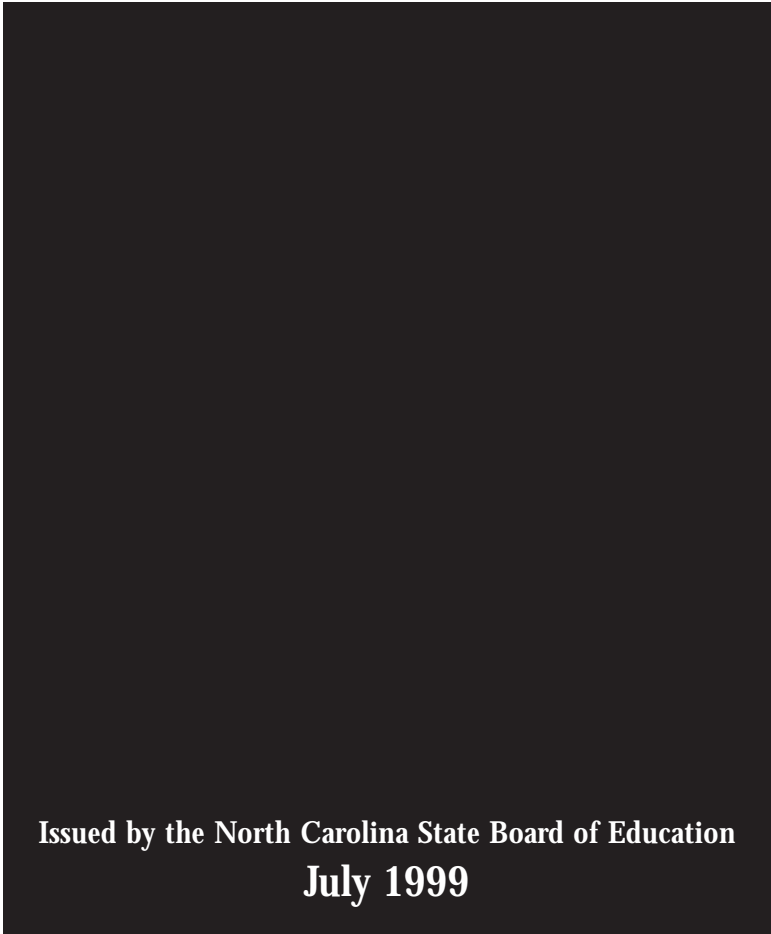




State of the State

Education Performance
in North Carolina, 1998



Issued by the North Carolina State Board of Education
July 1999

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Introduction

This is the seventh issue of the *State of the State--Educational Performance in North Carolina*. The report originated pursuant to the School Improvement and Accountability Act enacted by the General Assembly of North Carolina in 1989. One of several annual reports used to evaluate the state's public school system, the *State of the State* serves three major purposes: One is to assist policymakers in gauging the status and progress of student achievement in North Carolina's schools. Another is to permit comparison of North Carolina student achievement with that of students throughout the nation. A third is to apprise the public of the state's student achievement. Similar to other reports that evaluate North Carolina's public schools, the *State of the State* report cites student performance as a primary indicator of the extent to which the state's schools are meeting the educational needs of its students.

The 1998 edition of *State of the State* comprises three sections:

Section 1. North Carolina Performance and National Standards addresses North Carolina student performance in relation to national standards and compares the state's results to those of other states on the National Assessment of Educational Progress, the Iowa Tests of Basic Skills, and the Scholastic Assessment Test. It also highlights the performance of North Carolina students on Advanced Placement Program examinations.

Section 2. The ABCs of Public Education summarizes the 1998 ABCs results in elementary, middle, and high school grades. Trends in average statewide growth and achievement levels over time are also included.

Section 3. Closing the Gap in Student Performance focuses on current trends in statewide performance of different racial/ethnic and gender groups on most of the measures reported in Section 1 and Section 2. Variations in performance among the groups are noted. Subsequent reports should indicate progress made in closing the gap in academic performance among the various student groups in North Carolina's elementary and secondary schools.

Some data in this report have been presented previously in other formal reports. However, one purpose of this report is to collect and summarize information on North Carolina student achievement within a single publication for the convenience of its readership.

July 1999

Section 1. North Carolina Performance and National Standards

Background

Beginning in the 1992-93 school year, the North Carolina statewide testing program in elementary and middle schools has used state-developed tests that are closely aligned with the mandated state curriculum. The tests, designed according to national standards, measure the performance of students who have been taught the North Carolina curriculum, which emphasizes higher order thinking skills. Because the state curriculum and the end-of-grade tests allow for tracking student performance over a period of years (grades 3 through 8), a school accountability model based upon growth in student performance can be implemented. Such a model, the ABCs of Public Education was adopted by the State Board of Education. The ABCs, North Carolina's principal school improvement effort, emphasizes Accountability for teaching and learning the Basics; it also promotes and encourages maximum local Control.

North Carolina's educators and citizens are not only interested in the levels at which the state's public schools perform, they are also interested in how these levels compare with those of other public school systems throughout the nation. One of the purposes of the *State of the State* report is to facilitate such comparisons.

