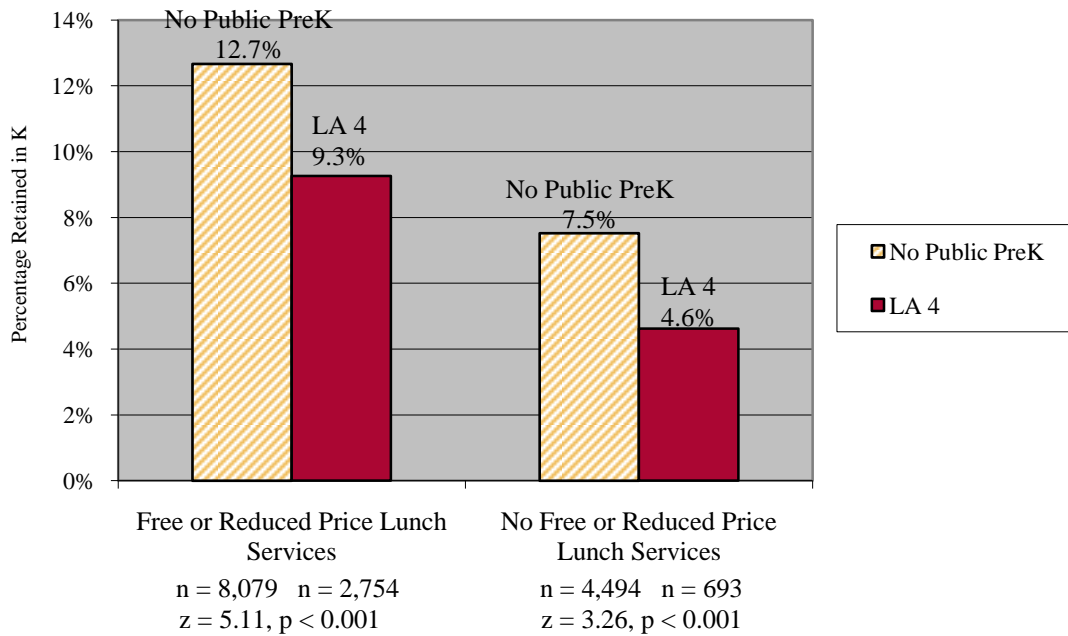


Figure 9. Kindergarten retention rates as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility by gender

B. Ethnic Subgroups

Table 5 presents the findings about the number and percentage of children who were retained in kindergarten by ethnic subgroups. For the LA 4, FRL children, 7.7% of African American children were grade retained. In contrast, for the NPPK, FRL children, 11.0% of the African American children were retained in kindergarten. We conducted statistical tests of significance for these FRL, African American children by comparing rates of grade retention for the LA 4 group versus the NPPK group. The z-test of proportion yielded a z-score of 5.72, with $p < 0.001$, indicating that the kindergarten retention rate for African American children who participated in LA 4 was statistically less than their peers who enrolled in the same schools but did not participate in any public prekindergarten programs.

For the LA 4, FRL, White/non-Hispanic children, 7.7% were grade retained. In contrast, for the NPPK, FRL, White/non-Hispanic children, 11.4% were retained in kindergarten. We conducted statistical tests of significance for these FRL, White/non-Hispanic children by comparing rates of grade retention for the LA 4 group versus the NPPK group. The z-test of proportion yielded a z-score of 5.02, with $p < 0.001$, indicating that the kindergarten retention rate for White/non-Hispanic children who participated in LA 4 was statistically less than their peers who enrolled in the same schools, but did not participate in any public prekindergarten programs.

