## CHAPTER 3

## A First Look at Attainment of Achievement Levels by America's Students

## Overview

The reading achievement levels attained by fourth-, eighth-, and twelfth-grade students from the NAEP Reading Assessment are presented in this chapter. Results are displayed for the nation, by region, and by the major reporting subgroups. In addition, state-level reading achievement results from the 1992 and 1994 Trial State Assessments are presented. As a result of recalculating 1992 scale scores and revising the achievement level cut scores, results from the last reading assessment presented in this chapter are different from those published in the 1992 reports. See Appendix F for more information about the revisions made to achievement level cut scores. When interpreting differences among subgroups and among states, the reader is reminded of the cautions presented in Chapter 1.

The three reading achievement levels - Basic, Proficient, and Advanced - were established by the

National Assessment Governing Board (NAGB) for reporting NAEP results. The Basic level denotes partial mastery of prerequisite knowledge and skills that are fundamental for proficient work at each grade. The Proficient level, the central level, represents solid academic performance and demonstrated competence over challenging subject matter. The Advanced level signifies superior performance beyond Proficient.

Many of the findings presented in the prior chapter also were reflected in the NAEP achievement level findings, which also revealed a decline in the reading achievement of our nation's twelfth-grade students. The NAEP achievement level results show that on the 1994 assessments, proportionately fewer twelfth-grade students were performing at or above the Proficient and Basic levels in 1994 than in 1992.

## Reading Achievement Levels for the Nation

The percentages of fourth-, eighth-, and twelfth-grade students at the three reading achievement levels are shown in Figure 4 and Table 7 for the 1992 and 1994 NAEP Reading Assessments. The percentage of students at or above the Basic level for the 1994 reading assessment ranged from 60 at grade 4 to 75 for grade 12. When looking at the central level, the achievement level identified by NAGB as the level all students should reach, less than one-third ( 30 percent) of fourth- and eighth-

Figure 4. Percent of Students At or Above the Reading Achievement Levels by Grade — NAEP 1992 and 1994

*Significant decrease between 1992 and 1994
SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments
grade students were classified as at or above Proficient. Slightly more twelfth-grade students ( 36 percent) were at or above the Proficient level. Few students at any grade were at or above the Advanced level - seven percent at grade 4; three percent at grade 8; and four percent at grade 12 .

Consistent with the results reported in Chapter 2, the percentage of twelfth-grade students at or above the Proficient level decreased by four percentage points from 1992 to 1994. Furthermore, the percentage of 1994 twelfth-grade students below the Basic level increased by five percentage points. Fourth- and eighth-grade results indicate little or no change from 1992 to 1994 in the percentage of students at or above any of the three achievement levels. As mentioned in Chapter 2, possible explanations for the decline in the achievement levels of twelfth-grade students will be explored in the forthcoming 1994 Reading Report Card.

## Reading Achievement Levels by Region

Figure 5 and Table 7 present the regional percentages of students at or above each achievement level for the 1992 and 1994 NAEP Reading Assessments. Across the three grades, no statistically significant differences among regions were found in the percentage of students at or above the Advanced level. However, significant differences were observed in the percentages of students attaining the Proficient and Basic levels.

In 1994, no statistically significant differences among the regions were found in the percentages of students at or above the Proficient level at the fourth grade. The percentage of fourth-grade students at or above the Basic level for the Southeast region was less than that for the Central region. Other regional differences at or above the Basic level were not significant.