The 1998 results of the National Assessment of Educational Progress (NAEP) reading assessment are presented first, followed by results of the nationally norm-referenced Iowa Tests of Basic Skills (ITBS). These provide the best data available for showing North Carolina's performance in relation to that of the nation. Next, results of the Scholastic Assessment Test (SAT) are presented. The SAT, for reasons to be discussed later, does not provide the best comparative data for viewing North Carolina relative to the nation. However, the SAT is recognized as one of the most useful tools for assessing individual students' academic preparation for post secondary education. Consequently, national and state results for 1998 and previous years are included. Finally, state results from the Advanced Placement (AP) examinations are reported because they also reflect students' academic preparation for postsecondary education.

National Assessment of Educational Progress (NAEP)

Background

The National Assessment of Educational Progress (NAEP), a federally mandated project, was established in 1969 to assess the educational achievement of elementary and secondary students in various subject areas. NAEP, sometimes called the “Nation’s Report Card,” is the most widely recognized effort to assess the knowledge of American students. It reports on the educational achievement of populations of students; it is not designed to produce information for individual students, teachers, or schools. Every two years, NAEP assesses nationally representative samples of more than 120,000 students in public and private schools in grade 4, grade 8, and grade 12. The academic subjects assessed by NAEP vary from year to year.

In 1988, NAEP authorized voluntary state assessments on a trial basis. The Trial State Assessment Program included grade 8 mathematics in 1990, 1992, and 1996; grade 4 mathematics in 1992 and 1996; grade 4 reading in 1992, 1994, and 1998; and, grade 8 science in 1996.

NAEP results are invaluable to policymakers, educators, and administrators for evaluating the overall status of student achievement in individual states and the nation. Such information may be used to plan future improvements in student achievement on the state and national levels.

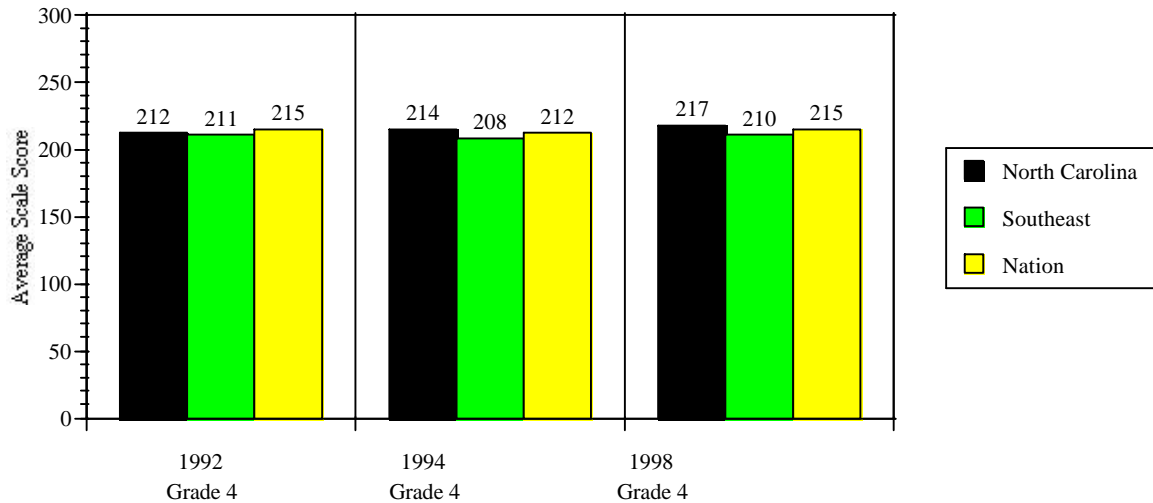
Detailed results for NAEP assessments made through 1996 were presented in previous *State of the State* reports. The statewide NAEP results for 1998 are presented in the following section. NAEP uses scale scores, ranging from 0 to 500, to assess student performance in reading. NAEP scale scores are not comparable to North Carolina’s End-of-Grade scale scores, which will be reported in subsequent sections.

Statewide Performance

Grade 4

Average reading scale scores for North Carolina’s grade 4 students are shown graphically in Figure 1. Only a portion of the NAEP reading scale, which ranges from 0-500, is represented on the vertical axis. North Carolina’s performance on NAEP has improved steadily from 1992 to 1998. In contrast, the 1998 average scale scores for the southeast and the nation did not exceed those attained in 1992. Moreover, the scores for the southeast and the nation decreased by three points each between 1992 and 1994. The average reading scale score for North Carolina’s grade 4 students (217) was higher than the scores for grade 4 students in the nation (215) and in the southeast (210) in 1998.

Figure 1. Average Reading Scale Scores for Grade 4 Students in North Carolina, the Southeast and the Nation on the National Assessment of Educational Progress (NAEP), 1992, 1994, and 1998.