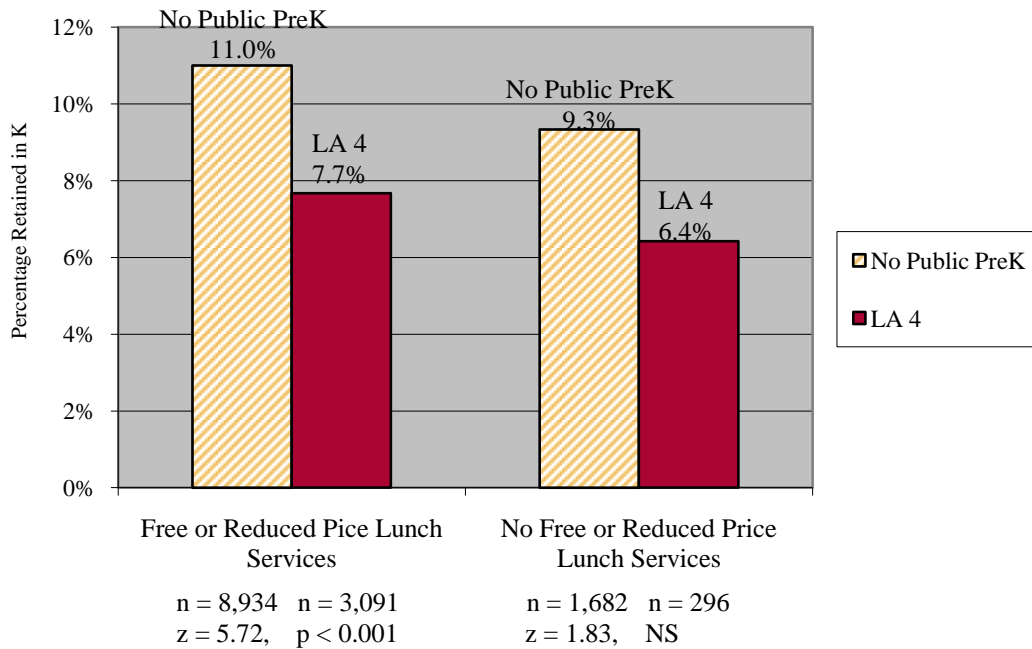
For the no FRL children, no statistical differences in kindergarten grade retention were found between African Americans in the LA 4 group and African Americans in the NPPK group. However, LA 4, no FRL, White/non-Hispanic children, were grade retained at lower rates than their NPPK, no FRL, White/non-Hispanic peers. The z-test of proportion yielded a z-score of 2.29 with $p < 0.05$.

Table 5. Summary of Kindergarten Grade Retention Rates Comparing Children in LA 4 with No Public PreK Program Groups Who Did and Did Not Receive Free or Reduced Price Lunch Services (FRL) by Ethnic Subgroups

	Free or Reduced Price Lunch Services in Kindergarten				No Free or Reduced Price Lunch Services in Kindergarten			
	African American		White/non-Hispanic		African American		White/non-Hispanic	
	Final N (2007-08)	K Grade Retention	Final N (2007-08)	K Grade Retention	Final N (2007-08)	K Grade Retention	Final N (2007-08)	K Grade Retention
LA 4 (in 2005-06)	3,091	237 (7.67%)	2,163	167 (7.72%)	296	19 (6.42%)	927	34 (3.67%)
No Public PreK Program	8,934	983 (11.00%)	5,114	581 (11.36%)	1,682	157 (9.33%)	6,491	339 (5.22%)

Figure 10 (below) displays graphically the above findings about the difference in kindergarten retention rates for children who received the LA 4 program compared with those children who did not receive any public prekindergarten program for both the FRL and no FRL subgroups.

