General Achievement Trends — Rhode Island

K-12 enrollment — 148,474

The raw data used to develop these state profiles, including data for additional grade levels and years before 2002, can be found on the CEP Web site at www.cep-dc.org. Click on the link on the left for No Child Left Behind. In the Document Library, look for the most recent report on student achievement since 2002. Below the name of the report, click on the link for View State Profiles and Worksheets. Scroll down the page, and click on the Worksheet links for any state.

Overall Achievement — Key Findings

General results

The tables in this profile present state test results in reading and math at three achievement levels (basic, proficient, and advanced) and at one grade each at the elementary, middle, and high school levels. These data are more complete than the percentage of students scoring proficient that is the main indicator used to determine adequate yearly progress under the No Child Left Behind Act.

Rhode Island has made a number of changes to its testing program in recent years. As a result, comparable test data is only available for three years at the elementary and middle school levels, the minimum number of years necessary to identify a trend. At the high school level, trends could not be determined because Rhode Island began administering a new test in 2007-08.

In general, Rhode Island students made gains at the **basic, proficient,** and **advanced** achievement levels.

Specific results

- In reading and math, the percentage of students at the **basic** level and above rose at a moderate-to-large rate at the elementary and middle school grades analyzed.
- In reading, the percentage of students at the **proficient** level and above increased at a moderate-to-large rate at the elementary and middle grade analyzed. In math, the percentage of students at the proficient level and above increased at a moderate-to-large rate at the elementary grade analyzed.
- The percentage of students reaching the **advanced** level in reading went up at a moderate-to-large rate at the elementary and middle school grades analyzed. Math performance at the advanced level at the elementary and middle grades remained relatively stable.

Data Limitations

Years of comparable percentage proficient data	2006–2008: Grades 3–8 2008: Grade 11 (the state switched to a new high school test in Fall 2007)
Years of data needed to compute effect sizes	2006–2008: Grades 3–8
Disaggregated data for all subgroups and comparison groups	For grade 11, data not available for comparison group of students who are *not* low-income, so the subgroup of low-income students is compared with all tested students in the state
Numbers of test-takers by subgroup	Not available for grade 11, so it cannot be determined which subgroups are small for grade 11

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	New England Common Assessment Program (NECAP) New Standards Reference Exam (NSRE) for grade 11 only for 2004–2006; replaced by NECAP grade 11 test in fall 2007 Rhode Island Alternate Assessment
Grades tested for NCLB accountability	3–8, 11
State labels for achievement levels	RI uses four achievement levels: Substantially Below Proficient, Partially Proficient, Proficient, and Proficient with Distinction. For our analyses we treated Partially Proficient as Basic, Proficient as Proficient, and Proficient with Distinction as Advanced.
High school NCLB test also used as an exit exam?	No
First year test used	2003–04: NSRE grade 11 2005–06: NECAP grades 3–8 2007: NECAP grade 11

Time of test administration	Fall
Major changes in testing system (2002–present)	2005–06: Implemented NECAP, a new assessment system developed in collaboration with Vermont and New Hampshire, in grades 3–8; replaced NSRE tests at elementary and middle school levels Fall 2006: Piloted NECAP grade 11 assessment Fall 2007: Administered NECAP grade 11 assessment, replaced NSRE for grade 11

Overall Achievement — Percentages Proficient

Figure RI-1. Percentage of Students Scoring at the Proficient Level and Above in Reading

