

## Oklahoma

*K-12 enrollment — 633,006*

### Key Findings

#### Overall achievement

- From 2002 to 2007, students made moderate-to-large gains in **reading** at the elementary and high school grades analyzed, according to both percentages proficient and effect sizes. At the middle school level, the percentage proficient rose slightly while the effect size showed no change.
- In **math**, performance increased at a moderate-to-large rate at all three grade levels on both indicators.

#### Achievement gaps

- From 2002 to 2007, gaps in percentages proficient narrowed in reading and math at most grades analyzed for three subgroups: **African American** students (compared with white students), **Native American** students (compared with white students), and **low-income** students (compared with all students in the state). The exception was in high school math, where gaps for these three subgroups widened.
- Gaps in percentages proficient between **Latino** and white students narrowed in reading and math at the elementary and middle grades. At the high school level, the gap in reading showed no change while the gap in math widened.
- Effect size data were unavailable for subgroups.

### Summary Tables

**Table OK-A. Summary of Overall Achievement Trends for Oklahoma, 2002–2007**

Reading						Math					
Elementary Grade 5		Middle School Grade 8		High School English II		Elementary Grade 5		Middle School Grade 8		High School Algebra I	
PP	ES	PP	ES	PP	ES	PP	ES	PP	ES	PP	ES
↑	↑	↗	⊕	↑	↑	↑	↑	↑	↑	↑	↑

#### LEGEND:

PP Percentage proficient  
 ES Effect size  
 ↑ Moderate-to-large gain  
 ↓ Moderate-to-large decline  
 ↗ Slight gain

↘ Slight decline  
 ⊕ No change  
 ◆ Not enough years of data (only 1-2 years) to determine trend  
 ○ Data not available

**Table OK-B. Summary of Achievement Gap Trends for Oklahoma, 2002–2007**

Grade Level for Trends	African American/White		Latino/White		Native American/White		Low-Income/ Not Low-Income	
	Reading	Math	Reading	Math	Reading	Math	Reading	Math
<i>Percentage Proficient</i>								
Across grade levels	→←	*	*	*	→←	*	→← <sup>1</sup>	* <sup>1</sup>
Elementary (grade 5)	→←	→←	→←	→←	→←	→←	→← <sup>1</sup>	→← <sup>1</sup>
Middle (grade 8)	→←	→←	→←	→←	→←	→←	→← <sup>1</sup>	→← <sup>1</sup>
High (Eng II/Algebra)	→←	↔	⊕	↔	→←	↔	→← <sup>1</sup>	↔ <sup>1</sup>
<i>Effect Size</i>								
Across grade levels								
Elementary (grade 5)	○	○	○	○	○	○	○	○
Middle (grade 8)	○	○	○	○	○	○	○	○
High (Eng II/Algebra)	○	○	○	○	○	○	○	○

**LEGEND:**

- ← Gap narrowed
- ↔ Gap widened
- \* Mixed (gaps showed different trends at different grade levels)
- ⊕ No change in gap
- ◆ Not enough years of data (only 1-2 years) to determine trend
- Data not available

Note: Gap trends for students with disabilities and English language learners are not shown because state and federal policy changes may have affected the year-to-year comparability of test results for these subgroups. Gap trends for Asian students are not shown because in most states this subgroup performed as well as or better than white students.

<sup>1</sup>Low-income students were compared with all tested students in the state rather than with students who are not low-income.

<sup>2</sup>The number of students tested in this subgroup at this grade level was fewer than 500, so changes for this subgroup should be interpreted with caution.

<sup>3</sup>The number of students tested in this subgroup changed by at least +/-25% between the first and last year shown, so changes in results over time may be due to changes in the composition of the subgroup as well as changes in achievement.

**Data Limitations**

Years of comparable percentage proficient data	2002–2007, grades 5, 8: 2005–2007, grades 3, 4: 2006–2007, grades 6, 7: 2003–2007, English II exam, high school 2003–2006, Algebra I exam, high school (assessment recalibrated in 2007)
Data needed to compute effect sizes	Available for 2002–2007 for most grades Available only for 2003–2005 for high school math and only for 2005 at grade 4 Not available disaggregated by subgroup

Disaggregated data for all subgroups and comparison groups	Percentages proficient not available for some subgroups for certain years Not available for any years for students who are <i>not</i> low-income or English language learners (ELLs), so the low-income and ELL subgroups are compared with all tested students in the state
Numbers of test-takers by subgroup	Not available, so it cannot be determined which subgroups are small or have changed significantly in size