A. African American



B. White/Non-Hispanic

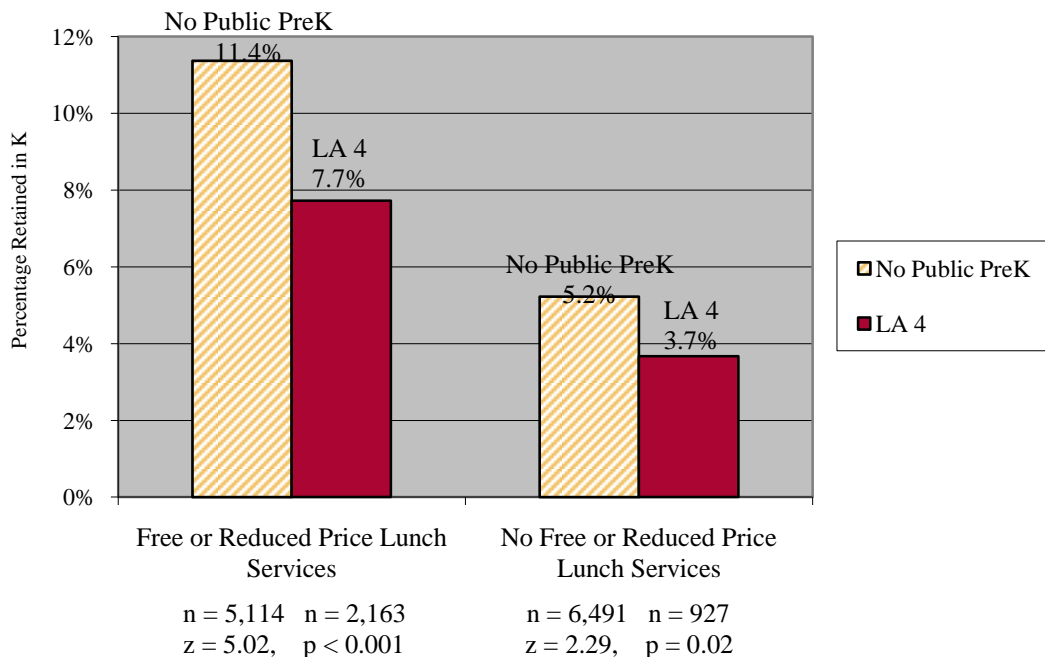


Figure 10. Kindergarten retention rates as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility by ethnic subgroups

Summary

For children who received the LA 4 program in 2005-06, there was a statistically significant reduction in overall rates of kindergarten grade retention. For children who received FRL services in kindergarten, kindergarten grade retention was reduced by approximately 32.1% for the LA 4 group relative to the NPPK group.

For children who did not receive FRL in kindergarten, the kindergarten grade retention rate for the LA 4 group relative to the comparison group were reduced by approximately 28.4%.

Finally, for children who received the LA 4 program and were eligible for FRL services in kindergarten, there was a significant reduction in kindergarten grade retention for both girls and boys and for African American and White/non-Hispanic children.

Special Education: A Comparison of Children Who Received the LA 4 Program in 2005-06 with Those Who Received No Public Prekindergarten

Introduction

This report presents data about the progress of children who received the LA 4 program in 2005-06 (referred to as LA 4 cohort 4). Previous findings regarding children in LA 4 cohorts 1, 2, and 3 showed that there was a statistically significant reduction in the overall percentage of children placed in special education in their kindergarten or first-grade year. For children who received FRL services, their risk of being placed in special education for the LA 4 group relative to the comparison group was reduced by approximately 33% to 49% in subsequent school years for the three cohorts.

In this report, we present data about placement in special education in kindergarten and first-grade school years for LA 4 cohort 4 children.

Study Design

We selected two major groups of children to compare with the LA 4 children. Both of the comparison groups include children whose coding in the state database designates that they did not participate in any public prekindergarten program and went to the same schools as LA 4 cohort 4 children in the kindergarten school year. The first comparison group includes children who were eligible for FRL services in kindergarten. This group is directly compared with those LA 4 children who also were eligible for FRL services in kindergarten. This first comparison group is labeled “no public preK and FRL.”

The second major comparison group includes children who did not participate in any public prekindergarten program and who were ineligible to receive FRL services—that is, children from higher income families. This second comparison group is labeled “no public preK and no FRL.”

Study Sample

Special education placement in kindergarten and first grade was examined by tracking students who received the LA 4 program in the 2005-06 school year within the state of Louisiana. We included LA 4 cohort 4 (n = 7,139) students that entered public schools in the 2006-07 school year. As there are students that leave the Louisiana schools, the students who were lost to follow-up will be subtracted from the original denominator to yield comparable statistics for analysis for LA 4 children and comparison children from the same kindergarten cohort (659 of LA 4 students were lost to follow-up in kindergarten, and they are not included in the analysis).

Study Findings

Table 6 presents findings about the number and percentage of children who were placed in special education in kindergarten and first grade. For the LA 4, FRL children who entered kindergarten in 2006-07, 9.4% were placed in special education in their kindergarten year, and 10.8% were placed in special education in first grade. In contrast, for the NPPK, FRL children enrolled in the same schools as LA 4 cohort 4, the percentage of children who were placed in special education was 16.5% and 20.3% in kindergarten and first grade, respectively.