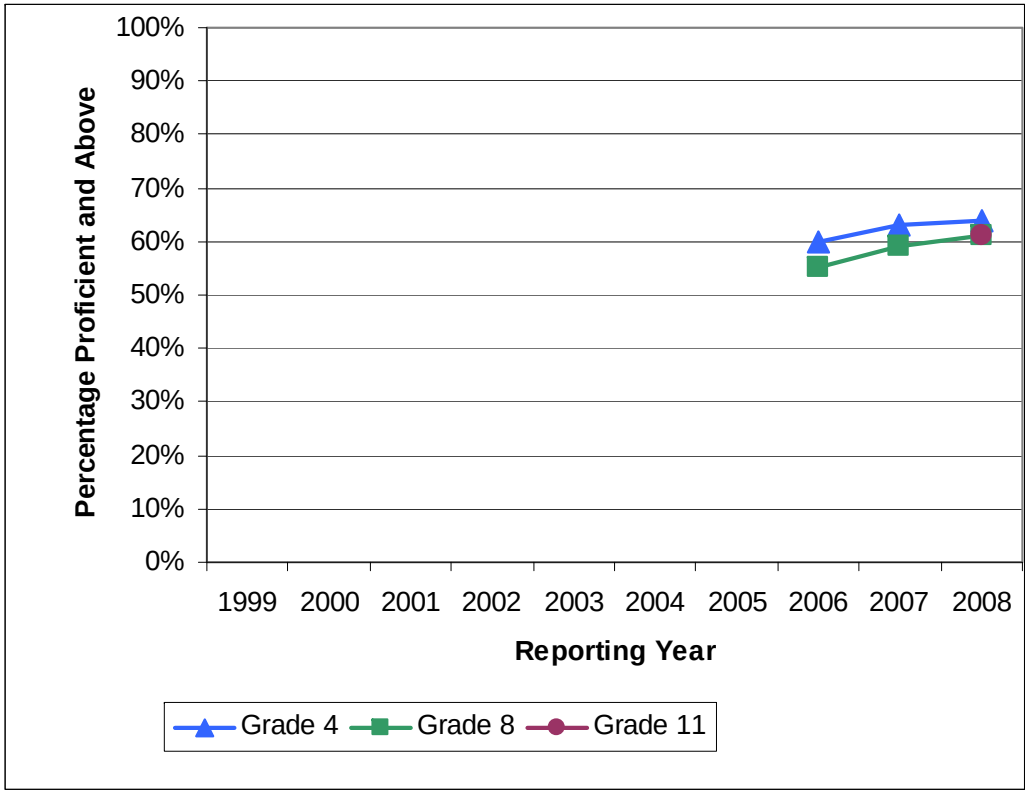

Table RI-1. Percentage of Students Scoring at the Proficient Level and Above in Reading

Grade Level	Reporting Year										Pre-NCLB Average Yearly Percentage Point Gain 1999-2002[1]	Post-NCLB Average Yearly Percentage Point Gain 2002-2008[1]
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008		
Grade 3								60%	65%	68%	NA	4.0
Grade 4								**60%**	**63%**	**64%**	**NA**	**2.0**
Grade 5								60%	65%	66%	NA	3.0
Grade 6								58%	64%	62%	NA	2.0
Grade 7								56%	59%	67%	NA	5.5
Grade 8								**55%**	**59%**	**61%**	**NA**	**3.0**
Grade 11										**61%**	**NA**	**NA**

Table reads: The percentage of 3rd graders who scored at the proficient level and above on the state reading test increased from 60% in 2006 to 68% in 2008. The average yearly gain in the percentage proficient in grade 3 reading was 4.0 percentage points per year after NCLB was enacted.

[1]Averages are subject to rounding error.

Figure RI-2. Percentage of Students Scoring at the Proficient Level and Above in Mathematics