## Test Characteristics

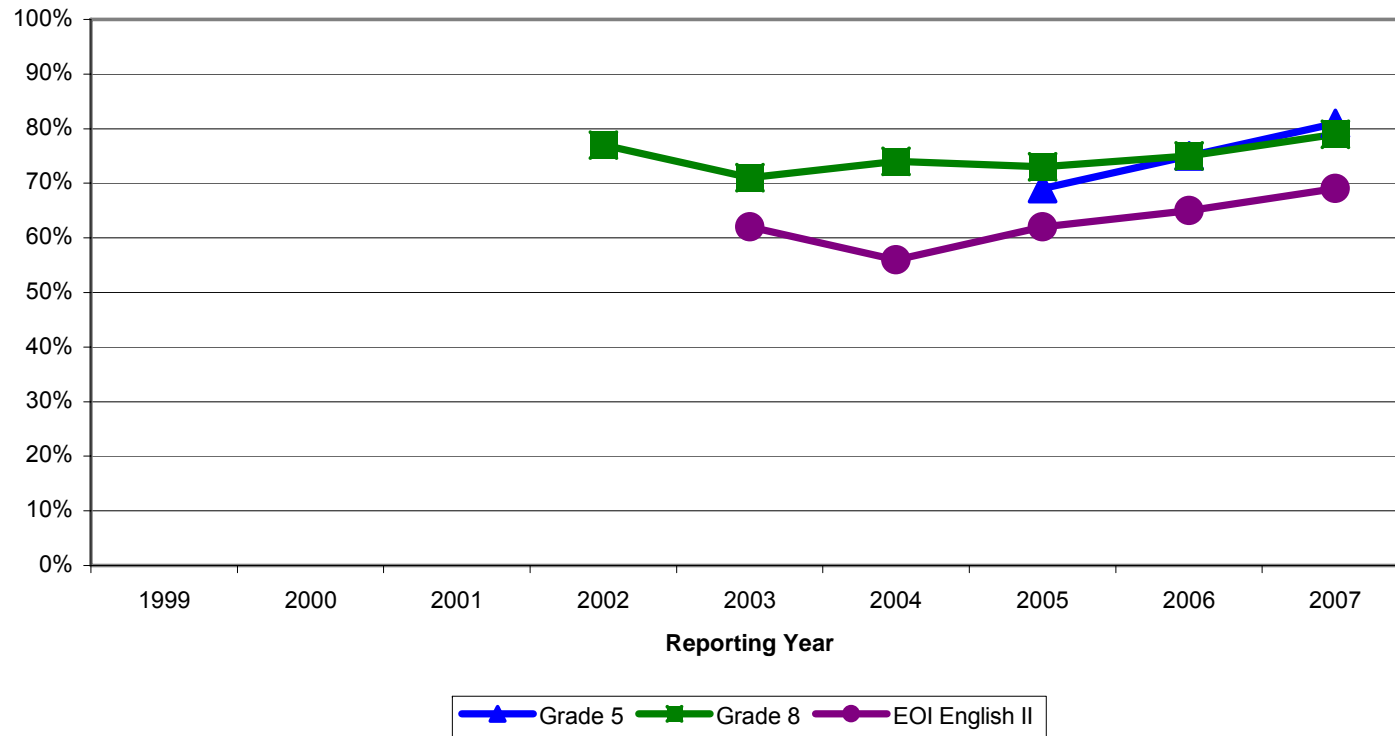
The characteristics highlighted below are for the state reading and mathematics tests used for accountability under the No Child Left Behind Act (NCLB).

Test(s) used for NCLB accountability	Oklahoma Core Curriculum Tests (OCCT) End-of-Instruction Tests (EOI) in English II and Algebra I (high school) Oklahoma Alternate Assessment Portfolio
Grades tested for NCLB accountability	3–8 and high school
High school NCLB test also used as an exit exam?	Not currently, but EOI exams are being phased in as a graduation requirement for the class of 2012
First year test used	2002: English II EOI exam 2001: Grades 5, 8 (new standard setting) 2005: Grades 3, 4 2006: Grades 6, 7 2007: Algebra I EOI exam (previously was 2003)
Time of test administration	Spring (OCCT) Winter and spring (EOI)
Major changes in testing system (2002–present)	2004-05: Norm-referenced SAT-9 tests phased out 2004-05 and 2005-06: OCCT criterion-reference tests field-tested and implemented 2006-07: Algebra I EOI test recalibrated and realigned to new standards

### Figures and Tables

#### Overall Achievement, Percentages Proficient

Figure OK-1. Percentage of Students Scoring at the Proficient Level or Above in Reading