We conducted statistical tests of significance for these FRL children by comparing the percentage of children placed in special education for the LA 4 group versus the NPPK group across the two subsequent years of school. The z-tests of proportion in kindergarten and first grade yielded z- scores of 14.74 and 17.81 respectively, with p values < 0.001. The reduction in relative risk of being placed in special education was 43% in kindergarten and 47% in first grade.

For the LA 4, no FRL children who entered kindergarten in 2006-07, 10.6% were placed in special education in their kindergarten year, and 11.8% were placed in special education in the first-grade year. In contrast, for the NPPK, no FRL children enrolled in the same schools as LA 4 cohort 4, the percentage of children placed in special education was 11.4% and 14.7% in kindergarten and first grade, respectively.

We conducted statistical tests of significance for these no FRL children by comparing the percentage of children placed in special education for the LA 4 group versus the NPPK group across the two subsequent years of school. The z-tests of proportion in kindergarten and first grade yielded z-scores of 0.91 NS and 3.00, p = 0.003, respectively. The reduction in relative risk of being placed in special education was 7% in kindergarten and 20% in first grade.

Table 6. Summary of Kindergarten and First Grade Special Education Placements Comparing Children in LA 4 with Children Who Received No Public Prekindergarten Program and Who Were Eligible or Ineligible to Receive Free or Reduced Price Lunch Services

Cohort 4	Free or Reduced Price Lunch Services				No Free or Reduced Price Lunch Services			
	Kindergarten (2006-07)		First Grade (2007-08)		Kindergarten (2006-07)		First Grade (2007-08)	
	Total n	Special education	Total n	Special education	Total n	Special education	Total n	Special education
Participation in LA 4 (in 2005-06)	5,754	538 (9.35%)	5,517	594 (10.77%)	1,385	147 (10.61%)	1,296	153 (11.81%)
No Public Prekindergarten Program	15,896	2,620 (16.48%)	14,663	2,972 (20.27%)	9,428	1,077 (11.42%)	8,523	1,256 (14.74%)

Figures 11 and 12 below display the above findings about differences in special education placement for children who received the LA 4 program, compared with those who did not participate in any public prekindergarten program, for both the FRL and no FRL subgroups in kindergarten and first grade.

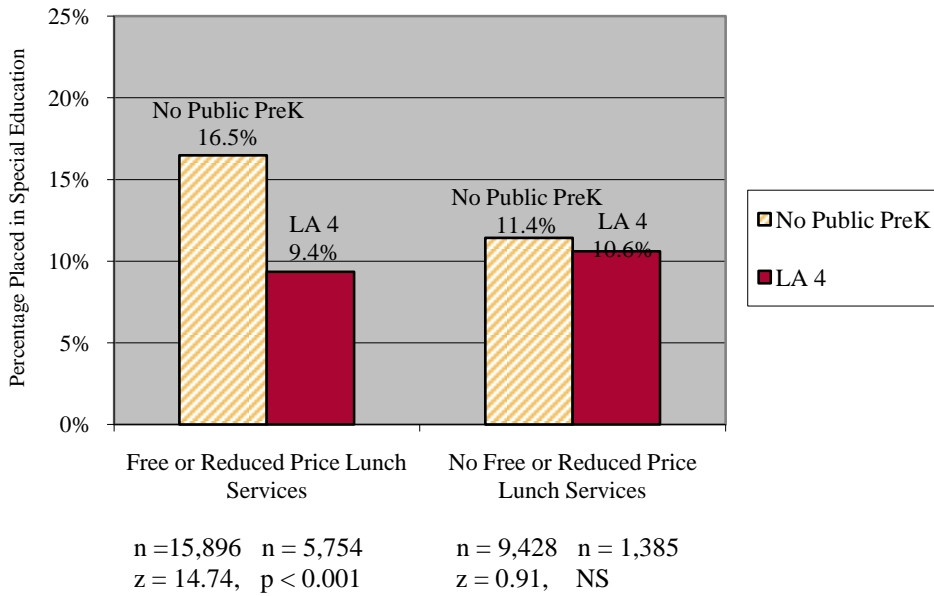


Figure 11. Percentage of children placed in special education in kindergarten as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility