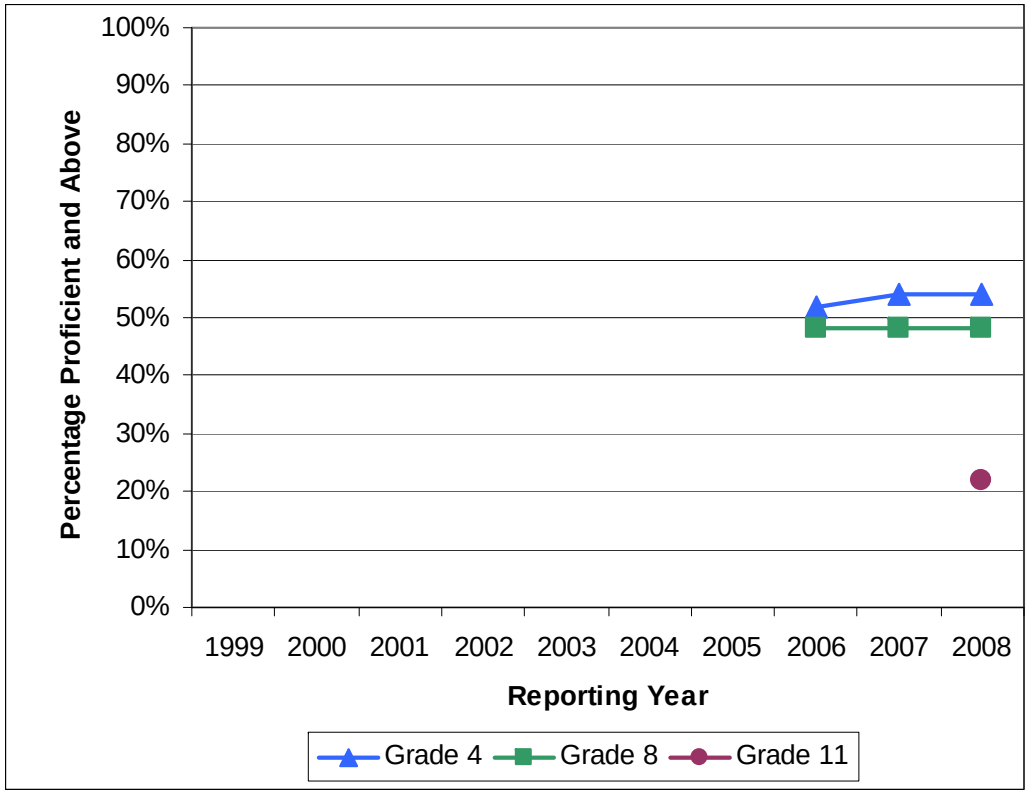

Table RI-2. Percentage of Students Scoring at the Proficient Level and Above in Mathematics

Grade Level	Reporting Year										Pre-NCLB Average Yearly Percentage Point Gain 1999-2002[1]	Post-NCLB Average Yearly Percentage Point Gain 2002-2008[1]
	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008		
Grade 3								51%	56%	60%	NA	4.5
Grade 4								**52%**	**54%**	**54%**	**NA**	**1.0**
Grade 5								52%	57%	57%	NA	2.5
Grade 6								49%	54%	54%	NA	2.5
Grade 7								47%	51%	49%	NA	1.0
Grade 8								**48%**	**48%**	**48%**	**NA**	**0.0**
Grade 11										**22%**	**NA**	**NA**

Table reads: The percentage of 3rd graders who scored at the proficient level and above on the state math test increased from 51% in 2006 to 60% in 2008. The average yearly gain in the percentage proficient in grade 3 math was 4.5 percentage points per year after NCLB was enacted.

[1]Averages are subject to rounding error.

Overall Achievement — Percentages Advanced, Proficient, and Basic

How to read figures 3 and 4 and tables 3 and 4

The stacked bars in figures 3 and 4 show the percentages of students scoring at the basic, proficient, and advanced levels on the state tests used for NCLB accountability. The following information may be helpful in interpreting the figures:

- The percentage proficient and above—the benchmark used to determine adequate yearly progress under NCLB—is the sum of the middle and top segments of the bars (percentage proficient plus percentage advanced).

- The percentage basic and above is the sum of all three segments of the bars (percentage basic plus percentage proficient plus percentage advanced).

- The sums that result from adding the segments of the bars in these ways correspond with the percentages proficient and above, and basic and above, shown in tables 3 and 4. In a few instances, however, the sums in the figures may differ from those in the tables by a percentage point due to rounding.

- The bars do not total 100% because students who score *below* the basic level are not displayed.

- By looking at the percentages in each segment of the bars, one can see how achievement trends at the three levels interact. Ideally, one would want to see increases at all three levels, as more students move from below basic to basic achievement, from basic to proficient, and from proficient to advanced. But other scenarios may also be illuminating. For example, gains may occur in the percentage basic even if the percentage proficient and above has stayed the same, suggesting that progress has been made in moving students from the below basic to the basic level. Or, if the percentage proficient has grown while the percentages basic and advanced have shrunk, this suggests that educators may have focused a great deal of attention on moving students from the basic to proficient levels.

- Some states use different labels for their achievement levels instead of basic, proficient, and advanced. The specific state labels are listed in the Test Characteristics section at the beginning of this profile.