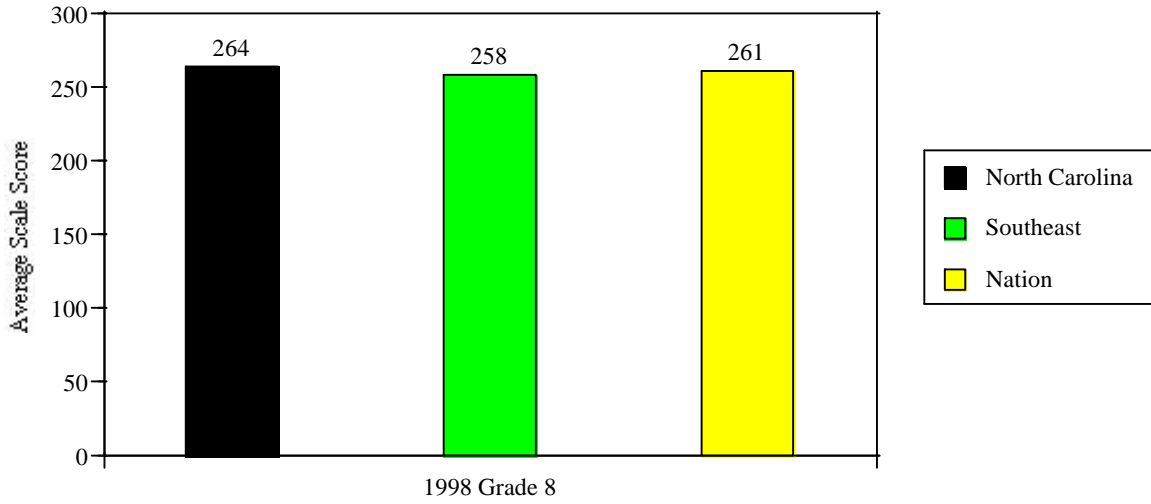


Grade 8

The average reading scale scores in 1998 for grade 8 students in North Carolina, the southeast and the nation are displayed in Figure 2. The average scale score for North Carolina's grade 8 students (264) was three points higher than that for the nation (261) and six points higher than that for the southeast (258).

The improved NAEP results for North Carolina's grade 4 and grade 8 students since 1992 might be associated with a number of factors. These factors might include the aligning of the North Carolina curriculum with national standards, the focusing of classroom instruction on the new curriculum, the development of a highly aligned assessment system, and the evolution of high stakes accountability standards for schools and school districts in the state.

Figure 2. Average Reading Scale Scores for Grade 8 Students in North Carolina, the Southeast and the Nation on the National Assessment of Educational Progress (NAEP), 1998.



Iowa Tests of Basic Skills (ITBS)

Background

In 1992, the State Board of Education approved the Iowa Tests of Basic Skills (ITBS) Survey Battery for use in the North Carolina testing program. A major reason for adopting the ITBS was to facilitate the comparison of North Carolina's student achievement with national indicators. The ITBS has been administered annually to representative samples of North Carolina's grades 5 and 8 students since the spring of 1993. The ITBS was adopted in lieu of the previously used California Achievement Tests (CAT) for several reasons. Among the reasons were: (1) it is more closely aligned with the mandated statewide curriculum, (2) it places greater emphasis on higher-order thinking skills, and (3) it is more closely aligned with national curriculum standards.

The components of the ITBS Survey Battery are Reading, Language, and Mathematics. The Reading Test consists of two parts, Vocabulary and Reading Comprehension. While the Reading Total score is based on the entire test, the Reading Advanced Skills score is based only on Reading Comprehension items.

The Language test consists of five parts, Spelling, Capitalization, Punctuation, Usage, and Expression. The Language Total score includes all five parts, and the Language Advanced Skills score is based on two parts, Usage and Expression.

The Mathematics test includes four parts, Concepts, Estimation, Problem Solving, and Data Interpretation, and an optional computation test. The Mathematics Total score is based on all five parts; the Mathematics Advanced Skills score is based on the Estimation, Problem Solving, and Data Interpretation parts.

Each student's Survey Battery Total score was calculated by averaging each student's standard score for the three tests. For example, averaging the Reading Total, Language Total, and Mathematics Total standard scores yields the Survey Battery Total standard score for each student.

In the *1998 State of the State*, ITBS results are reported as median National Percentile Ranks (NPRs) of the scale scores. The results were referenced to the 1995 ITBS national student norms and indicate how students performed relative to a representative group of students in the nation. Such comparisons are of interest to educators and policymakers, especially as more students compete for educational and economic opportunities at the national level.

In previous editions of *State of the State*, ITBS results were presented as grade equivalents of average standard scores and are not directly comparable with the results in this report. To facilitate retrospective comparisons, data for previous years (1996-1998) have been converted to median National Percentile Ranks (NPRs) in this report. Since this report uses median scores instead of the average scores used in previous reports, the

