

CHAPTER 2

A First Look at the Average Reading Proficiency of America's Students

Overview

This chapter presents the overall average reading proficiency of students in grades 4, 8, and 12. Findings are presented for the nation, by region, and by major subgroups of students. In addition, results from the 1994 Trial State Assessment Program are provided. Average scale scores from the 1992 reading assessment provided in this chapter are slightly different from those presented in the 1992 reading reports. The reason why 1992 scale scores were recalculated is explained in Appendix F.

The most striking finding from the 1994 NAEP Reading Assessment concerns the nation's high school seniors – *twelfth-grade students scored, on average, significantly lower on the 1994 reading assessment than they did on the 1992 assessment*. This overall decline did not result from a large decline in the reading proficiency of just one subgroup of students. Rather, a broad range of

subgroups showed significant decreases in reading proficiency, including male and female students; White, Black, and Hispanic students; and students from the Northeast, Central, and West regions of the country.

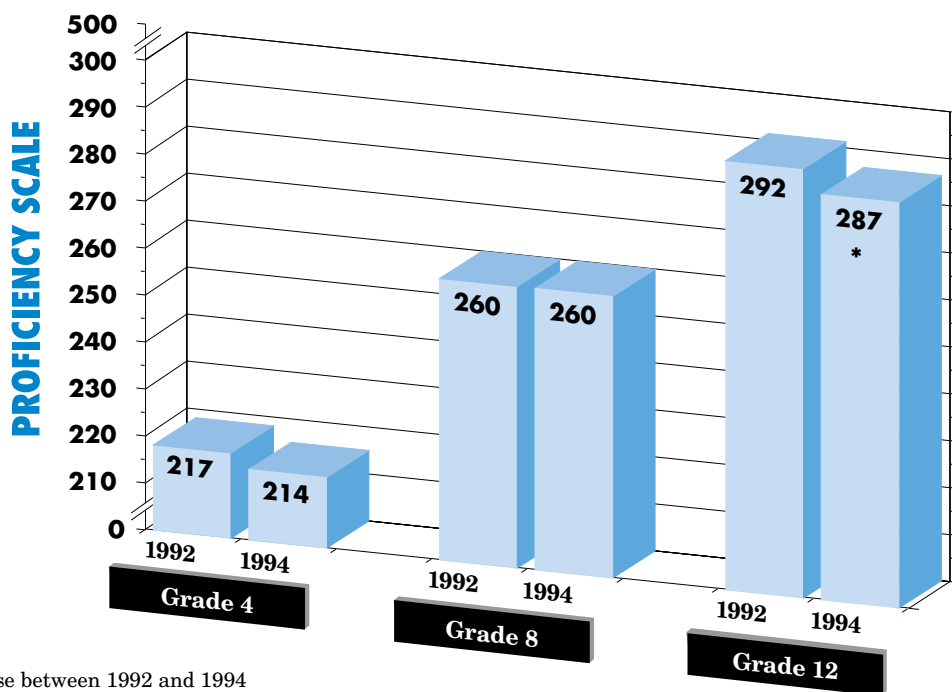
The magnitude of the changes in average proficiency did not differ significantly among regions of the country, racial/ethnic subgroups, parents' education levels, or types of schools (i.e., the four-point decline for public school twelfth graders is not statistically different from the six-point decline for nonpublic school twelfth graders). However, at grade 12, the decline in average proficiency for males (seven points) was significantly larger than the decline for females (three points).

Reasons for the decline in average reading proficiency at grade 12 will be explored in greater detail in the forthcoming *NAEP 1994 Reading Report Card*. Average reading proficiency at grades 4 and 8 showed no statistically significant changes between 1992 and 1994.

Average National Reading Proficiency

Table 1 and Figure 2 present national estimates of the 1992 and 1994 average student proficiency scores on the NAEP reading scale. The average proficiency of twelfth-grade students declined by five points between 1992 and 1994. This difference represents a statistically significant change. The estimates of the average proficiency of fourth- and eighth-grade students in 1994 were not statistically different from their 1992 counterparts.