| TABLE 7 |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  |  |  |  |  |  |  |  |  |  |
|  | Percentage of Students |  |  |  |  | Percentage of Students |  |  |  |  |
|  | Percentage of Students | At or Above Advanced | At or Above Proficient | At or Above Basic | Below Basic | Percentage of Students | At or Above Advanced | At or Above Proficient | At or Above Basic | Below Basic |
| Grade 4 |  |  |  |  |  |  |  |  |  |  |
| Nation |  | 6 | 29 | 62 | 38 |  | 7 | 30 | 60 | 40 |
| Region |  |  |  |  |  |  |  |  |  |  |
| Northeast | 21 | 9 | 34 | 66 | 34 | 23 | 8 | 31 | 61 | 39 |
| Southeast | 23 | 5 | 24 | 58 | 42 | 23 | 7 | 25 | 55 | 45 |
| Central | 27 | 6 | 30 | 66 | 34 | 25 | 8 | 34 | 66 | 34 |
| West | 28 | 6 | 27 | 59 | 41 | 29 | 7 | 29 | 59 | 41 |
| Grade 8 |  |  |  |  |  |  |  |  |  |  |
| Nation |  | 3 | 29 | 69 | 31 |  | 3 | 30 | 70 | 30 |
| Region |  |  |  |  |  |  |  |  |  |  |
| Northeast | 22 | 4 | 33 | 72 | 28 | 20 | 4 | 35 | 74 | 26 |
| Southeast | 25 | 2 | 23 | 64 | 36 | 26 | 2 | 23 | 62 | 38 |
| Central | 25 | 4 | 32 | 74 | 26 | 24 | 3 | 33 | 75 | 25 |
| West | 28 | 3 | 29 | 69 | 31 | 30 | 3 | 29 | 69 | 31 |
| Grade 12 |  |  |  |  |  |  |  |  |  |  |
| Nation |  | 4 | 40 | 80 | 20 |  | 4 | $36<$ | 75< | 25> |
| Region |  |  |  |  |  |  |  |  |  |  |
| Northeast | 24 | 5 | 44 | 81 | 19 | 20 | 5 | 37 | 76 | 24 |
| Southeast | 23 | 2 | 31 | 73 | 27 | 23 | 3 | 30 | 70 | 30 |
| Central | 26 | 4 | 44 | 84 | 16 | 27 | 5 | 40 | 78< | 22> |
| West | 27 | 4 | 42 | 81 | 19 | 29 | 4 | 38 | 74< | 26> |

[^0]Figure 5. Percent of Students At or Above the Reading Achievement Levels by Grade and by Region NAEP 1992 and 1994




[^1]At the eighth grade, a smaller percentage of students were at or above the Proficient level in the Southeast than in the other three regions. Similarly, the percentage of students at or above Basic in the Southeast region was less than the other regions. The percentage of eighth graders at or above Basic in the West was less than in the Central region.

At the twelfth grade, the percentage of Southeast students at or above the Proficient level was less than that of the corresponding percentages of students in the Central and West regions. The percentage of students at or above Basic in the Southeast region was less than the Central region.

The results from the 1992 and 1994 NAEP Reading Assessments indicate no significant change in the percentage of fourth-, and eighth-grade students at any of the three achievement levels for the four regions of the country. Statistically significant decreases in the percentage of students at or above the Basic level at grade 12 were observed in the Central and West regions. The significant decrease observed nationally for grade 12 students was not reflected by significant changes in the Northeast and Southeast regional estimates.

## Reading Achievement Levels by Major Reporting Subgroups

Tables 8 through 11 present the percentages of fourth-, eighth-, and twelfth-grade students at or above the three achievement levels - Basic, Proficient, and Advanced - by major reporting subgroups. As previously noted, the discussion of the findings is restricted to statistically significant differences between reporting subgroups and assessment years.

Race/Ethnicity. Consistent with past assessments, results presented in Table 8 from the 1994 reading assessment indicated large racial/ethnic differences. Significant differences among racial/ethnic groups were observed in the percentage of students at or above each of the three achievement levels - Basic, Proficient, and Advanced.

At all three grades, few significant differences were found for the percent of students reaching the Advanced achievement level. The percentage of White students at or above this level was significantly higher than the


Differences between two groups may be partially explained by other factors not included in this table.
< The value for the 1994 assessment was significantly lower (> higher) than the value for 1992 at about the 95 percent confidence level.
! Interpret with caution any comparison involving this statistic. The nature of the sample does not allow accurate determination of the variability of this value.
-Due to significant changes in the wording of the race/ethnicity question between the 1992 and 1994 assessments, the 1992 results for Asian and Pacific Islander students are not comparable to 1994 results.
*** Sample size is insufficient to permit a reliable estimate.
The percentages of students in the subgroups may not total 100 percent due to rounding.
The standard errors for the 1994 (a) Advanced Level, race/ethnicity percentages range from 0.2 to 5.7 ; (b) Proficient Level, race/ethnicity percentages range from 1.0 to 8.1 ; and (c) Basic Level, race/ethnicity percentages range from 0.7 to 9.9 . SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments
corresponding percentages of Black or Hispanic students at all three grades. No other significant differences were observed at the Advanced level.

The Proficient level is defined to represent solid academic achievement in reading. When the percentages of students from various subgroups reaching or exceeding this level are compared, significant differences are found at all three grades. At grades 4,8 , and 12 , the percentages of Asian and White students at or above the Proficient level were significantly greater than the percentages for Black or Hispanic students. The percentage of White fourth graders at this achievement level was higher than that of their American Indian counterparts. The percentage of Pacific Islander students at grade 4 also was higher than the percentages for Black or Hispanic students. At the lower two grades, the percentage of Asian students at or above this level also exceeded that of American Indian students. Finally, at grade 12, the percentage of White students at or above the Proficient level was significantly greater than the percentage of Asian students.