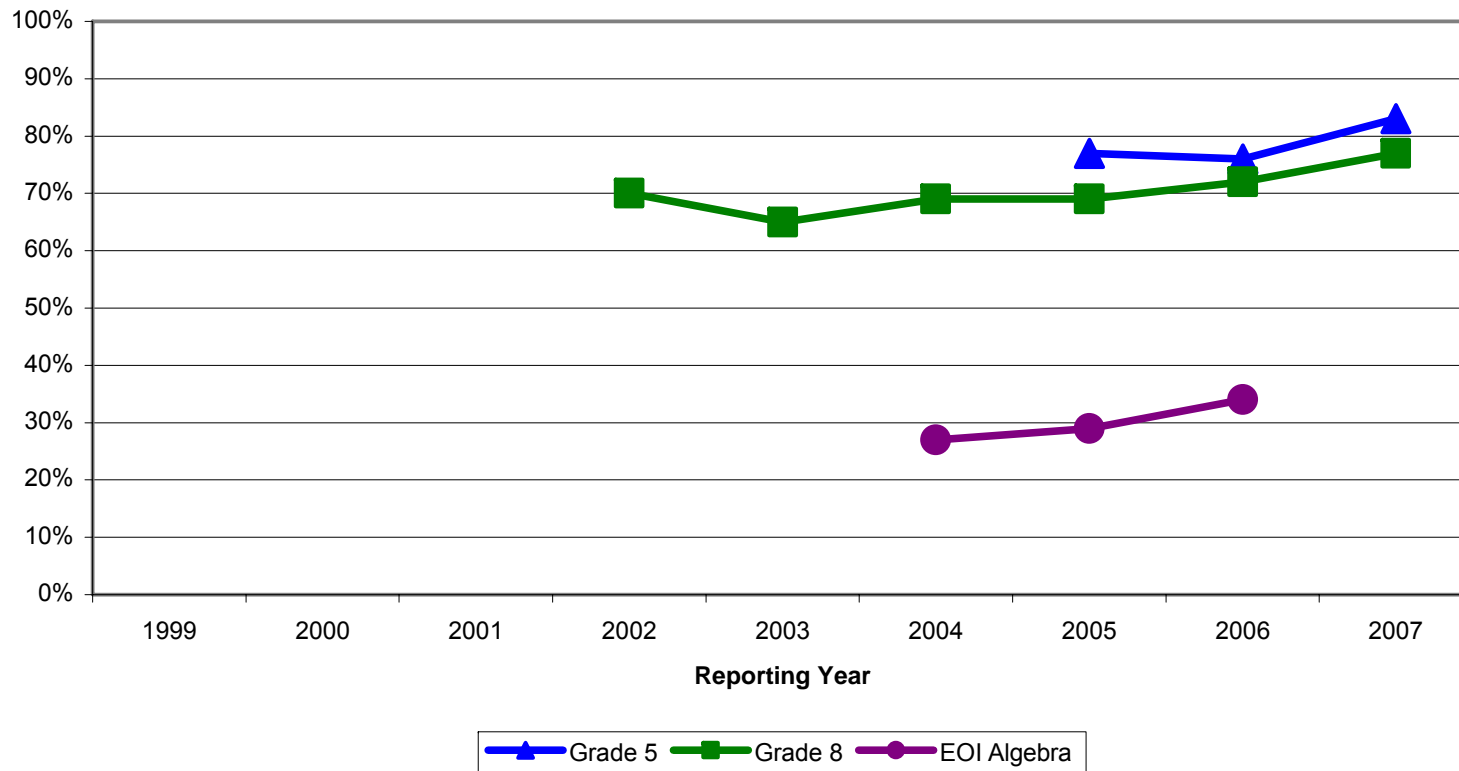
**Table OK-1. Percentage of Students Scoring at the Proficient Level or Above in Reading**

Grade Level	Reporting Year							Pre-NCLB Average Yearly Percentage Point Gain 1999-2002	Post-NCLB Average Yearly Percentage Point Gain 2002-2007 <sup>1</sup>		
	1999	2000	2001	2002	2003	2004	2005			2006	2007
Grade 3							78%	73%	87%	NA	4.5
Grade 4							83%	86%	90%	NA	3.5
<b>Grade 5</b>				<b>71%</b>	<b>74%</b>	<b>67%</b>	<b>69%</b>	<b>75%</b>	<b>81%</b>	<b>NA</b>	<b>2.0</b>
Grade 6								77%	78%	NA	NA
Grade 7								73%	77%	NA	NA
<b>Grade 8</b>				<b>77%</b>	<b>71%</b>	<b>74%</b>	<b>73%</b>	<b>75%</b>	<b>79%</b>	<b>NA</b>	<b>0.4</b>
<b>English II EOI</b>					<b>62%</b>	<b>56%</b>	<b>62%</b>	<b>65%</b>	<b>69%</b>	<b>NA</b>	<b>1.8</b>

Table reads: The percentage of 3<sup>rd</sup> graders who scored at or above the proficient level on the state reading test increased from 78% in 2005 to 87% in 2007. The average yearly gain in the percentage proficient in grade 3 reading was 4.5 percentage points per year from 2003 through 2007.

<sup>1</sup>Averages are subject to rounding error.