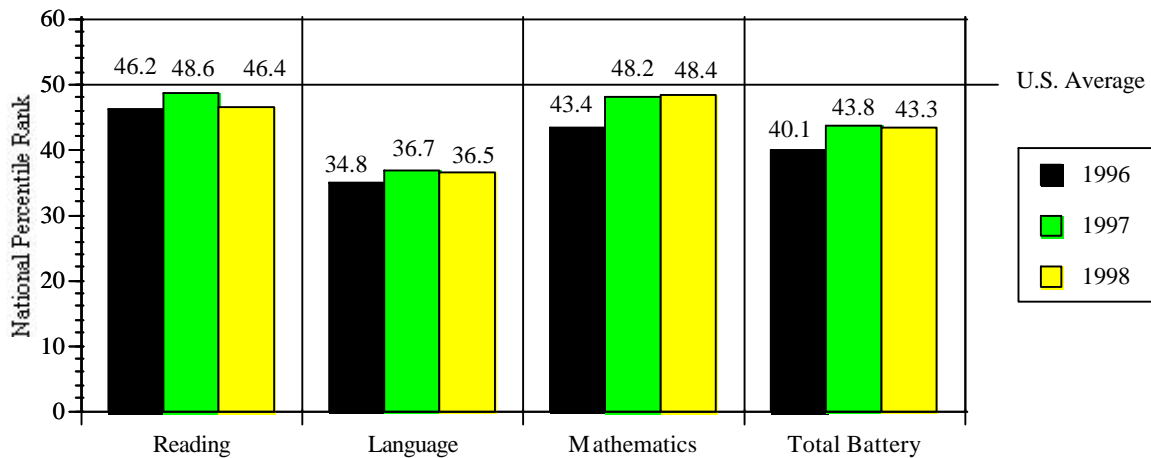
relationship of some scores to the national norm may be different than shown in previous reports.

Statewide Performance

Grade 5

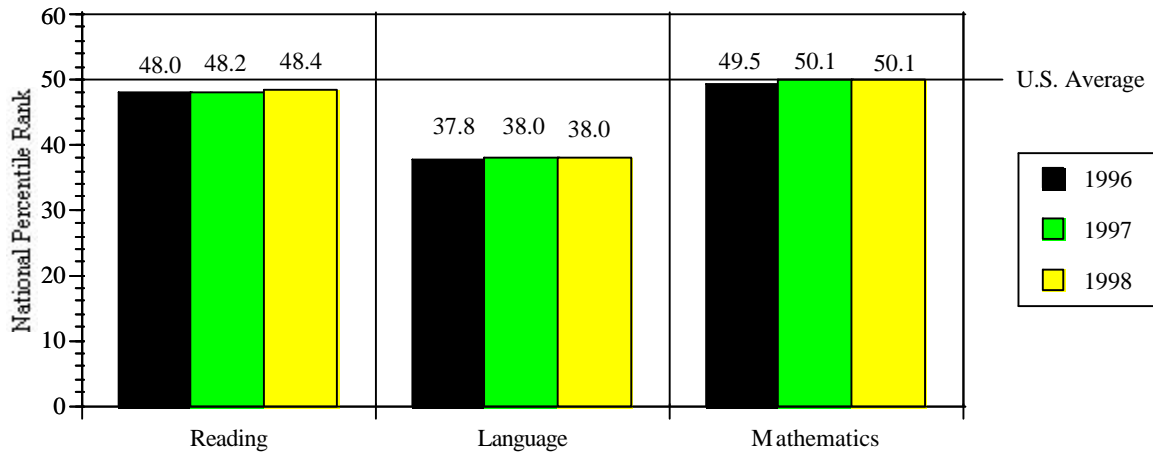
Since 1996, North Carolina's grade 5 students have increased National Percentile Rank (NPR) in all skill areas. In 1998, the most dramatic progress was in Mathematics Total Skills, where grade 5 students progressed five points since 1996. All scores were below the national average (50). Figure 3 shows the NPRs for North Carolina's grade 5 students in Total Skills from 1996 to 1998.

Figure 3. National Percentile Ranks (NPRs) in Total Skills for North Carolina's Grade 5 Students on the Iowa Tests of Basic Skills (ITBS), 1996-1998



Grade 5 students ranked at the national average (50) in Mathematics Advanced Skills in 1998, matching the performance of the previous year (see Figure 4). In Reading Advanced Skills, grade 5 students ranked just below the national average in 1998 (48.4). However, North Carolina's grade 5 students ranked considerably below the national average in Language Advanced Skills.

Figure 4. National Percentile Ranks (NPRs) in Advanced Skills for North Carolina's Grade 5 Students on the Iowa Tests of Basic Skills (ITBS), 1996-1998.



Grade 8

In 1998, North Carolina's grade 8 students ranked above the national average (50) in Reading Total Skills (51.8) and just below the national norm in Mathematics Total Skills (49.4), as shown in Figure 5. In 1998, grade 8 students ranked lower in Language Total Skills than in the two previous years.

Grade 8 performance in Language Advanced Skills has remained consistently below the national average from 1996 to 1998. In Reading Advanced Skills and Mathematics Advanced Skills, grade 8 students ranked above the national average in 1998. The performance data for grade 8 students in Advanced Skills are displayed in Figure 6.

Figure 5. National Percentile Ranks (NPRs) in Total Skills for North Carolina's Grade 8 Students on the Iowa Tests of Basic Skills (ITBS), 1996-1998.