Figure RI-3. Percentages of Students Scoring at the Advanced, Proficient, and Basic Levels in Reading

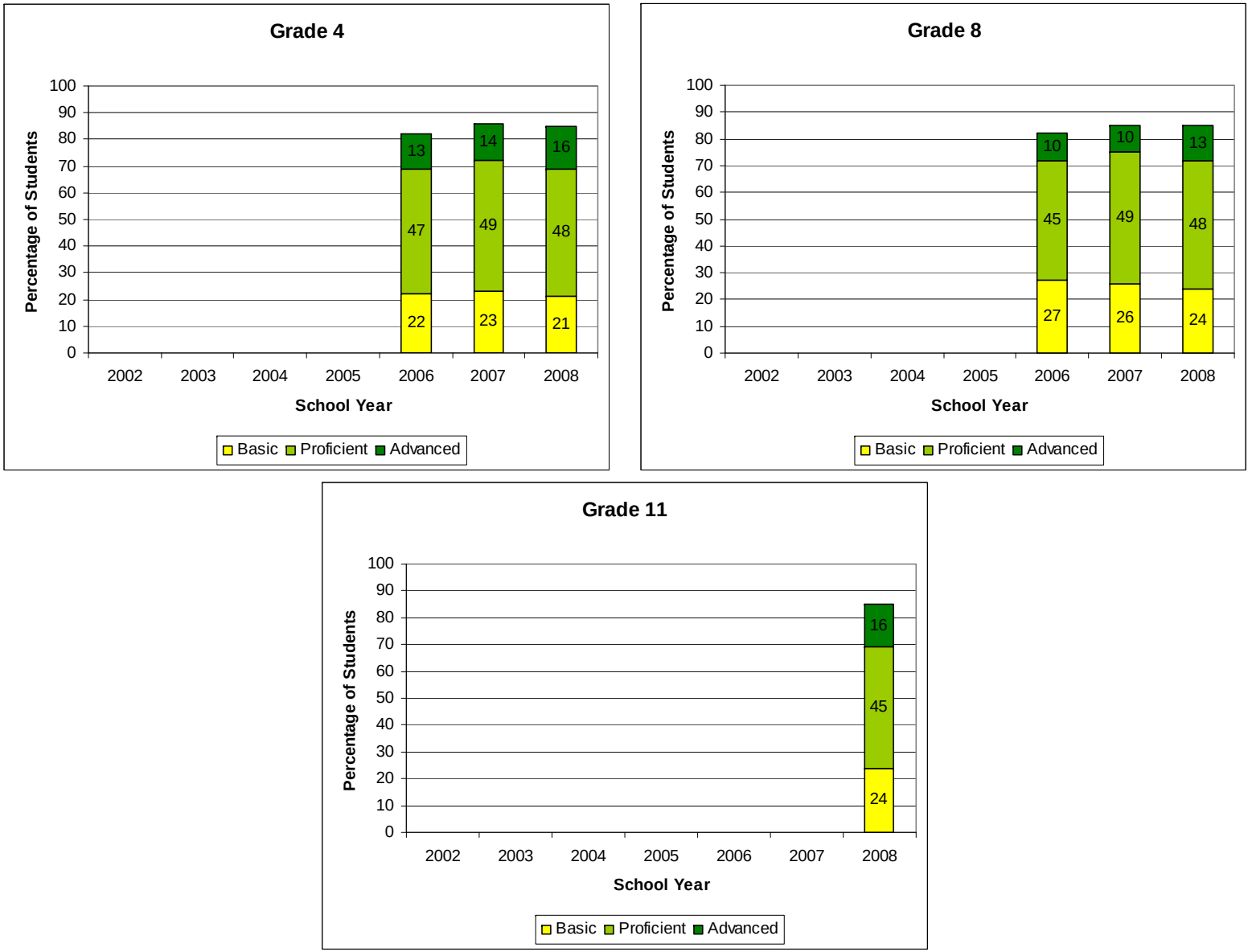

Table RI-3. Percentages of Students Scoring at the Advanced, Proficient and Above, and Basic and Above Levels in Reading

Achievement Level	Reporting Year							Average Yearly Percentage Point Gain[1]
	2002	2003	2004	2005	2006	2007	2008	
Grade 4								
Advanced					13%	14%	16%	1.5
Proficient and Above					60%	63%	64%	2.0
Basic and Above					82%	86%	85%	1.5
Grade 8								
Advanced					10%	10%	13%	1.5
Proficient and Above					55%	59%	61%	3.0
Basic and Above					82%	85%	85%	1.5
Grade 11								
Advanced							16%	NA
Proficient and Above							61%	NA
Basic and Above							85%	NA

Table reads: The percentage of 4th graders who scored at the advanced level on their state reading test increased from 13% in 2005 to 16% in 2008. During this period, the average yearly gain in the percentage advanced was 1.5 percentage points per year in grade 4 reading.