The lowest achievement level defined for the NAEP Reading Assessment is the Basic level. For the nation as a whole, more than a quarter of the students at each grade failed to reach this lowest level. The percentage of students at or above the Basic level differed among racial/ ethnic subgroups. At all three grades, the percentage of White students at or above the Basic level was significantly larger than the percentages for Black or Hispanic students. At grades 4 and 8, the percentage of Asian students at or above Basic also was larger than that of Black and Hispanic students. The percentage of twelfth-
grade Asian students at or above this level was significantly greater than that of Black students but not of Hispanic students.

At grades 4 and 8, the percentage of American Indian students at or above Basic was greater than that of Black students. At grade 4, the percentage of Pacific Islander students performing at or above Basic was greater than that of Black or Hispanic students. Also, at grade 4, the percentage of White and Asian students at the Basic level or above was greater than that of American Indian students. Finally, at grade 12, the percentage of White students at or above the Basic level was significantly higher than the percentage of Asian students.

For the Pacific Islander student samples at grades 8 and 12, and for the American Indian student sample at grade 12 , the nature of the samples does not allow accurate determination of the variability of the percentages. For this reason, differences among these samples and other racial/ethnic subgroups are not discussed.

Across all three grades, the only significant change from 1992 to 1994 occurred for White students at grade 12. Significantly fewer twelfth-grade White students were at the Basic level in 1994 than in 1992. No other significant differences were found between 1992 and 1994 in the percentages at or above any of the achievement levels for White, Black, Hispanic, and American Indian students. Trends could not be estimated for Asian and Pacific Islander students because their race/ethnicity data were collected as a single category for the 1992 assessment.

Gender. Table 9 presents achievement level results for males and females. Consistent with results from the 1992 reading assessment (see Endnote 1 in Chapter 2), the 1994 assessment showed that across all three grades, a significantly higher percentage of female students than male students were at or above each of the three achievement levels.

A significant decrease was reported between 1992 and 1994 in the percentage of twelfth-grade males at or above the Proficient and Basic levels and in the percentage of twelfth-grade females at or above the Basic level. No significant change was noted in the percentages of students at or above Advanced for either males or females. At the fourth- and eighth-grade, no significant differences were noted in the percentages of male and female students at or above any of the achievement levels.

Parents' Education Level. In general, across all three grade levels, a positive relationship between levels of parents' education and the percentage of students at or above the three achievement levels is evident (see Table $10)$. This finding is consistent with prior assessments and with the proficiency results discussed in the previous chapter. Again it should be noted that a sizable number of fourth-grade students were not able to identify their parents' education level.

At all three grades, the percentage of students reporting that at least one of their parents graduated from college who performed at or above the Advanced achievement level was significantly greater than the corresponding percentages for students reporting that at least one parent graduated from high school or that neither parent graduated from high school. Also, at all three grades, the percentage at or above the Advanced level for the group of students reporting that at least one parent had some education after high school was higher than that of students reporting neither parent graduated from high school.

Among groups of 1994 students that reported knowing their parents' education levels, the percentage at or above the Proficient level was lowest for students who said their parents did not finish high school. This result was evident at each of the three grade levels. In addition, across all three grades, significantly higher percentages of students were at or above the Proficient level among students reporting at least one of their parents graduated from college or received some education after high school than among those who reported having parents who only graduated from high school. At the two higher grades, the percentage of students attaining at least the Proficient level was greater among students who reported at least

| TABLE 9 | Reading Achievement Levels by Gender |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | 1992 Assessment |  |  |  |  | 1994 Assessment |  |  |  |  |
|  | Percentage of Students |  |  |  |  | Percentage of Students |  |  |  |  |
|  | Percentage of Students | At or Above Advanced | At or Above Proficient | At or Above <br> Basic | Below Basic | Percentage of Students | At or Above Advanced | At or Above Proficient | At or Above Basic | Below Basic |
| Grade 4 |  |  |  |  |  |  |  |  |  |  |
| Total |  | 6 | 29 | 62 | 38 |  | 7 | 30 | 60 | 40 |
| Gender |  |  |  |  |  |  |  |  |  |  |
| Male | 51 | 5 | 25 | 58 | 42 | 51 | 6 | 26 | 55 | 45 |
| Female | 49 | 8 | 32 | 67 | 33 | 49 | 9 | 34 | 66 | 34 |
| Grade 8 |  |  |  |  |  |  |  |  |  |  |
| Total |  | 3 | 29 | 69 | 31 |  | 3 | 30 | 70 | 30 |
| Gender |  |  |  |  |  |  |  |  |  |  |
| Male | 51 | 2 | 23 | 64 | 36 | 50 | 2 | 23 | 62 | 38 |
| Female | 49 | 4 | 35 | 76 | 24 | 50 | 4 | 36 | 77 | 23 |
| Grade 12 |  |  |  |  |  |  |  |  |  |  |
| Total |  | 4 | 40 | 80 | 20 |  | 4 | $36<$ | 75< | 25> |
| Gender |  |  |  |  |  |  |  |  |  |  |
| Male | 49 | 2 | 34 | 75 | 25 | 50 | 2 | $29<$ | 69< | $31>$ |
| Female | 51 | 5 | 46 | 84 | 16 | 50 | 6 | 43 | 80< | 20> |