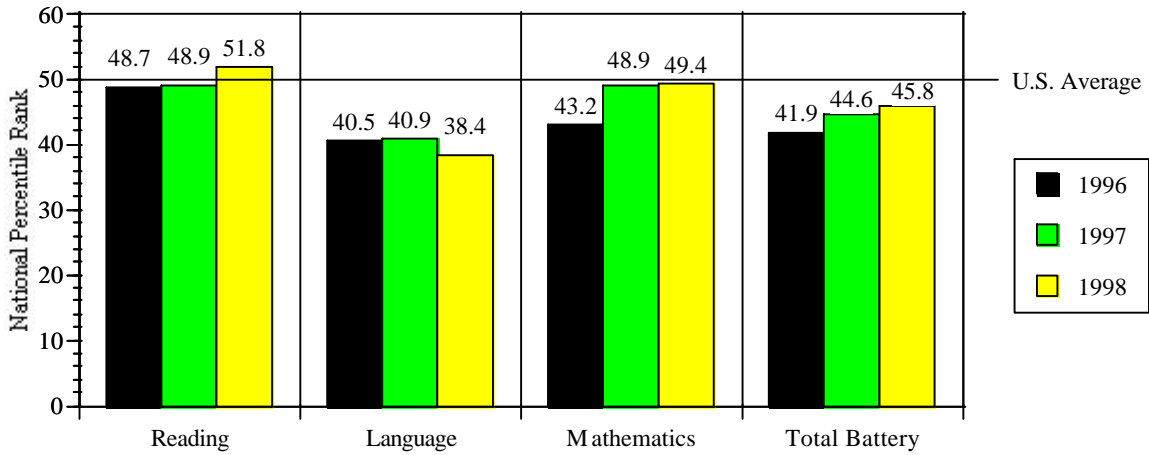
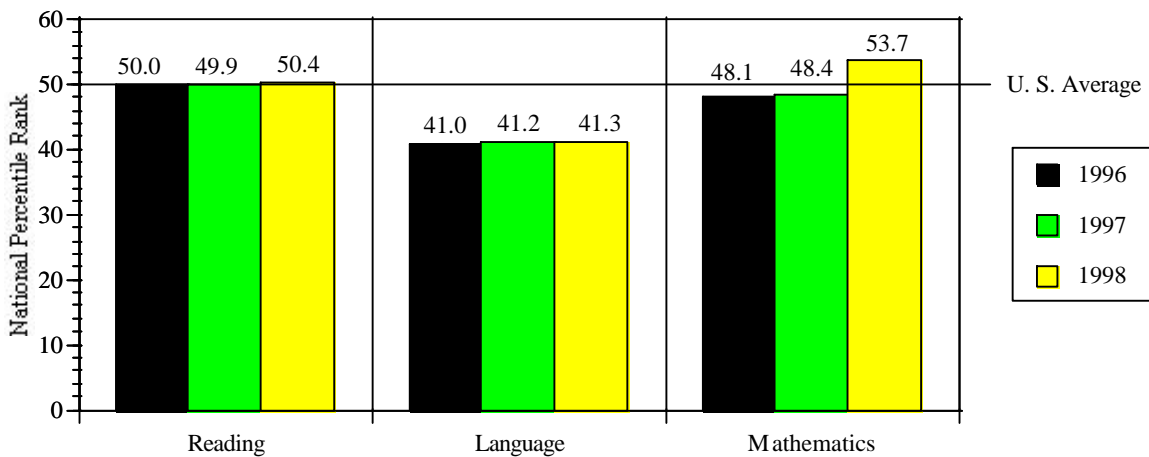


Figure 6. National Percentile Ranks (NPRs) in Advanced Skills for North Carolina's Grade 8 Students on the Iowa Tests of Basic Skills (ITBS), 1996-1998.



Since 1996, North Carolina's grades 5 and 8 students have made progress on most of the components of the ITBS. This progress might be associated with the factors mentioned earlier regarding recent NAEP performance.

Scholastic Assessment Test (SAT)

Background

The Scholastic Assessment Test (SAT) is recognized as a useful tool for evaluating developmental verbal and mathematical abilities in individual students and in assessing their academic preparation for college admissions. Even with the criticism it has received regarding its fairness and efficacy (Jacobs, 1995), the test continues to be taken widely by students in North Carolina and the nation. In 1998, the percent of students taking the SAT I increased 3 percent in North Carolina and 1 percent nationwide over the previous year.

One function of the SAT is to provide scores to colleges and universities for assessing the academic preparation of college-bound students. In this regard, the College Board cautions that “using these scores in aggregate form as a single measure to rank or rate teachers, educational institutions, districts, or states is invalid because it does not include all students...in being incomplete, this use is inherently unfair” (College Entrance Examination Board, 1988). However, the Board sanctions the use of average SAT scores from a number of years to “reveal trends in academic preparation of students who take the test” (The College Board, 1988). SAT scores, the Board continues, “can provide individual states and schools with a means of self-evaluation and self-comparison.”