[1]Averages are subject to rounding error.

Figure RI-4. Percentages of Students Scoring at the Advanced, Proficient, and Basic Levels in Mathematics

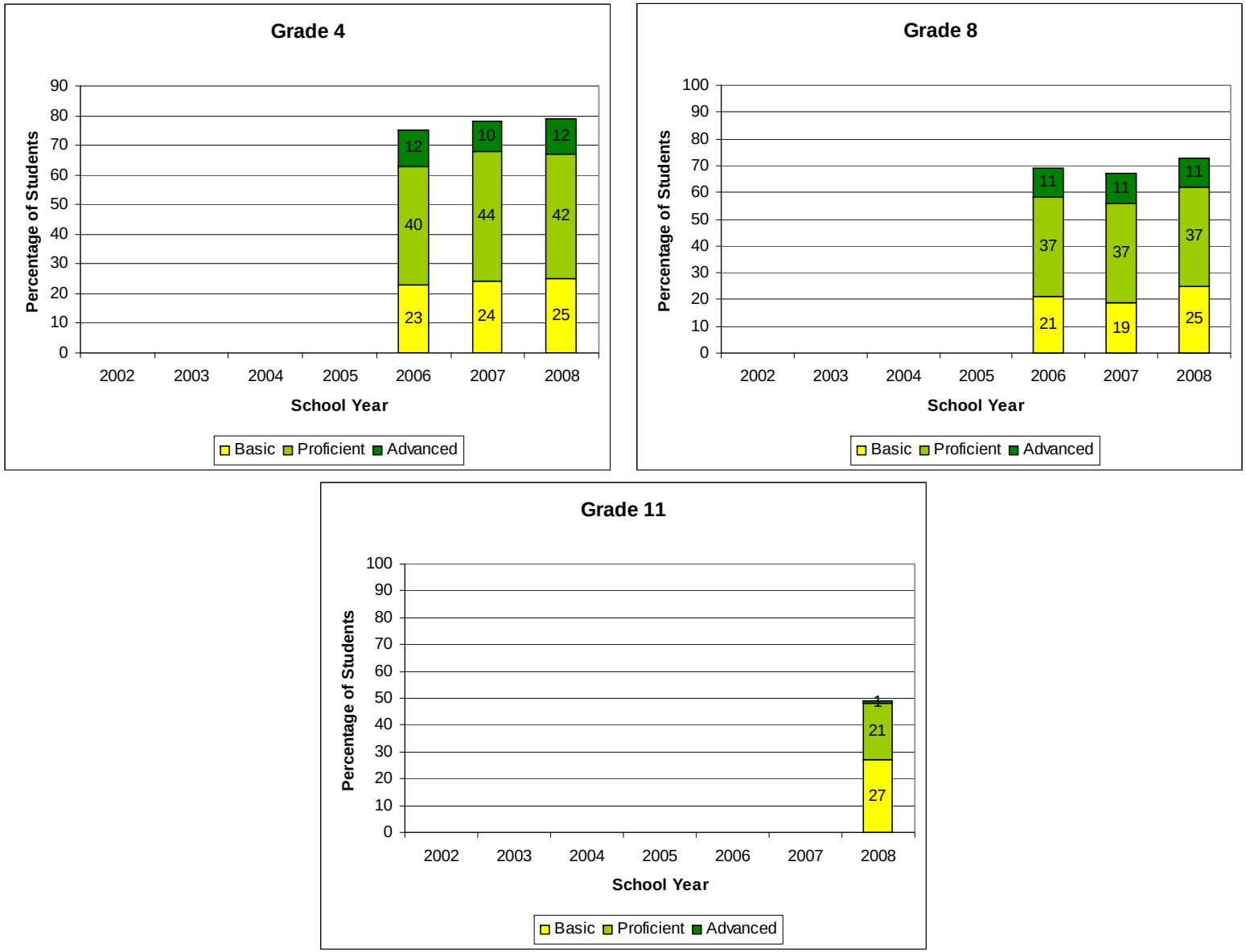

Table RI-4. Percentages of Students Scoring at the Advanced, Proficient and Above, and Basic and Above Levels in Mathematics

Achievement Level	Reporting Year							Average Yearly Percentage Point Gain[1]
	2002	2003	2004	2005	2006	2007	2008	
Grade 4								
Advanced					12%	10%	12%	0.0
Proficient and Above					52%	54%	54%	1.0
Basic and Above					75%	78%	79%	2.0
Grade 8								
Advanced					11%	11%	11%	0.0
Proficient and Above					48%	48%	48%	0.0
Basic and Above					69%	67%	73%	2.0
Grade 11								
Advanced							1%	NA
Proficient and Above							22%	NA
Basic and Above							49%	NA

Table reads: The percentage of 4th graders who scored at the advanced level on their state math test was 12% in 2002 and in 2008. During this period, the average yearly gain in the percentage advanced was 0.0 percentage points per year in grade 4 math.