Figure OK-2. Percentage of Students Scoring at the Proficient Level or Above in Mathematics



**Table OK-2. Percentage of Students Scoring at the Proficient Level or Above in Mathematics**

Grade Level	Reporting Year							Pre-NCLB Average Yearly Percentage Point Gain 1999-2002	Post-NCLB Average Yearly Percentage Point Gain 2002-2007 <sup>1</sup>			
	1999	2000	2001	2002	2003	2004	2005			2006	2007	
Grade 3							70%	71%	75%	NA	2.5	
Grade 4								75%	79%	82%	NA	3.5
<b>Grade 5</b>				<b>70%</b>	<b>72%</b>	<b>71%</b>	<b>77%</b>	<b>76%</b>	<b>83%</b>	<b>NA</b>	<b>2.6</b>	
Grade 6								74%	76%	NA	NA	
Grade 7								67%	74%	NA	NA	
<b>Grade 8</b>				<b>70%</b>	<b>65%</b>	<b>69%</b>	<b>69%</b>	<b>72%</b>	<b>77%</b>	<b>NA</b>	<b>1.4</b>	
<b>Algebra EOI</b>						<b>27%</b>	<b>29%</b>	<b>34%</b>		<b>NA</b>	<b>3.5</b>	

Table reads: The percentage of 3<sup>rd</sup> graders who scored at or above the proficient level on the state math test increased from 70% in 2005 to 75% in 2007. The average yearly gain in the percentage proficient in grade 3 math was 2.5 percentage points per year after NCLB was enacted.

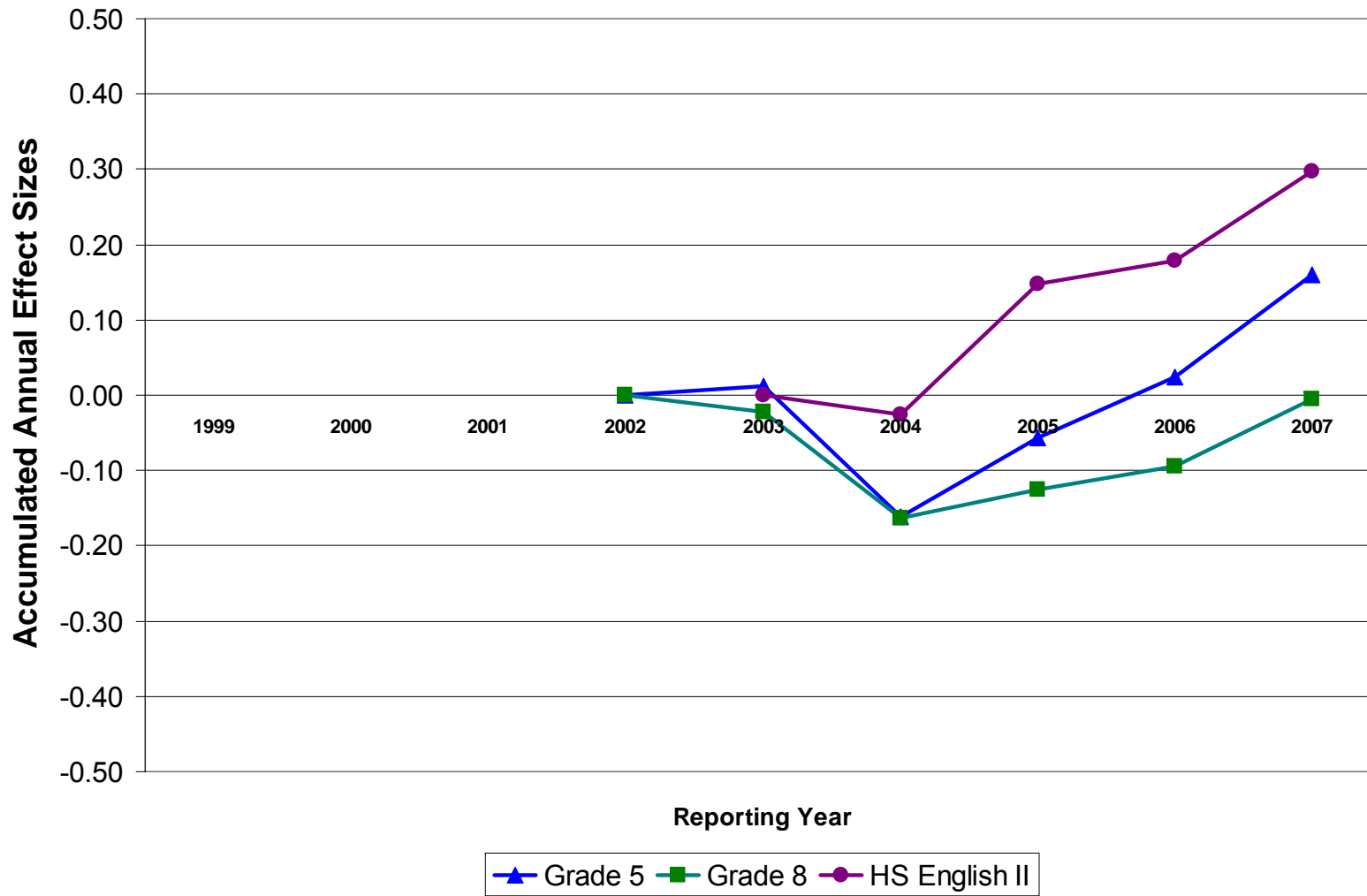
<sup>1</sup>Averages are subject to rounding error.