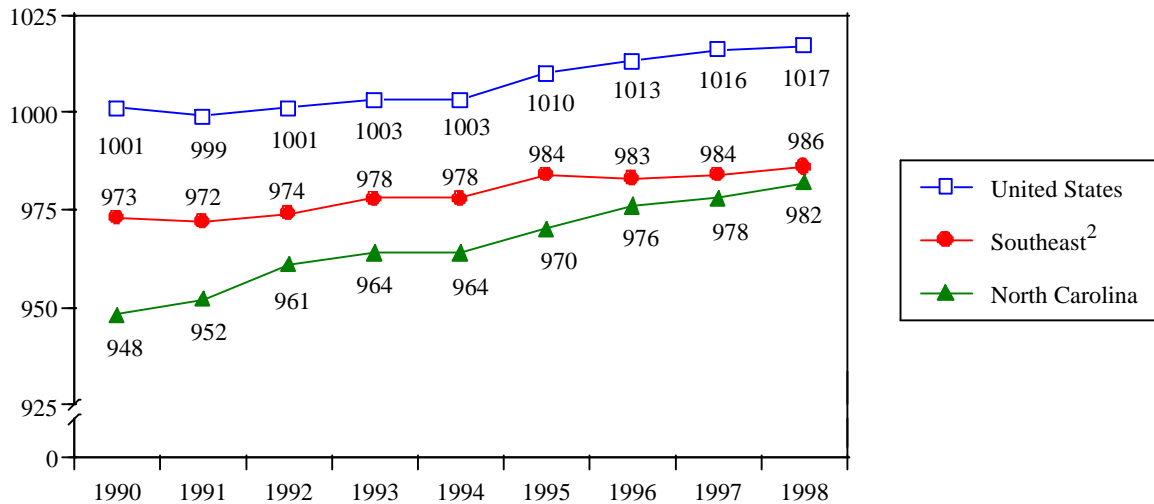
Students in North Carolina have shown steady improvement on the SAT each year since 1989. Since that time, teachers, principals, and policy-makers have focused on improving the quality of instruction, especially in content areas closely related to material included on the SAT.

A new version of the SAT was administered in March 1994. The scores from the new test were equated with scores from the previous test. All scores in this report have been equated with the new test. Consequently, 1995 scores in this report differ numerically from those for that year shown in the 1995 edition of *State of the State*.

Statewide Performance

In 1998, North Carolina achieved its highest average total SAT score ever (982), with 62 percent of its graduating seniors taking the exam. Nationally, only 43 percent of graduating seniors took the exam (DPI SAT Report, 1998, p. 21). Figure 7 displays the average total SAT scores for North Carolina, the southeast, and the United States from 1990 to 1998.

Figure 7. Mean Total SAT Scores for North Carolina, the Southeast, and the United States, 1990-1998.



¹All Scholastic Assessment Test scores are reported on the recentered score scale (1995).
²The Southeast region's average is a weighted average of results for Florida, Georgia, North Carolina, South Carolina, and Virginia.

For the eighth consecutive year, North Carolina has shown an upward trend in its average total SAT score. An increase of 34 points between 1990 and 1998 is notable when compared with an increase of half that amount nationally for the same period. The 25 points gap in 1990 between North Carolina's average score (948) and the southeast's average score (973) was narrowed to 4 points in 1998, with North Carolina's average score of 982 and the southeast's average score of 986. The gap between North Carolina's average total score (982) and the national average total score (1017) was 35 points in 1998, the smallest in 27 years. Although average total SAT scores have increased over the past few years in the nation and in the Southeast, North Carolina's average total score has increased at a much faster rate, effectively narrowing the gap (see Figure 7).