[^2]one parent graduated from college than among students who reported that at least one parent had some education after high school.

For students who reported that neither of their parents graduated from high school, a significantly smaller percentage were at or above Basic when compared to students reporting higher levels of parents' education. Students who reported that at least one parent graduated from high school had a lower percentage at or above Basic compared to students reporting that at least one of their parents continued their education after high school. Also, the percentage attaining the Basic level or above among students who reported high school graduation as the highest parental education level was lower than among students with at least one parent who had graduated from
college. These results were observed for all three grades. Finally, for grade 12, the group of students who reported that at least one parent had some education after high school had a smaller percentage at or above Basic than did students who reported at least one parent graduated from college.

Reflecting the overall decline at twelfth grade observed for the nation, there was a significant decrease between 1992 and 1994 in the percentage of students at or above Basic for each level of parental education. No other significant differences between the 1992 and 1994 assessments in the percentages of fourth-, eighth, and twelfth-grade students at or above the Advanced and Proficient levels were found for any of the parents' education level groups.


Differences between two groups may be partially explained by other factors not included in this table.
<The value for the 1994 assessment was significantly lower (> higher) than the value for 1992 at about the 95 percent confidence level.
The percentages of students in the subgroups may not total 100 percent due to rounding.
The standard errors for the 1994 (a) Advanced Level, parents' education level percentages range from 0.3 to 1.8 ; (b) Proficient Level, parents' education level percentages range from 1.2 to 2.6 ; and (c) Basic Level, parents' education level percentages range from 0.7 to 3.9 .
SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments

Public and Nonpublic Schools. Results from public and nonpublic school students are presented in Table 11. At each grade level for the 1994 assessment, the percentages of nonpublic school students at or above the three achievement levels were significantly higher than the percentages for students attending public schools. No significant differences between the 1992 and 1994 assessments in the percentages of students at or above the Advanced or Proficient levels were observed for either public or nonpublic schools at any of the three grades. However, at grade 12 for both types of schools, the percentage of students at or above Basic decreased between 1992 and 1994. This is consistent with the decrease in average proficiency at grade 12.

Cross-State Achievement Level Findings. Table 12 presents the percentage of students at or above the three achievement levels for fourth-grade public school
students. Results from the 1992 and 1994 Trial State Assessments in Reading are provided for 41 jurisdictions. [Note that two states, Montana and Washington, as well as the Department of Defense Education Activities (DoDEA) Overseas Schools participated only in the 1994 assessment; therefore, only 1994 results are presented for these three jurisdictions.]

Overall, seven states - Arizona, Connecticut, Florida, Kentucky, Maine, Maryland, and Mississippi - showed a significant increase between 1992 and 1994 in the percentage of fourth grade students at or above the Advanced level. Mississippi also showed a significant increase in the percentage of students at or above Proficient, the only significant change at this level. Finally, five states had a significant decrease in the percentage of fourth graders at or above Basic: Delaware, Louisiana, Massachusetts, Pennsylvania, and Virginia.