Figure 2. Overall National Reading Proficiency by Grade — NAEP 1992 and 1994



*Significant decrease between 1992 and 1994

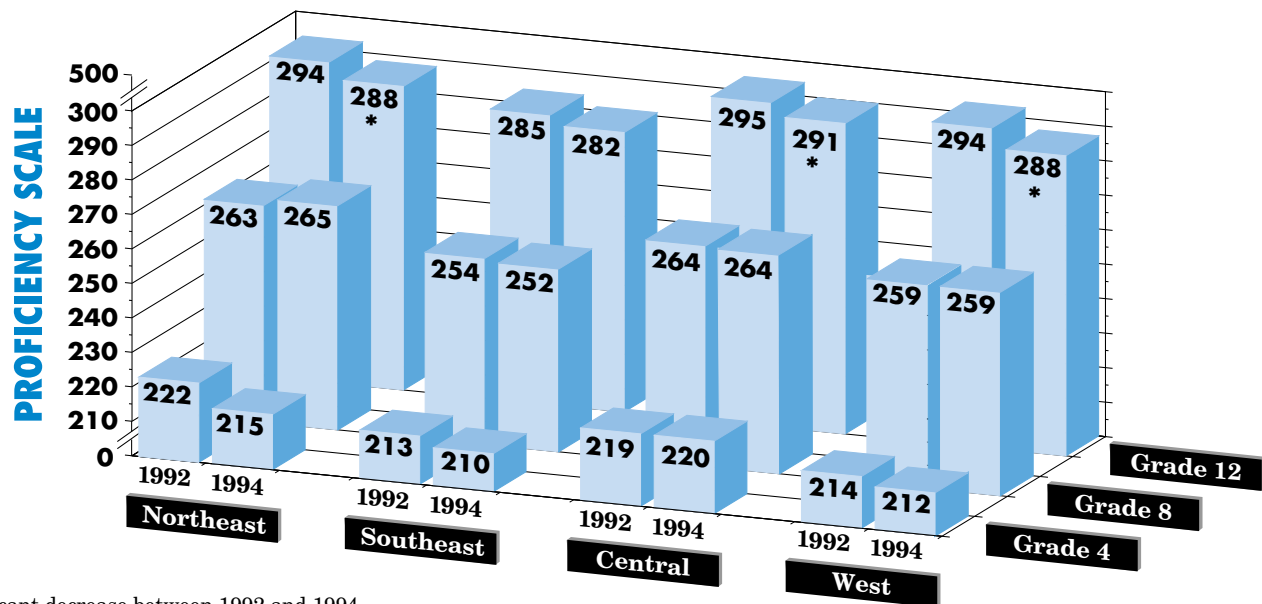
SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments

Average Reading Proficiency by Region

Average proficiencies by region are presented in Table 1 and Figure 3 for both the 1992 and 1994 NAEP Reading Assessments. The 1994 results show regional differences that are similar to those reported in 1992.¹ In 1994, eighth- and twelfth-grade students in the Southeast exhibited lower average reading proficiencies than their counterparts did in the other three regions of the country. Eighth-grade students in the Central region exhibited a higher average proficiency than students in the West, while the average proficiency of fourth-grade students in the Central region was higher than that of their counterparts in the Southeast. The average proficiency estimates among the other regions for the 1994 assessment for grade 4 were not statistically different.

The overall average proficiency decline between 1992 and 1994 for twelfth-grade students was clearly evident in three of the four regions of the country. The statistically significant declines from 1992 levels reported for the three regions were six points in the West region, six points in the Northeast region, and five points in the Central region.² In the Southeast, the 1994 estimate of average proficiency was not significantly different from the 1992 estimate. Other changes in regional proficiency estimates between 1992 and 1994 were not statistically significant, including the seven-point change in the estimates for fourth-grade students in the Northeast.

Figure 3. Average Reading Proficiency by Grade and by Region — 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

TABLE 1

Average Reading Proficiency by Region

THE NATION'S
REPORT
CARD
1992
1994
Reading Assessment



	1994		Change From 1992
	Percentage of Students	Average Proficiency	
Grade 4			
Total	100	214	-2
Region			
Northeast	23	215	-7
Southeast	23	210	-2
Central	25	220	0
West	29	212	-1
Grade 8			
Total	100	260	0
Region			
Northeast	20	265	1
Southeast	26	252	-2
Central	24	264	0
West	30	259	-1
Grade 12			
Total	100	287	-5*
Region			
Northeast	20	288	-6*
Southeast	23	282	-3
Central	27	291	-5*
West	29	288	-6*

Differences between two groups may be partially explained by other factors not included in this table.

The NAEP reading scale ranges from 0 to 500.

*The value for the 1994 assessment was significantly different from the value for 1992 at about the 95 percent confidence level.

The standard errors for the 1994 national averages are between 0.7 and 1.0 scale score points. The standard errors for the 1994 regional averages range from 1.2 to 2.4 points.

Percentages may not total 100 percent due to rounding.

SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments

Average Reading Proficiency by Major Reporting Subgroups

Tables 2 through 5 present the average reading proficiency estimates for major subgroups of the fourth-, eighth-, and twelfth-grade student populations. The results provided in this section of the report address the *statistically significant differences* that were reported either between reporting subgroups or between assessment years. There are, of course, other differences in reading proficiency estimates among the student subgroups, but these differences were not statistically significant.

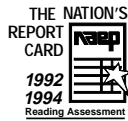
Race/Ethnicity. Table 2 presents the average proficiencies by racial/ethnic subgroups. The 1994 assessment, like previous assessments, reported substantial variation in the average reading proficiency estimates among the different racial/ethnic subgroups (see Endnote 1). At all three grades, the average proficiencies of Asian and White students were significantly higher than those of Black and Hispanic students; they were also higher than those of American Indian students at grades 4 and 8. At grade 12, White students outperformed Asian students.

The overall decline in reading proficiency at grade 12 between 1992 and 1994 can be seen in large decreases in the average proficiencies of White, Black, and Hispanic students. In addition, the proficiency of Hispanic fourth-grade students showed a significant decline of 10 points between 1992 and 1994. No racial/ethnic group of students at any grade level showed a significant improvement in reading proficiency between 1992 and 1994.

Note that trends could not be estimated for Asian and Pacific Islander students at any grade because their race/ethnicity data were collected as a single category for the 1992 assessment. It is also important to reiterate that differences among the NAEP reading proficiency estimates should not be associated, in a simple or causal manner, with subgroup membership because any difference can almost certainly be associated with a broad range of socioeconomic and educational factors, many of which are not addressed directly by the NAEP assessment program.

TABLE 2

**Average Reading Proficiency
by Race/Ethnicity**



	1994		Change From 1992
	Percentage of Students	Average Proficiency	
Grade 4			
Total	100	214	-2
Race/Ethnicity			
White	69	224	-1
Black	15	187	-6
Hispanic	12	191	-10*
Asian	2	232	—
Pacific Islander	1	219	—
American Indian	2	201	-5
Grade 8			
Total	100	260	0
Race/Ethnicity			
White	70	268	0
Black	15	237	-1
Hispanic	11	240	-1
Asian	2	273	—
Pacific Islander	1	259!	—
American Indian	1	251	0
Grade 12			
Total	100	287	-5*
Race/Ethnicity			
White	73	294	-4*
Black	13	265	-8*
Hispanic	8	270	-9*
Asian	3	280	—
Pacific Islander	1	280!	—
American Indian	1	275!	***

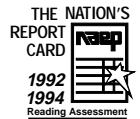
Differences between two groups may be partially explained by other factors not included in this table.
 The NAEP reading scale ranges from 0 to 500.
 *The value for the 1994 assessment was significantly different from the value for 1992 at about the 95 percent confidence level.
 ! Interpret with caution any comparisons involving this statistic. The nature of the sample does not allow accurate determination of the variability of this value.
 The standard errors for the 1994 national averages are between 0.7 and 1.0 scale score points. The standard errors for the 1994 race/ethnicity averages range from 0.7 to 7.4 points.
 — 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. Therefore, 1992 results for these two subgroups are not presented.
 *** Sample size is insufficient to permit a reliable estimate.
 Percentages may not total 100 percent due to rounding or, in the case of the race/ethnicity variable, because some students categorized themselves as "other."
 SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments

Gender. As can be seen in Table 3, female students at all three grades had significantly higher reading proficiencies than male students. Specifically, female students scored 10 points higher than males at grade 4, 15 points higher than males at grade 8, and 14 points higher than males at grade 12. Similar reading proficiency differences also were observed in the 1992 assessment (see Endnote 1 and 2).

The overall decline in reading proficiency at grade 12 between 1992 and 1994 was reflected again in the proficiency estimates of both male and female students. Neither male nor female students showed an improvement in proficiency at any of the assessed grades between 1992 and 1994.

TABLE 3

**Average Reading Proficiency
by Gender**



	1994		Change From 1992
	Percentage of Students	Average Proficiency	
Grade 4			
Total	100	214	-2
Gender			
Male	51	209	-4
Female	49	220	-1
Grade 8			
Total	100	260	0
Gender			
Male	50	252	-1
Female	50	267	0
Grade 12			
Total	100	287	-5*
Gender			
Male	50	280	-7*
Female	50	294	-3*

Differences between two groups may be partially explained by other factors not included in this table.
 The NAEP reading scale ranges from 0 to 500.
 *The value for the 1994 assessment was significantly different from the value for 1992 at about the 95 percent confidence level.
 The standard errors for the 1994 national averages are between 0.7 and 1.0 scale score points. The standard errors for the 1994 gender averages range from 0.8 to 1.3 points.
 SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments