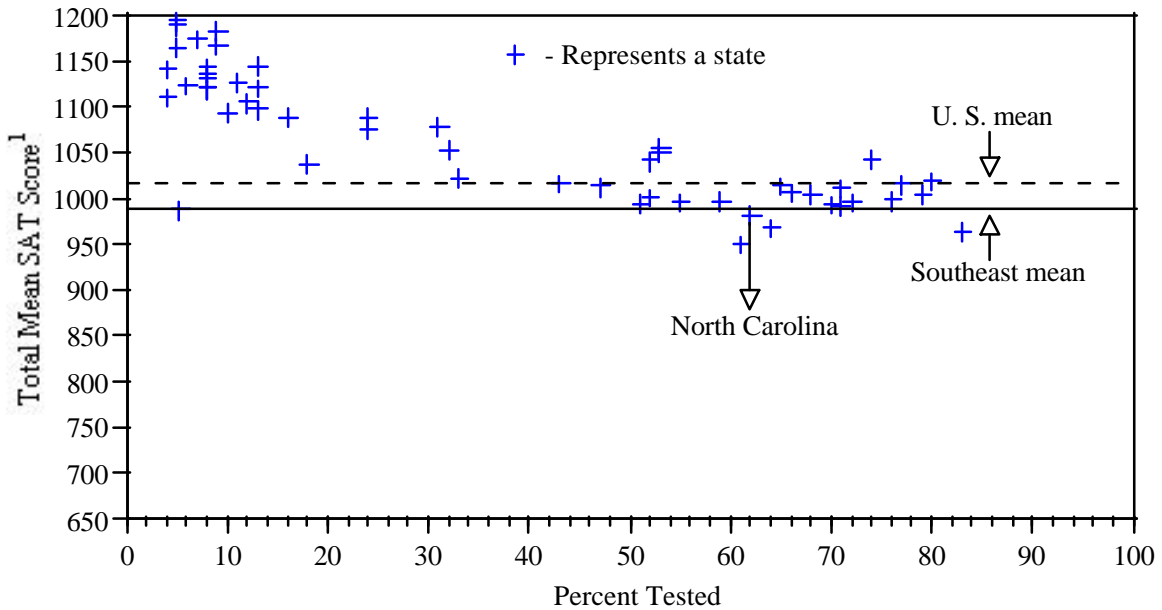
Participation Rate

For the nation, the percent of seniors taking the SAT in 1998 ranged from four percent in Utah and Mississippi to 83 percent in the District of Columbia (DPI SAT Report, 1998, p. 21). As stated previously, 62 percent of North Carolina's graduating seniors took the SAT I in 1998, compared with 43 percent for the nation. Twenty-four states had 40 percent or more graduating seniors taking the SAT. Of these 24 states, 11 had average total SAT scores of less than 1000. None of the 27 states with less than 40 percent of seniors taking the SAT had an average total SAT score of less than 1000.

Research has shown that SAT participation rate is inversely related to average total SAT score, i.e. the higher the participation rate, the lower the average total score (Powell and Steelman, 1996). Evidence of this relationship can be observed in Figure 8 where the states with the lowest percent of SAT test takers attained the highest average total SAT scores.

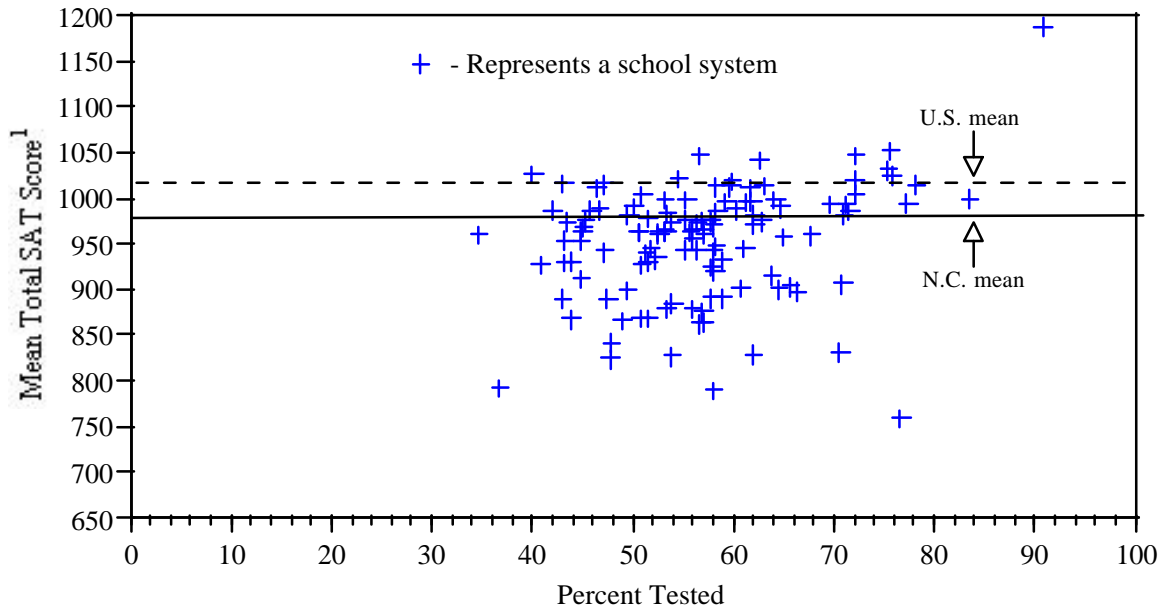
However, when the percent of SAT test takers was plotted against average total SAT scores for public school systems in North Carolina, an opposite relationship was observed (see Figure 9). These results suggest that SAT scores may not always be associated with participation rate. However, because very few North Carolina school systems had participation rates below 40 percent in 1998, conclusions regarding Figure 9 should be guarded.

Figure 8. Mean Total SAT Scores by Percent of Students Tested for all States, 1998.



¹All Scholastic SAT Scores are reported on the recentered score scale (1995).

Figure 9. Mean Total SAT Score by Percent of Students Tested for all North Carolina Public School Systems, 1998.



¹All Scholastic Assessment Test scores are reported on the recentered score scale (1995).

Entering Students at UNC Institutions

The member institutions of the University of North Carolina system require SAT scores from freshmen applicants, with each institution establishing its own entrance standards. Thus, the weight that SAT scores carry in the admissions process varies from institution to institution. The average total SAT scores for freshmen entering the University of North Carolina system from 1990 to 1998 are shown in Table 1.

In the fall of 1998, the total average SAT scores for first year students at the various UNC system institutions ranged from 823 at Elizabeth City State to 1230 at UNC-Chapel Hill. The total average score for all UNC institutions was 1064, four points higher than the average in 1997. Average total SAT scores vary from year to year as shown in Table 1. Eight institutions showed an overall increase from 1996 to 1998, and seven decreased.