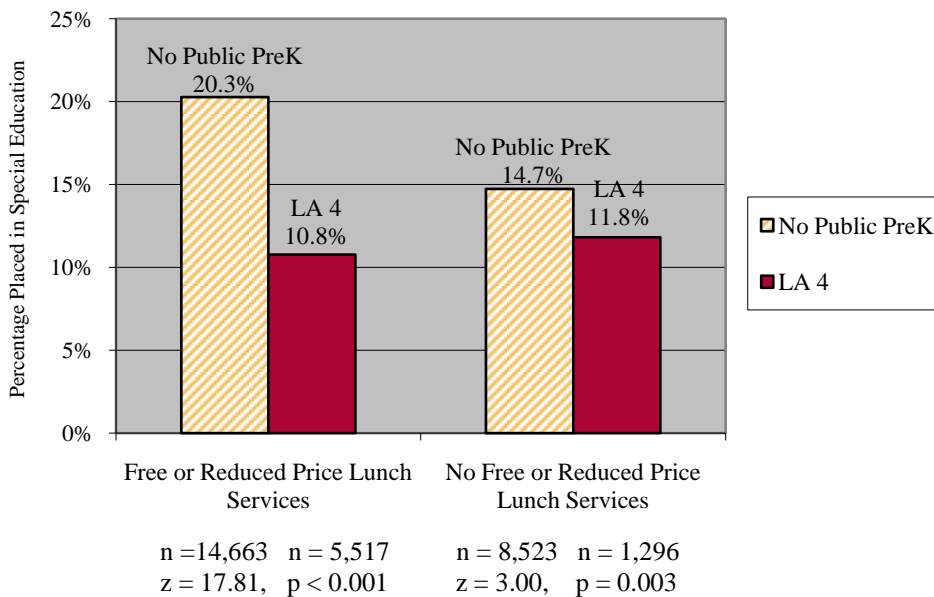


Figure 12. Percentage of children placed in special education in first grade as a function of participation in the LA 4 program versus no public prekindergarten program and free or reduced price lunch services eligibility or ineligibility

Summary

For children who received the full-year LA 4 program in 2005-06, there was a statistically significant reduction in the overall percentage of children placed in special education in kindergarten and first grade. For LA 4 children who were eligible for FRL services in kindergarten, their risk of being placed in special education relative to the NPPK group was reduced by approximately 43% and 47% in kindergarten and first grade, respectively. For LA 4 children ineligible to receive FRL services in kindergarten, their risk of being placed in special education relative to the NPPK group was reduced by approximately 7% and 20% in kindergarten and first grade, respectively.

The Effect of Participation in the LA 4 Program on Literacy Performance

Introduction

This report presents data about the progress of children who received Louisiana's Reading First (RF) program and had previously participated in the LA 4 prekindergarten program as four-year-olds. In particular, this report focuses on four consecutive cohorts of children—those who received the LA 4 program in 2003-04 (referred to as LA 4 cohort 2), 2004-05 (referred to as LA 4 cohort 3), 2005-06 (referred to as LA 4 cohort 4), and 2006-07 (referred to as LA 4 cohort 5). During the 2007-08 school year these cohorts of children were enrolled in the Louisiana public school system as kindergarten, first, second, and third-graders.

Study Design

Louisiana's RF program was selected to investigate the short-term academic effects of participation in a high-quality prekindergarten program—the LA 4 program, which exposes children to a rich language and literacy environment. The RF program provides a well-defined and consistent early literacy environment that includes frequent and regular assessments of student progress through the administration of the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) three times (fall, winter, spring) during each academic year from kindergarten through third grade. These assessments provide a rich source of data within which the students' performance and growth can be evaluated. Finally, the frequent measurement of early literacy skills using DIBELS is the only widely available measure of academic achievement in kindergarten, first, and second grade. As children progress to grades three and four, the State of Louisiana begins administering standardized tests to all public school students (including the *i*LEAP test in third grade and the LEAP test in fourth grade).