### **Overall Achievement, Effect Sizes**

An **effect size** is a statistical tool that conveys the amount of difference between test results using a common unit of measurement which does not depend on the scoring scale for a particular test. An effect size is computed by subtracting the **mean scale score** (the average score) on a test for one year, such as 2006, from the mean scale score for another year, such as 2007, then dividing the result by the average standard deviation. (The **standard deviation** is a measure of how much test scores tend to deviate from the mean—in other words, how spread out or bunched together scores are.) If the mean score has not changed, then the effect size is 0. An effect size of +1 indicates an increase of 1 standard deviation from the previous year's mean score. Effect sizes can also be used to calculate differences in scores between two subgroups of students.

The tables below show mean scale scores, standard deviations, and the **accumulated annual effect size (AAES)**, which is the cumulative gain in effect size over a range of years. For example, to determine the accumulated annual effect size between 2005 and 2007, one would calculate the change in effect size from 2005 to 2006, and from 2006 to 2007, then add the results together. In the tables below, 2002 (or the closest year with comparable data) was used as a starting point (0.00) to calculate accumulated annual effect sizes before and after NCLB was enacted. Steady gains in AAES are represented by negative numbers before 2002 rising to positive numbers after 2002, so that pre- and post-NCLB trends can be shown on the same trend line. A positive AAES before 2002 or a negative AAES after 2002 indicates a decline in performance over time.

Figure OK-3. Reading Achievement Trends in Terms of Effect Sizes



**Table OK-3. Reading Achievement Trends in Terms of Effect Sizes**

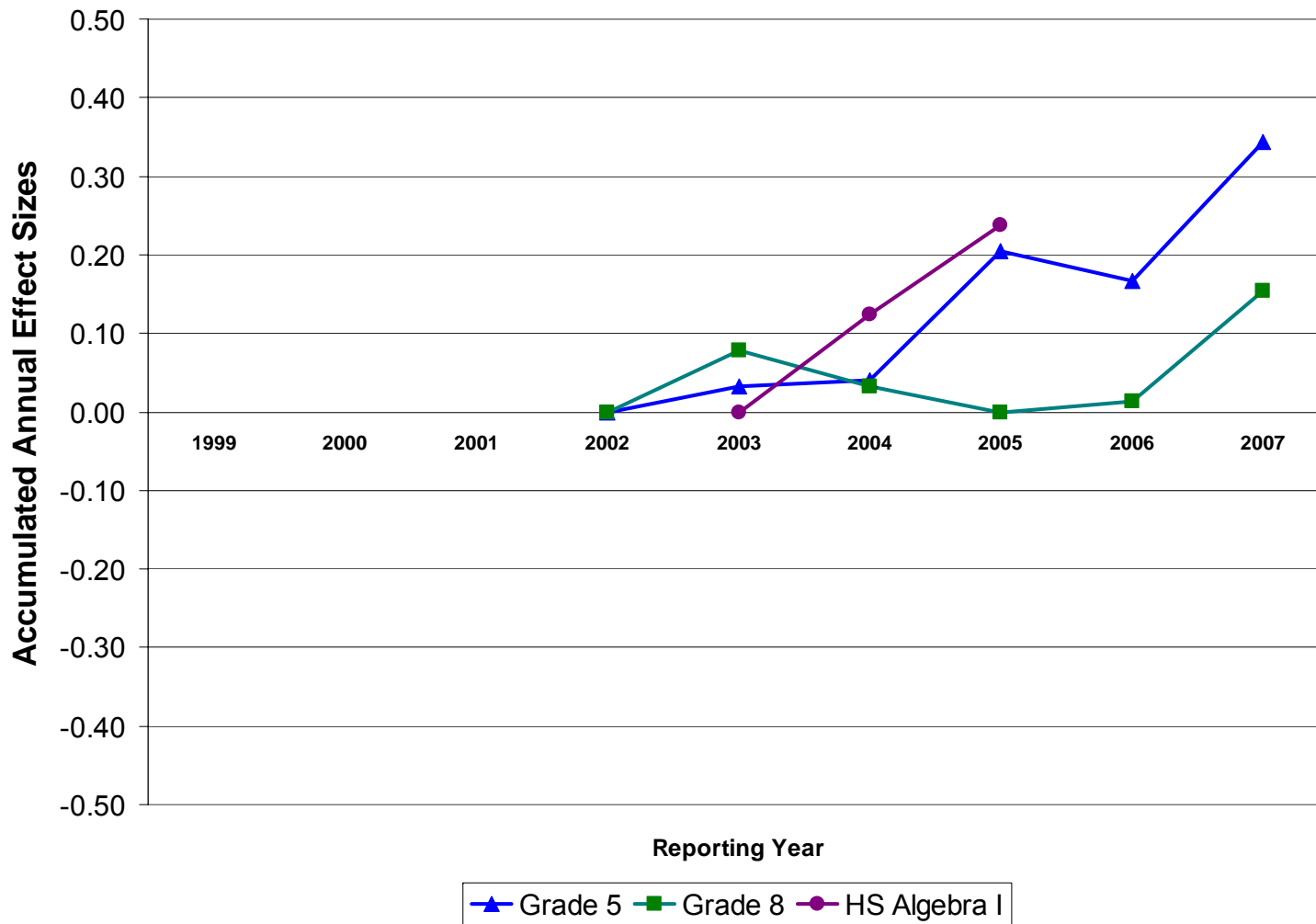
Grade Level	Reporting Year									Pre-NCLB Average Yearly Effect Size Gain 1999-2002	Post-NCLB Average Yearly Effect Size Gain 2002-2007 <sup>1</sup>
	1999	2000	2001	2002	2003	2004	2005	2006	2007		
Grade 5	MSS (SD)			740.1 (74.3)	741 (65.7)	729.1 (70.7)	737.1 (82.5)	743.8 (80.6)	754.6 (78.6)		
	AAES			0.00	0.01	-0.16	-0.06	0.02	0.16	NA	0.03
Grade 8	MSS (SD)			748.6 (71.8)	747.1 (60.5)	738.2 (66.0)	740.9 (77.9)	743.4 (80.7)	750.5 (78.6)		
	AAES			0.00	-0.02	-0.16	-0.13	-0.09	-0.01	NA	0.00
English II	MSS (SD)				703.7 (71.7)	701.7 (80.2)	715.7 (80.3)	718.1 (81.2)	727.7 (78.6)		
	AAES				0.00	-0.03	0.15	0.18	0.30	NA	0.07