[1]Averages are subject to rounding error.

Overall Achievement — Effect Sizes

How to read figures 5 and 6 and tables 5 and 6

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.

Tables 5 and 6 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 2006 and 2008, one would calculate the change in effect size from 2006 to 2007, and from 2007 to 2008, then add the results together. In figures and tables 5 and 6, 2002 (or the closest year with comparable data) was used as a starting point (0.00) to calculate accumulated annual effect sizes after NCLB was enacted (and before, if available). 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 RI-5. Reading Achievement Trends in Terms of Effect Sizes

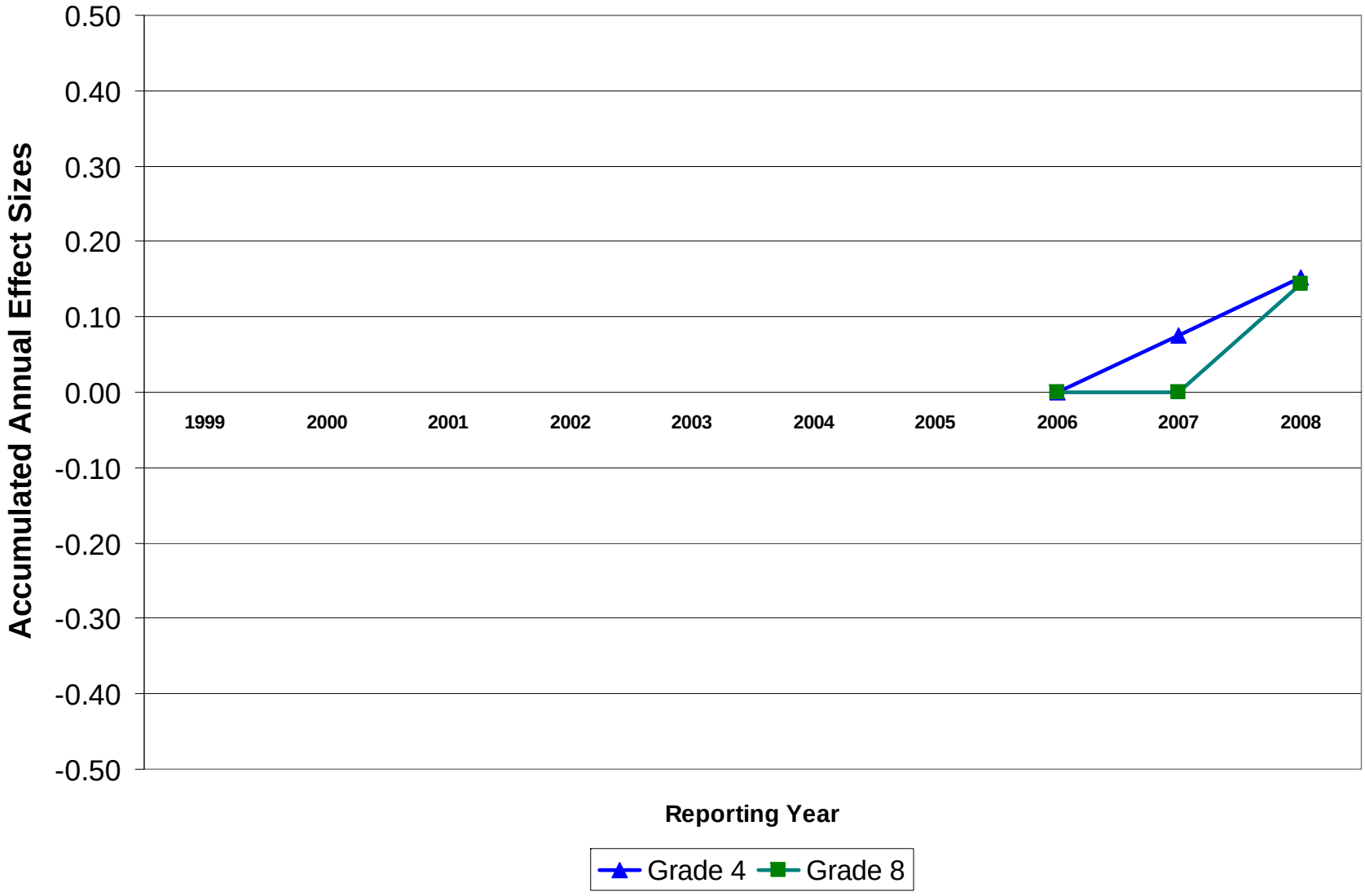

Table RI-5. Reading Achievement Trends in Terms of Effect Sizes

Grade Level		Reporting Year										Pre-NCLB Average Yearly Effect Size Gain 1999-2002[1]	Post-NCLB Average Yearly Effect Size Gain 2002-2008[1]
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008		
Grade 4	MSS *(SD)*								442 *(13.6)*	443 *(12.7)*	444 *(13.5)*		
	AAES								0.00	0.08	0.15	NA	0.08
Grade 8	MSS *(SD)*								842 *(14.0)*	842 *(13.8)*	844 *(14.0)*		
	AAES								0.00	0.00	0.14	NA	0.07
Grade 11	MSS *(SD)*												
	AAES												

Table reads: The mean scale score (MSS) of 4th graders on the state reading test increased from 442 in 2006 to 444 in 2008. The standard deviation (SD) for the mean scale score in 2006 was 13.6. Using 2006 as a starting point (0.00), the accumulated annual effect size (AAES) for grade 4 reading totaled 0.15 by 2008. For the post-NCLB period, the average yearly gain in effect size at grade 4 was 0.08.

Note: The NECAP is scored on a scale of 00-80 (expressed as a 3-digit number with 1st digit representing grade level; e.g., a score of 33 in 6th grade = 633).

[1]Averages are subject to rounding error.