Student performance in the RF program is measured by assessing the literacy skills of individuals using DIBELS, which are a set of standardized, individually administered measures of early literacy development. By design, they are administered as short (one minute) fluency measures for regular monitoring of children's pre-reading and early reading skills development. The specific literacy skills are assessed in the following domains: phonological awareness, alphabetic understanding, and accuracy and fluency within a connected text. Each measure is designed to be an indicator of early literacy development, as a predictor of later reading proficiency, and used to aid in the early identification of students who are not progressing as expected.

DIBELS Performance Categories

The DIBELS assessment measures results in performance labels corresponding to a score that is achieved on each measure. While the rationale behind the labels is consistent, the labels themselves change depending on the time of year at which the assessment is administered. Most often, DIBELS scores result in labels of *low risk*, *some risk* or *at risk*. These labels are designed to indicate the probability of future reading difficulties. For example, a student with a score of 90 words per minute on the DIBELS Oral Reading Fluency (ORF) measure at the end of second grade would be considered to have a *low risk* of future reading difficulties, a score of 80 words per minute would place the student in the *some risk* of future reading difficulties category, and a score of 65 words per minute would indicate that the student was *at risk* of future reading difficulties. ORF is the measure used for the first, second, and third grade analyses presented in this report. The measure, Phoneme Segmentation Fluency (PSF), is the skill considered to be the

most important predictor of future reading ability in kindergarten. At the end of the kindergarten year, this measure is considered to have reached the final terminating benchmark levels, so the terminology changes from “risk” to ability. Specifically, the labels become *established*, *emerging*, and *deficit* which are analogous to the *low risk*, *some risk*, and *at risk* labels, respectively.

Study Sample

Performance on DIBELS testing was examined for students enrolled in kindergarten, first, second, and third grades in Louisiana’s RF schools in the DeSoto, East Baton Rouge, Iberia, Jefferson, Tangipahoa, Vermilion, and Washington parishes during the 2007-08 school year. Included in the analysis were LA 4 cohort 2 students (373 students attended a RF school), LA 4 cohort 3 students (347 students attended a RF school), LA 4 cohort 4 students (571 students attended a RF school), and LA 4 cohort 5 students (743 students attended a RF school). The DIBELS performance of LA 4, RF children was directly compared with the DIBELS performance of no LA 4, RF children.

Study Findings

The goal of the RF program is to have all children reading on grade-level by the end of the third grade. Evaluations of the RF program show that steady progress is being made, and the results detailed in this report indicate that LA 4 participation significantly enhances student performance, thereby increasing the percentage of students having a low risk of future reading difficulties and decreasing the percentage of students considered at risk for future reading difficulties. Children who participated in the LA 4 program and the RF program performed at higher levels on the DIBELS assessment than children who participated in RF only.

DIBELS Assessment Performance

The results presented in tables 7-10 and figure 13 show the performance of students within the study sample for kindergarten, first, second, and third grades, respectively. In all cases, there was a higher percentage of students scoring in the *low risk* or *established* category and a lower percentage of students scoring in the *at risk* or *deficit* category.

For the LA 4 cohort 5, RF students, who were enrolled in kindergarten during the 2007-08 school year, 84.3% performed in the *established* category on the DIBELS PSF test as compared with 78.6% of the no LA 4, RF students (table 7). Conversely, 3.9% of the LA 4 cohort 5, RF students scored in the *deficit* category compared with 7.3% of the no LA 4, RF students. A chi-square test of significance resulted in a value of 12.75, $p = 0.002$. This indicates that fewer LA 4, RF students were identified as *at risk* for future reading difficulties and more students were identified as *low risk* for future reading difficulties on the PSF test (in kindergarten) when compared with their no LA 4, RF peers.