Table reads: The mean scale score (MSS) of 5<sup>th</sup> graders on the state reading test increased from 740.1 in 2002 to 754.6 in 2007. The standard deviation (SD) for the mean scale score in 2002 was 74.3. Using 2002, the year NCLB was enacted, as a starting point (0.00), the accumulated annual effect size (AAES) for grade 5 reading totaled 0.16 by 2007. For the post-NCLB period, the average yearly gain in effect size at grade 5 was 0.03.

Note: The OCCT is scored on a scale of 400-990. The EOI English II test is scored on a scale of 440-999.

<sup>1</sup>Averages are subject to rounding error.

Figure OK-4. Mathematics Achievement Trends in Terms of Effect Sizes



**Table OK-4. Mathematics Achievement Trends in Terms of Effect Sizes**

Grade Level	Reporting Year									Pre-NCLB Average Yearly Effect Size Gain 1999-2002	Post-NCLB Average Yearly Effect Size Gain 2002-2007 <sup>1</sup>
	1999	2000	2001	2002	2003	2004	2005	2006	2007		
Grade 5	MSS (SD)			738.0 (74.7)	740.3 (65.0)	740.8 (69.8)	753.3 (81.6)	750.1 (82.7)	764.2 (75.4)		
	AAES			0.00	0.03	0.04	0.20	0.17	0.34	NA	0.07
Grade 8	MSS (SD)			732.6 (70.3)	737.8 (61.9)	734.8 (68.1)	732.2 (83.0)	733.5 (88.2)	745.4 (81.4)		
	AAES			0.00	0.08	0.03	0.00	0.01	0.15	NA	0.03
Algebra I	MSS (SD)				643.5 (71.1)	652.5 (74.0)	660.9 (73.1)				
	AAES				0.00	0.12	0.24			NA	0.12

Table reads: The mean scale score (MSS) of 5<sup>th</sup> graders on the state math test increased from 738.0 in 2002 to 764.2 in 2007. The standard deviation (SD) for the mean scale score in 2002 was 74.7. Using 2002, the year NCLB was enacted, as a starting point (0.00), the accumulated annual effect size (AAES) for grade 5 math totaled 0.34 by 2007. For the post-NCLB period, the average yearly gain in effect size at grade 5 was 0.07.

Note: The OCCT is scored on a scale of 400-990. The EOI Algebra I test is scored on a scale of 450-999.

<sup>1</sup>Averages are subject to rounding error.