Figure RI-6. Mathematics Achievement Trends in Terms of Effect Sizes

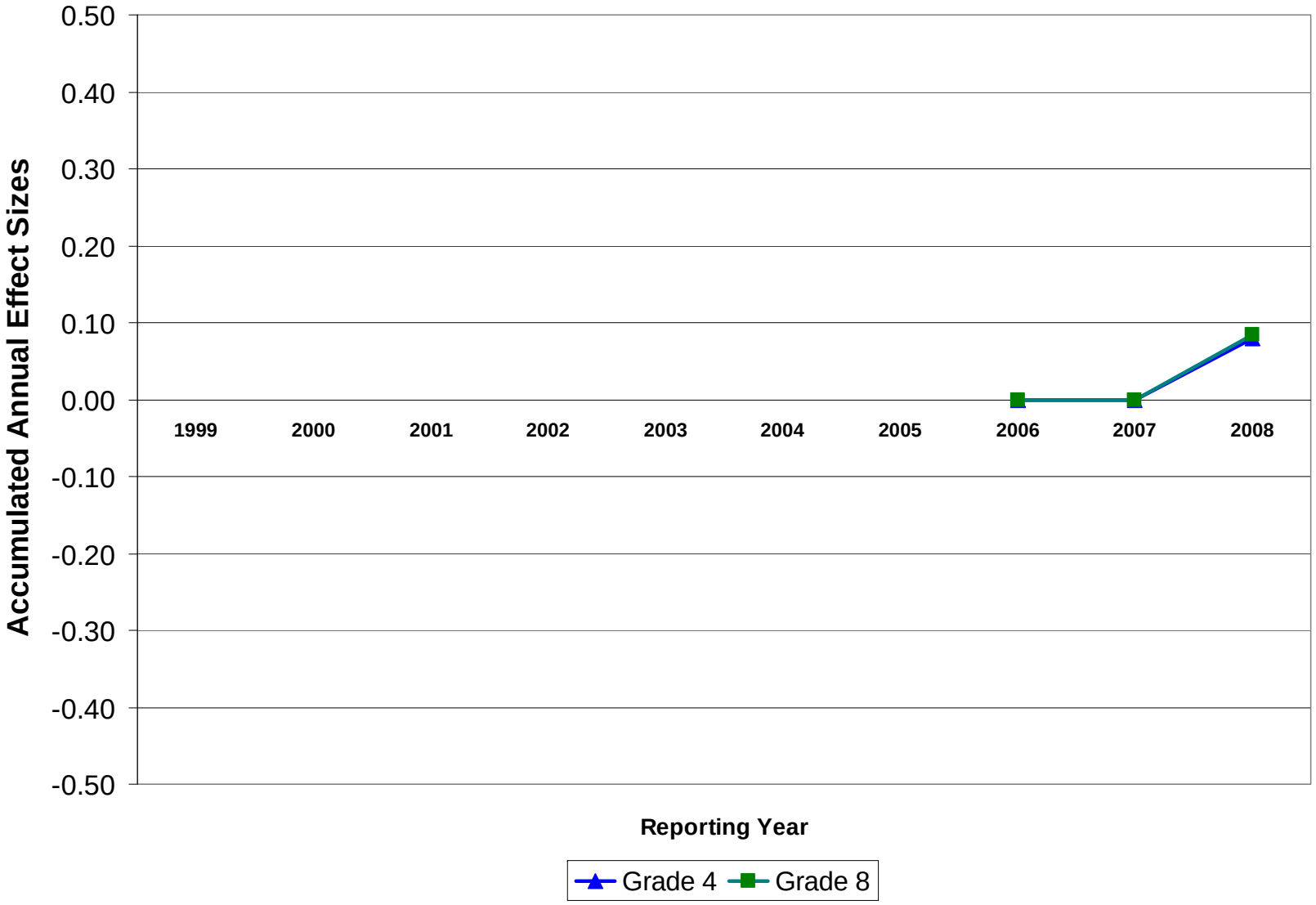

Table RI-6. Mathematics Achievement Trends in Terms of Effect Sizes

Grade Level		Reporting Year										Pre-NCLB Average Yearly Effect Size Gain 1999-2002[1]	Post-NCLB Average Yearly Effect Size Gain 2002-2008[1]
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008		
Grade 4	MSS *(SD)*								440 *(13.3)*	440 *(12.3)*	441 *(12.7)*		
	AAES								0.00	0.00	0.08	NA	0.04
Grade 8	MSS *(SD)*								838 *(12.4)*	838 *(12.2)*	839 *(11.7)*		
	AAES								0.00	0.00	0.08	NA	0.04
Grade 11	MSS *(SD)*												
	AAES												

Table reads: The mean scale score (MSS) of 4th graders on the state math test increased from 440 in 2006 to 441 in 2008. The standard deviation (SD) for the mean scale score in 2006 was 13.3. Using 2006 as a starting point (0.00), the accumulated annual effect size (AAES) for grade 4 math totaled 0.08 by 2008. For the post-NCLB period, the average yearly gain in effect size at grade 4 was 0.04.

Note: The NECAP is scored on a scale of 00-80 (expressed as a 3-digit number with 1st digit representing grade level; e.g., a score of 33 in 6th grade = 633).

[1]Averages are subject to rounding error.

Key Terms

Percentage proficient (and above) — The percentage of students in a group who score at and above the cut score for "proficient" performance on the state test used to determine progress under NCLB. The Act requires states to report student test performance in terms of at least three achievement levels: basic, proficient, and advanced. Adequate yearly progress determinations are based on the percentage of students scoring at the proficient level and above.

Percentage basic (and above) — The percentage of students in a group who score at and above the cut score for "basic" performance on the state test used to determine progress under NCLB.

Percentage advanced — The percentage of students in a group who reach or exceed the cut score for "advanced" performance on the state test used to determine progress under NCLB.

Moderate-to-large gain — For the percentage basic, proficient, or advanced, 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 basic, proficient, or advanced, 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 basic, proficient, or advanced, 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 basic, proficient, or advanced, 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

Different labels for achievement levels — For consistency, all of the state profiles developed for this report use a common set of labels (basic, proficient, and advanced) for the main achievement levels required by NCLB. In practice, however, some states may use different labels, such as "meets standard" instead of proficient, and some states have established additional achievement levels beyond those required by NCLB.

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.

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.

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.

Limitations of percentage proficient measure — The percentage proficient, the main gauge of student performance under NCLB, can be easily understood and gives a snapshot of how many students have met their state's performance expectations. But it also has several limitations as a measure of student achievement. 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 and 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 an appropriate "control" group of students not affected by NCLB.