Table 7. Comparison of LA 4 and Reading First Students with No LA 4 and Reading First Students on the Phoneme Segmentation Fluency Test in Kindergarten

Participation in LA 4	PSF Test Kindergarten Spring 2008			Total
	<i>Established</i>	<i>Emerging</i>	<i>Deficit</i>	
LA 4 and Reading First	626 (84.3%)	88 (11.8%)	29 (3.9%)	743
No LA 4 and Reading First	1,053 (78.6%)	188 (14.0%)	98 (7.3%)	1,339
Total	1,679 (80.6%)	276 (13.3%)	127 (6.1%)	2,082

For the LA 4 cohort 4, RF students, who were enrolled in first grade during the 2007-08 school year, 63.0% were identified as *low risk* for future reading difficulties on the ORF test as compared with 54.2% of the no LA 4, RF students (table 8). Conversely, 16.6% of the LA 4 cohort 4, RF students were identified as being *at risk* of future reading difficulties compared with 21.7% of the no LA 4, RF students. A chi-square test of significance resulted in a value of 14.01, $p = 0.001$. This indicates that fewer LA 4, RF students were identified as *at risk* for future reading difficulties and more students were identified as *low risk* for future reading difficulties on the ORF test (in first grade) when compared with their no LA 4, RF peers.

Table 8. Comparison of LA 4 and Reading First Students with No LA 4 and Reading First Students on the Oral Reading Fluency Test in First Grade

Participation in LA 4	ORF Test First Grade Spring 2008			Total
	<i>Low Risk</i>	<i>Some Risk</i>	<i>At Risk</i>	
LA 4 and Reading First	360 (63.0%)	116 (20.3%)	95 (16.6%)	571
No LA 4 and Reading First	918 (54.2%)	410 (24.2%)	367 (21.7%)	1,695
Total	1,278 (56.4%)	526 (23.2%)	462 (20.4%)	2,266

For the LA 4 cohort 3, RF students, who were enrolled in second grade during the 2007-08 school year, 64.0% were identified as *low risk* for future reading difficulties on the ORF test as compared with 45.2% of the no LA 4, RF students (table 9). Conversely, 19.3% of the LA 4 cohort 3, RF students were identified as being *at risk* of future reading difficulties compared with 34.2% of the no LA 4, RF students. A chi-square test of significance resulted in a value of 44.12, $p < 0.001$. This indicates that fewer LA 4, RF students were identified as *at risk* for future reading difficulties and more students were identified as *low risk* for future reading difficulties on the ORF test (in second grade) when compared with their no LA 4, RF peers.

Table 9. Comparison of LA 4 and Reading First Students with No LA 4 and Reading First Students on the Oral Reading Fluency Test in Second Grade

Participation in LA 4	ORF Test Second Grade Spring 2008			Total
	<i>Low Risk</i>	<i>Some Risk</i>	<i>At Risk</i>	
LA 4 and Reading First	222 (64.0%)	58 (16.7%)	67 (19.3%)	347
No LA 4 and Reading First	876 (45.2%)	397 (20.5%)	663 (34.2%)	1,936
Total	1,098 (48.1%)	455 (19.9%)	730 (32.0%)	2,283

For the LA 4 cohort 2 students who were enrolled in third grade during the 2007-08 school year, 53.6% of the students were identified as *low risk* for future reading difficulties on the ORF test as compared with 41.4% of the no LA 4, RF students (table 10). Conversely, 12.6% of the LA 4 cohort 3, RF students were identified as being *at risk* for future reading difficulties compared with 22.8% of the no LA 4, RF students. A chi-square test of significance resulted in a value of 26.15, $p < 0.001$. This indicates that fewer LA 4, RF students were identified as *at risk* for future reading difficulties and more students were identified as *low risk* for future reading difficulties on the PSF test (in third grade) when compared with their no LA 4, RF peers.

Table 10. Comparison of LA 4 and Reading First Students with No LA 4 and Reading First Students on the Oral Reading Fluency Test in Third Grade

Participation in LA 4	ORF Test Third Grade Spring 2008			Total
	<i>Low Risk</i>	<i>Some Risk</i>	<i>At Risk</i>	
LA 4 and Reading First	200 (53.6%)	126 (33.8%)	47 (12.6%)	373
No LA 4 and Reading First	697 (41.4%)	603 (35.8%)	385 (22.8%)	1,685
Total	897 (43.6%)	729 (35.4%)	432 (21.0%)	2,058