**Gap Trends, Percentages Proficient****Table OK-5. Achievement Gap Trends in Reading by Percentages Proficient**

Student Subgroup	Percentage Proficient/ Percentage Point Gap	Grade 5				Grade 8				EOI – English II			
		2002	2007	Change in Gap 02-07 <sup>1</sup>	Average Annual Gap Reduction <sup>1</sup>	2002	2007	Change in Gap 02-07 <sup>1</sup>	Average Annual Gap Reduction <sup>1</sup>	2003	2007	Change in Gap 03-07 <sup>1</sup>	Average Annual Gap Reduction <sup>1</sup>
All students tested in state	% proficient	71%	81%			77%	79%			62%	69%		
White	% proficient	79%	85%			82%	84%			69%	76%		
African American	% proficient	49%	67%			56%	62%			37%	47%		
	<i>Gap v. white</i>	30	18	12	2.4	26	22	4	0.8	32	29	3	0.8
Latino	% proficient	61%	69%			61%	64%			44%	51%		
	<i>Gap v. white</i>	18	16	2	0.4	21	20	1	0.2	25	25	0	0.0
Asian	% proficient	77%	88%			80%	87%			69%	74%		
	<i>Gap v. white</i>	2	-3	-1	-0.2	2	-3	-1	-0.2	0	2	-2	-0.5
Native American	% proficient	66%	77%			72%	77%			55%	66%		
	<i>Gap v. white</i>	13	8	5	1.0	10	7	3	0.6	14	10	4	1.0
Not low-income	% proficient	NA	NA			NA	NA			NA	NA		
Low-income	% proficient	61%	72%			66%	69%			48%	57%		
	<i>Gap v. all students</i>	10	9	1	0.2	11	10	1	0.2	14	12	2	0.5
Not disabled	% proficient	74%	86%			77%	85%			NA	75%		
Students with disabilities <sup>4</sup>	% proficient	19%	45%			NA	39%			NA	26%		
	<i>Gap v. not disabled</i>	55	41	14	2.8	NA	46	NA	NA	NA	49	NA	NA
Not ELLs	% proficient	NA	NA			NA	NA			NA	NA		
English language learners <sup>4</sup>	% proficient	38%	58%			NA	45%			NA	33%		
	<i>Gap v. all students</i>	33	23	10	2.0	NA	34	NA	NA	NA	36	NA	NA

Table reads: In 2002, 79% of white 5<sup>th</sup> graders and 49% of African American 5<sup>th</sup> graders scored at the proficient level on the state reading test, a gap of 30 percentage points. In 2007, 85% of white 5<sup>th</sup> graders and 67% of African American 5<sup>th</sup> graders scored at the proficient level in reading, a gap of 18 percentage points. From 2002 to 2007, the reading achievement gap between white and African American 5<sup>th</sup> graders narrowed by 12 percentage points, an average narrowing of 2.4 percentage points per year.

<sup>1</sup>In this column, positive numbers represent a narrowing of the achievement gap and negative numbers represent a widening of the gap. Numbers in this column are subject to rounding error.

(Table continued)

<sup>2</sup>The number of students tested in this subgroup at this grade level was fewer than 500 students, so changes for this subgroup should be interpreted with caution.

<sup>3</sup>The number of students tested in this subgroup changed by at least +/-25% between the first and last year shown, so changes in results over time may be due to changes in the composition of the subgroup as well as changes in achievement.

<sup>4</sup>Gap trends for students with disabilities and English language learners should be interpreted with caution because state and federal policy changes may have affected the year-to-year-comparability of test results for these subgroups.

**Table OK-7. Achievement Gap Trends in Mathematics by Percentages Proficient**

Student Subgroup	Percentage Proficient/ Percentage Point Gap	Grade 5				Grade 8				EOI Algebra			
		2002	2007	Change in Gap 02-07 <sup>1</sup>	Average Annual Gap Reduction <sup>1</sup>	2002	2007	Change in Gap 02-07 <sup>1</sup>	Average Annual Gap Reduction <sup>1</sup>	2004	2006	Change in Gap 04-06 <sup>1</sup>	Average Annual Gap Reduction <sup>1</sup>
All students tested in state	% proficient	70%	83%			70%	77%			27%	34%		
White	% proficient	77%	88%			76%	83%			35%	40%		
African American	% proficient	49%	71%			43%	59%			13%	15%		
	<i>Gap v. white</i>	28	17	11	2.2	33	24	9	1.8	22	25	-3	-1.5
Latino	% proficient	65%	78%			54%	68%			19%	22%		
	<i>Gap v. white</i>	12	10	2	0.4	22	15	7	1.4	16	18	-2	-1.0
Asian	% proficient	74%	93%			80%	90%			54%	58%		
	<i>Gap v. white</i>	3	-5	-2	-0.4	-4	-7	-3	-0.6	-19	-18	1	0.5
Native American	% proficient	65%	80%			62%	75%			24%	27%		
	<i>Gap v. white</i>	12	8	4	0.8	14	8	6	1.2	11	13	-2	-1.0
Not low-income	% proficient	NA	NA			NA	NA			NA	NA		
Low-income	% proficient	61%	78%			57%	69%			20%	23%		
	<i>Gap v. all students</i>	9	5	4	0.8	13	8	5	1.0	7	11	-4	-2.0
Not disabled Students with disabilities <sup>4</sup>	% proficient	71%	88%			70%	83%			30%	38%		
	% proficient	NA	58%			NA	42%			6%	8%		
	<i>Gap v. not disabled</i>	NA	30	NA	NA	NA	41	NA	NA	24	30	-6	-3.0
Not ELLs English language learners <sup>4</sup>	% proficient	NA	NA			NA	NA			NA	NA		
	% proficient	NA	71%			NA	57%			16%	22%		
	<i>Gap v. all students</i>	NA	12	NA	NA	NA	20	NA	NA	11	12	-1	-0.5

(Table continued)

Table reads: In 2002, 77% of white 5<sup>th</sup> graders and 49% of African American 5<sup>th</sup> graders scored at the proficient level on the state math test, a gap of 28 percentage points. In 2007, 88% of white 5<sup>th</sup> graders and 71% of African American 5<sup>th</sup> graders scored at the proficient level in math, a gap of 17 percentage points. From 2002 to 2007, the math achievement gap between white and African American 5<sup>th</sup> graders narrowed by 11 percentage points, an average narrowing of 2.2 percentage points per year.