| TABLE 11 | 1992 Assessment $\begin{array}{r}\text { Reading } \\ \text { b }\end{array}$ |  |  |  |  | chievemen <br> ype of Sch | t Levels ool |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | Percentage of Students |  |  |  |  | Percentage of Students |  |  |  |  |
|  | Percentage of Students | At or Above Advanced | At or Above Proficient | At or Above Basic | Below Basic | Percentage of Students | At or Above Advanced | At or Above Proficient | At or Above Basic | Below Basic |
| Grade 4 <br> Total <br> Type of School Public Schools Only Nonpublic Schools Only Catholic Schools Other Nonpublic Schools |  |  |  |  |  |  |  |  |  |  |
|  |  | 6 | 29 | 62 | 38 |  | 7 | 30 | 60 | 40 |
|  |  |  |  |  |  |  |  |  |  |  |
|  | 88 | 6 | 27 | 60 | 40 | 90 | 7 | 28 | 59 | 41 |
|  | 11 | 12 | 45 | 79 | 21 | 10 | 13 | 43 | 77 | 23 |
|  | 8 | 10 | 41 | 76 | 24 | 7 | 12 | 42 | 76 | 24 |
|  | 4 | $15!$ | $53!$ | $84!$ | 16 ! | 4 | 14 | 46 | 80 | 20 |
| Grade 8 |  |  |  |  |  |  |  |  |  |  |
| Total |  | 3 | 29 | 69 | 31 |  | 3 | 30 | 70 | 30 |
| Type of School |  |  |  |  |  |  |  |  |  |  |
| Public Schools Only | 89 | 2 | 27 | 67 | 33 | 89 | 2 | 27 | 67 | 33 |
| Nonpublic Schools Only | 11 | 7 | 48 | 87 | 13 | 11 | 6 | 49 | 89 | 11 |
| Catholic Schools | 6 | 6 | 45 | 84 | 16 | 7 | 6 | 49 | 88 | 12 |
| Other Nonpublic Schools | 4 | 10 | 54 | 90 | 10 | 4 | 7 | 50 | 89 | 11 |
| Grade 12 |  |  |  |  |  |  |  |  |  |  |
| Total |  | 4 | 40 | 80 | 20 |  | 4 | $36<$ | 75< | 25> |
| Type of School |  |  |  |  |  |  |  |  |  |  |
| Public Schools Only | 87 | 3 | 37 | 78 | 22 | 89 | 4 | 35 | 73< | 27> |
| Nonpublic Schools Only | 13 | 9 | 60 | 92 | 8 | 10 | 8 | 52 | 87< | 13> |
| Catholic Schools | 9 | 8 | 59 | 93 | 7 | 6 | 6 | 47 | 85< | 15> |
| Other Nonpublic Schools | 4 | 12 | 61 | 89 | 11 | 4 | 11 | 59 | 89 | 11 |

[^3]< The value for the 1994 assessment was significantly lower (> higher) than the value for 1992 at about the 95 percent confidence level.
! Interpret with caution any comparisons involving this statistic. The nature of the sample does not allow accurate determination of the variability of this value.
Percentages of students in public school only and nonpublic school only may not total 100 percent and the percentages of students in the two types of nonpublic schools may not total the percentage of nonpublic schools due to rounding. The standard errors for the 1994 (a) Advanced Level, type of school percentages range from 0.3 to 2.9 ; (b) Proficient Level, type of school percentages range from 0.9 to 4.0 ; and (c) Basic Level, type of school percentages range from 0.7 to 4.2 . SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments


[^4]<< The value for the 1994 assessment was significantly lower (> higher) than the value for 1992 at about the 95 percent confidence level. These notations indicate statistical significance from a multiple comparison procedure based on 38 jurisdictions participating in both 1994 and 1992. If looking at only one state, < indicated the value for 1994 was significantly lower (>higher) than the value for 1992 at or about the 95 percent certainty level. Statistically significant


[^0]:    Differences between two groups may be partially explained by other factors not included in this table.
    < The value for the 1994 assessment was significantly lower (> higher) than the value for 1992 at about the 95 percent confidence level.
    The percentages of students in the regions may not total 100 percent due to rounding.
    The standard errors for the 1994 (a) Advanced Level, regional percentages range from 0.4 to 1.4 ; (b) Proficient Level, regional percentages range from 1.3 to 2.7 ; and (c) Basic Level, regional percentages range from 1.2 to 2.6 .
    SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments

[^1]:    *Significant decrease between 1992 and 1994 SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments

[^2]:    Differences between two groups may be partially explained by other factors not included in this table.
    <The value for the 1994 assessment was significantly lower (> higher) than the value for 1992 at about the 95 percent confidence level.
    The standard errors for the 1994 (a) Advanced Level, gender percentages range from 0.3 to 0.9 ; (b) Proficient Level, gender percentages range from 1.1 to 1.5 ; and (c) Basic Level, gender percentages range from 1.0 to 1.4 . SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments

[^3]:    Differences between two groups may be partially explained by other factors not included in this table.

[^4]:    Differences between two groups may be partially explained by other factors not included in this table. differences between 1994 and 1992 for the state comparison samples for the nation and regions are not indicated.
    $\dagger$ Did not satisfy one of the guidelines for school sample participation rates (see Appendix A).
    — Jurisdiction did not participate in 1992 Trial State Assessment.
    DoDEA Department of Defense Education Activity Overseas Schools
    SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments