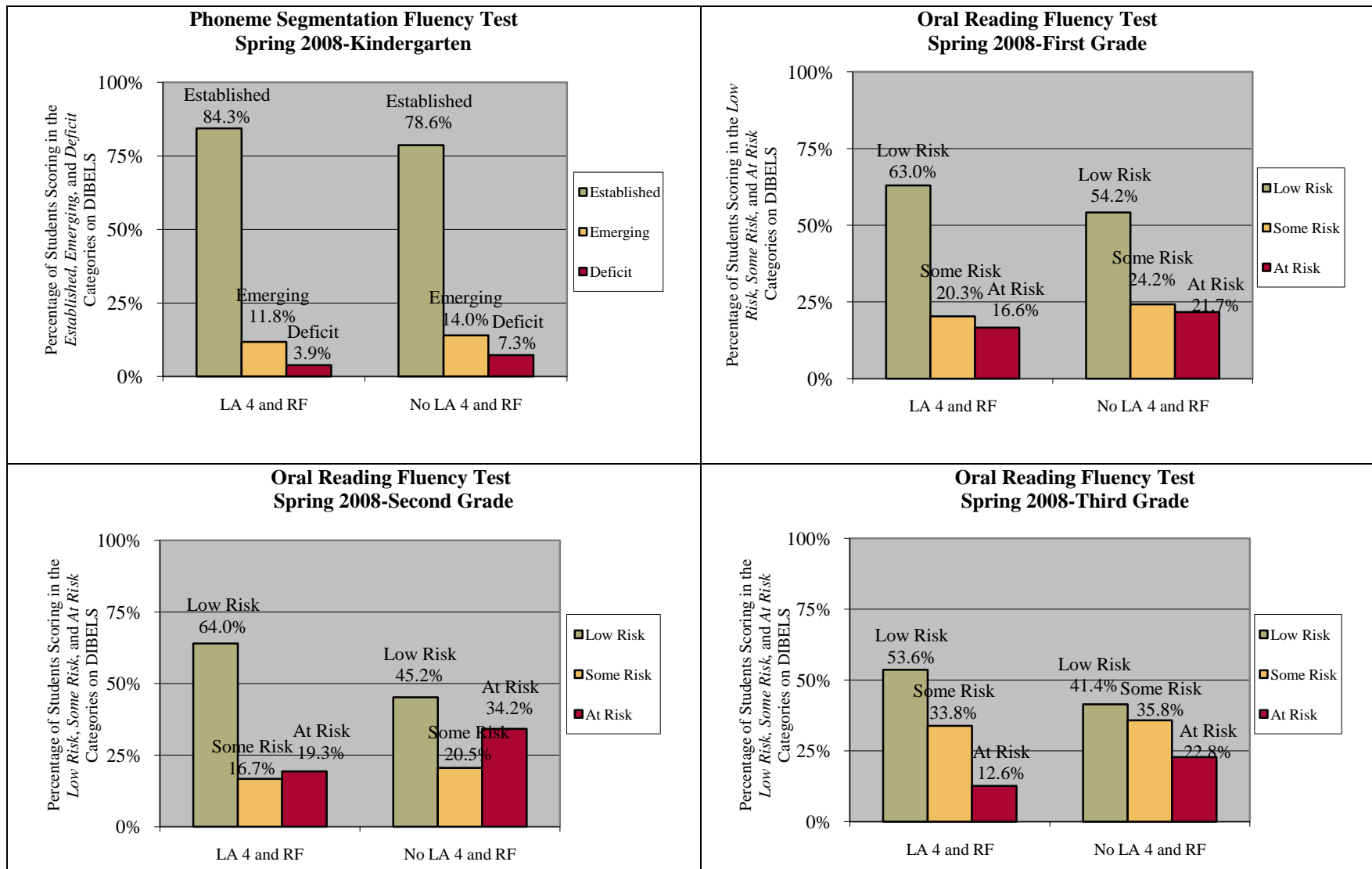


Figure 13. Kindergarten, first, second, and third grade DIBELS scores as a function of participation in LA 4 and Reading First versus no LA 4 and Reading First

Summary

For four consecutive cohorts of children who received the full-year LA 4 program, there was a reduction in the percentage of children who were considered *at risk* according to DIBELS testing. Conversely, for the same LA 4 cohorts, there was an increase in the percentage of children scoring in the *low risk* category according to DIBELS measures.