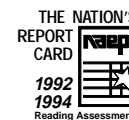
Parents' Education Level. The NAEP 1994 Reading Assessment results are consistent with previous results that reveal a relationship between the students' reading proficiency and their description of their parents' education level (see Table 4). In fairness, it should be noted that substantial numbers of fourth-grade students (34 percent) report that they do not know the education level of either of their parents. Even at grade 8, almost one in 10 students reported that they do not know their parents' education level. Furthermore, existing research has raised at least some question about the accuracy of student-reported data among these groups of students.³

Despite these data limitations, a degree of consistency among the parents' education level results is evident across the three grade levels. For 1994, as in past assessments, increasing levels of parents' education in general corresponded with higher average reading proficiencies. In comparing the groups of students at all three grades that report knowing their parents' education levels, students with at least one parent who either graduated from college or had some education after high school had higher average proficiencies than did students who reported lower levels of parents' education. Furthermore, at all three grades, students who reported that their parents did not finish high school had lower average proficiencies than those with at least one parent who graduated from high school.

Once again, the overall drop in proficiency at grade 12 is shown regardless of parents' education level. For each of the five levels, estimated differences between 1992 and 1994 were statistically significant. For grades 4 and 8, the differences between 1992 and 1994 estimates, including the 10-point decrease found for fourth-grade students who reported that their parents did not finish high school, were not statistically significant for any of the parents' education levels. No students, at any grade, with respect to any parents' education level group, showed significant improvement in reading proficiency between 1992 and 1994.

TABLE 4

**Average Reading Proficiency
by Parents' Education Level**



	1994		Change From 1992
	Percentage of Students	Average Proficiency	
Grade 4			
Total	100	214	-2
Parents' Education Level			
Graduated College	42	224	-1
Some Education After HS	8	223	1
Graduated HS	13	207	-5
Did Not Finish HS	4	188	-10
I Don't Know	34	206	-4
Grade 8			
Total	100	260	0
Parents' Education Level			
Graduated College	43	270	-1
Some Education After HS	20	266	0
Graduated HS	21	252	1
Did Not Finish HS	7	238	-5
I Don't Know	9	238	1
Grade 12			
Total	100	287	-5*
Parents' Education Level			
Graduated College	43	298	-3*
Some Education After HS	25	289	-5*
Graduated HS	21	277	-6*
Did Not Finish HS	7	266	-9*
I Don't Know	3	248	-10*

Differences between two groups may be partially explained by other factors not included in this table.

The NAEP reading scale ranges from 0 to 500.

*The value for the 1994 assessment was significantly different from the value for 1992 at about the 95 percent confidence level.

The standard errors for the 1994 national averages are between 0.7 and 1.0 scale score points. The standard errors for the 1994 parents' education level averages range from 0.9 to 3.4 points.

Percentages may not total 100 percent due to rounding.

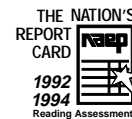
SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments

Public and Nonpublic Schools. The 1994 results presented in Table 5 are consistent with the 1992 results; students at all three grades who attended nonpublic schools (either Catholic or other nonpublic schools) had a significantly higher average proficiency than did students attending public schools. The overall decline in twelfth-grade proficiency, however, was reflected in the 1994 results for both public and nonpublic schools. For both types of schools, estimates of reading proficiency decreased from 1992 levels, and these changes were statistically significant. At grades 4 and 8, no statistically significant changes from 1992 levels were observed for either school type.

As was discussed in Chapter 1, the reader is cautioned against making simplistic inferences about the relative effectiveness of public and nonpublic schools. Average performance differences between the two types of schools are in part related to socioeconomic and students' home factors, such as parents' education and involvement. To interpret more fully the differences noted in Table 5, more in-depth analyses need to be considered. Such analyses will be featured in a future NAEP research and development report.