<sup>1</sup>In this column, positive numbers represent a narrowing of the achievement gap and negative numbers represent a widening of the gap. Numbers in this column are subject to rounding error.

<sup>2</sup>The number of students tested in this subgroup at this grade level was fewer than 500 students, so changes for this subgroup should be interpreted with caution.

<sup>3</sup>The number of students tested in this subgroup changed by at least +/-25% during the first and last year shown, so changes in results over time may be due to changes in the composition of the subgroup as well as changes in achievement.

<sup>4</sup>Gap trends for students with disabilities and English language learners should be interpreted with caution because state and federal policy changes may have affected the year-to-year-comparability of test results for these subgroups.

## Key Terms

*Percentage proficient* — The percentage of students in a group who score at or above the cut score for “proficient” performance on the state test used to determine progress under NCLB.

*Moderate-to-large gain* — For the percentage proficient, an average gain of 1 or more percentage points per year. For effect size, an average gain of 0.02 or greater per year.

*Slight gain* — For the percentage proficient, an average gain of less than 1 percentage point per year. For effect size, an average gain of less than 0.02 per year.

*Moderate-to-large decline* — For the percentage proficient, an average decline of 1 or more percentage points per year. For effect size, an average decline of 0.02 or greater per year.

*Slight decline* — For the percentage proficient, an average decline of less than 1 percentage points per year. For effect size, an average decline of less than 0.02 per year.

*Effect size* — A statistical tool that conveys the amount of difference between test results using a common unit of measurement which does not depend on the scoring scale for a particular test.

*Accumulated annual effect size* — The cumulative gain in effect size over a range of years.

*Mean scale score* — The arithmetical average of a group of test scores, expressed on a common scale for a particular state’s test. The mean is calculated by adding the scores and dividing the sum by the number of scores.

*Standard deviation* — A measure of how much test scores tend to deviate from the mean—in other words, how spread out or bunched together test scores are. If students’ scores are bunched together, with many scores close to the mean, then the standard deviation will be small. If scores are spread out, with many students scoring at the high or low ends of the scale, then the standard deviation will be large.

## Cautions and Explanations

*Special caution for students with disabilities and English language learners* — Trends for students with disabilities and English language learners should be interpreted with caution because changes in federal guidance and state accountability plans may have altered which students in these subgroups are tested for accountability purposes, how they are tested, and when their test scores are counted as proficient under NCLB. These factors could affect the year-to-year comparability of test results.

(Continued)

*Inclusion of former English language learners* — In many states, the subgroup of English language learners (also known as limited English proficient students) includes students who were formerly English language learners but who have achieved English language proficiency or fluency in the last two years. Federal NCLB regulations permit states to include these formerly ELL students (sometimes referred to as “redesignated fluent English proficient” students) in the ELL subgroup for up to two years for purposes of NCLB accountability.

*Different names for subgroups* — For the sake of consistency and ease of data tabulation, all of the state profiles developed for this report use a common set of names for the major student subgroups. In practice, however, states use various names for subgroups that may differ from those used here (such as using “Hispanic” instead of “Latino,” or “special education students” instead of “students with disabilities”). Moreover, a few states separately track the performance of subgroups not included in the analyses for this report.

*Limitations of percentage proficient measure* — The percentage proficient, the main measure used to gauge student performance under NCLB, has the advantages of being easily understood and giving a snapshot of how many students have met their state’s performance expectations. But the percentage proficient also has several limitations as a measure of whether student achievement has increased. Users of percentage proficient data should keep in mind these limitations, particularly the following:

- \* “Proficient” means different things across different states. States vary widely in curriculum, learning expectations, and tests, and state tests differ considerably in their difficulty and cut scores for proficient performance.
- \* Although this study has taken steps to avoid comparing test data where there have been “breaks” in comparability resulting from new tests, changes in content standards, revised cut scores, or other major changes in testing programs, the year-to-year comparability of test results in the same state may still be affected by less obvious policy and demographic changes.
- \* Changes in student performance may occur that are not reflected in percentage proficient data, such as an increase in the number of students reaching performance levels below or above proficient (such as the “basic” or “advanced” levels).
- \* The size of the achievement gaps between various subgroups depends in part on where a state sets its cut score for proficiency. For example, if a proficiency cut score is set so high that almost nobody reaches it or so low that almost everyone reaches it, there will be little apparent achievement gap. By contrast, if the cut score is closer to the mean test score, the gaps between subgroups will be more apparent.

*Difficulty of attributing causes* — Although the tables above show trends in test scores since the enactment of NCLB, one cannot assume that these trends have occurred *because* of NCLB. It is always difficult to determine a cause-and-effect relationship between test score trends and any specific education policy or program due to the many federal, state, and local reforms undertaken in recent years and due to the lack of a “control” group of students not affected by NCLB.