	1994		Change From 1992
	Percentage of Students	Average Proficiency	
Grade 4			
Total	100	214	-2
Type of School			
Public Schools Only	90	212	-2
Nonpublic Schools Only	10	231	-1
Catholic Schools	7	229	0
Other Nonpublic Schools	4	234	-4!
Grade 8			
Total	100	260	0
Type of School			
Public Schools Only	89	257	-1
Nonpublic Schools Only	11	279	1
Catholic Schools	7	279	3
Other Nonpublic Schools	4	280	-3
Grade 12			
Total	100	287	-5*
Type of School			
Public Schools Only	89	286	-4*
Nonpublic Schools Only	10	301	-6*
Catholic Schools	6	298	-9*
Other Nonpublic Schools	4	307	-2

Differences between two groups may be partially explained by other factors not included in this table.
The NAEP reading scale ranges from 0 to 500.
*The value for the 1994 assessment was significantly different from 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.
The standard errors for the 1994 national averages are between 0.7 and 1.0 scale score points. The standard errors for the 1994 type of school averages range from 0.7 to 3.7 points.
Percentages may not total 100 percent due to rounding.
SOURCE: National Center for Education Statistics, National Assessment of Educational Progress (NAEP), 1992 and 1994 Reading Assessments



Cross-State Proficiency Findings. In addition to the 1994 reading proficiency findings discussed above, state-level results also are reported for 41 jurisdictions. Table 6 presents the average reading proficiency for *fourth-grade public school* students by jurisdiction from the 1992 and 1994 NAEP Trial State Assessments. (Note that two states, Montana and Washington, and the Department of Defense Education Activity (DoDEA) Overseas Schools participated in the 1994 assessment but did not participate in 1992.)

Similar to the results cited at the national level for fourth grade, most states exhibited no significant change in average proficiency between 1992 and 1994. However, approximately 20 percent of the jurisdictions that participated in both assessments did show significant decreases in average reading proficiency between the two assessments. States exhibiting a significant decrease are indicated with < or << next to the 1994 average. The difference between the two symbols is explained in the table's footnote. No state exhibited a significant increase. (For detailed comparisons among the states, readers should refer to the cross-state, multiple comparisons figure in Appendix C.)

Each jurisdiction faces a unique set of challenges with respect to the demographic characteristics of its school-age populations and the economic and political environment in which its public school systems operate. These factors no doubt influence the effectiveness of each jurisdiction's school systems and need to be considered when comparing performance. Results presented in Appendices D and E provide some background to inform discussion of state differences. *The NAEP 1994 Reading Report Card* and other future reports will contain state-level data, which will provide a more complete context for interpreting state differences.

TABLE 6

**Average Grade 4 Reading Proficiency
NAEP Trial State Assessments in Reading
Public Schools Only**



	1992 Average Proficiency	1994 Average Proficiency
Nation	215	212
Region		
Northeast	220	212
Southeast	211	208
Central	218	218
West	212	212
State		
Alabama	207	208
Arizona	209	206
Arkansas	211	209
California	202	197<
Colorado	217	213
Connecticut	222	222
Delaware	213	206<<
Florida	208	205
Georgia	212	207
Hawaii	203	201
Indiana	221	220
Iowa	225	223
Kentucky	213	212
Louisiana	204	197<<
Maine	227	228
Maryland	211	210
Massachusetts	226	223
Minnesota	221	218
Mississippi	199	202
Missouri	220	217
Montana†	—	222
Nebraska†	221	220
New Hampshire†	228	223<
New Jersey	223	219
New Mexico	211	205<
New York	215	212
North Carolina	212	214
North Dakota	226	225
Pennsylvania†	221	215<
Rhode Island†	217	220
South Carolina	210	203<<
Tennessee†	212	213
Texas	213	212
Utah	220	217
Virginia	221	213<<
Washington	—	213
West Virginia	216	213
Wisconsin†	224	224
Wyoming	223	221
Other Jurisdictions		
DoDEA	—	218
Guam	182	181

Differences between two groups may be partially explained by other factors not included in this table.
 << The value for 1994 was significantly lower than the value for 1992 at or about the 95 percent certainty 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, < indicates the value for 1994 was significantly lower than the value for 1992 at or about the 95 percent certainty level. Statistically significant differences between 1994 and 1992 for the state comparison samples for the nation and regions are not indicated.
 † 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

Endnotes

1. Mullis, I.V.S., Campbell, J.R., & Farstrup, A.E., *NAEP 1992 Reading Report Card for the Nation and the States* (Washington, DC: National Center for Education Statistics, Government Printing Office, 1993.)
2. The differences discussed in the text and presented in the tables are calculated from the unrounded means or percentages for the two groups being compared. Therefore, the differences between the rounded means or percentages presented in the tables and figures may not match those displayed in the “Change from 1992” or those discussed in the text. For example, if Group A has a mean of 218.17 (rounded to 218) and Group B has a mean of 223.55 (rounded to 224), the appropriate difference between the two groups’ means is 5.38 (rounded to 5).
3. Looker, E. Dianne, “Accuracy of Proxy Reports of Parental Status Characteristics,” in *Sociology of Education*, 62(4), pp. 257-276, 1989.