Finally, Table 1 shows that the average total SAT scores for students in North Carolina from 1996-98 were lower than the U. S. averages during the same period. However, the averages for freshmen entering UNC-Chapel Hill exceeded those of the state and the nation during the same period.

Table 1. Average Total SAT Scores of Freshmen Entering Member Institutions of the University of North Carolina System, 1996-1998

Institutions	Fall 1996	Fall 1997	Fall 1998	Difference 1998-1996
Appalachian	1087	1076	1075	-12
East Carolina	1015	1014	1019	4
Elizabeth City	840	825	823	-17
Fayetteville State	867	833	833	-34
N. C. A and T	933	928	922	-11
N.C. Central	912	894	898	-14
N.C. State	1148	1154	1159	11
UNC-Asheville	1141	1150	1142	1
UNC-Chapel Hill	1222	1220	1230	8
UNC-Charlotte	1023	1015	1013	-10
UNC-Greensboro	1027	1028	1030	3
UNC-Pembroke	898	914	921	23
UNC-Wilmington	1055	1080	1082	27
Western Carolina	983	980	998	15
Winston Salem State	851	849	845	-6
UNC Average	1061	1060	1064	3
N.C. Average	976	978	982	6
U.S. Average	1013	1016	1017	4

Note: In the fall of 1991, the method of calculating the average SAT score for the University of North Carolina and its constituent institutions was changed to accommodate score data in unit record, rather than frequency distribution, format. Score averages dating back to 1981 have been revised to reflect the new method. All these scores are re-centered.

Advanced Placement (AP) Examinations

Background

The Advanced Placement Program of the College Board was introduced four decades ago to enable students to complete college-level studies while still in high school. Students may use these courses for college placement and/or credit, if they make the required grade on the AP examination. More than half the nation's high schools participate in the AP Program. In addition, more than 90 percent of the nation's colleges and universities permit incoming students to receive credit and/or placement if students make the qualifying AP scores.

In 1998, 10.1 percent of all high school seniors nationwide took at least one Advanced Placement Examination. In 1998, a total of 15,677 North Carolina public school students took one or more of the examinations, 1,020 more than in 1997. Another 1,920 students, enrolled in North Carolina's independent, parochial, and other schools, also took the examinations. Between 1988 and 1998, the percent of North Carolina schools participating in the program increased from 42 percent to 63 percent, and the number of students taking one or more examinations nearly tripled. Performance on Advanced Placement Program Examinations is highly correlated with student success in college.

Statewide Performance

The Advanced Placement Program uses a grading scale of one to five for its examinations. A grade of three or higher is the benchmark used by most institutions for awarding credit or advanced placement. Table 2 shows the grade distribution for AP examinations taken by public school students in North Carolina and the nation in 1998. Of the total number of examinations taken by North Carolina students, 58.1 percent attained grades of three or higher in 1998. Nationally, 62.6 percent of all students taking the examinations made grades of three or higher.

Table 2. Number and Percent of Advanced Placement (AP) Examination Grades for Students in North Carolina and the Nation, 1998

Examination Grade	North Carolina		Nation	
	Number of Examinations	Percent of Examinations	Number of Examinations	Percent of Examinations
5	2,630	10.6	109,509	13.5
4	4,579	18.5	164,764	20.3
3	7,177	29.0	233,624	28.8
2	6,769	27.3	202,958	25.0
1	3,612	14.6	100,384	12.4
Total	24,767	100.0	811,239	100.0

In 1998, the College Board offered 32 different Advanced Placement examinations. Those taken most frequently by North Carolina public school students are shown in Table 3. The percent of scores equal to three or higher for each examination is also displayed. U. S. History was taken most frequently, followed by English Literature and Composition. Chemistry was taken less frequently than any of the other top seven examinations and had the lowest percent of scores equal to three or higher (46.3 percent). European History had the highest percent of scores equal to 3 or above (69.1 percent).

Table 3. Most Frequently Taken Advanced Placement (AP) Examinations by North Carolina's Public School Students, 1998

Examinations	Number of Examinations	% of Scores Equal to 3 or Higher
European History	1,485	69.1
English Language & Composition	2,460	64.6
English Literature & Composition	4,355	62.7
Calculus AB	3,333	61.3
Biology	2,054	52.1
U. S. History	4,962	46.5
Chemistry	1,155	46.3

Section 2. The ABCs of Public Education

Background

In recent years, North Carolina has undertaken a number of school improvement initiatives aimed at making its educational system one of the best in the nation. Primary among these groundbreaking initiatives was the *ABCs of Public Education*. The ABCs was implemented statewide in elementary and middle schools (grade 3 through grade 8) for the first time in the 1996-97 school year. A piloted version of the program was implemented in the 1995-96 school year.

The ABCs program represents a new approach to improving public education in North Carolina. Under this program, the focus of public education is directed at accountability for high educational standards, teaching the basics (reading, mathematics, and writing), and increasing local control.

Improvement for all schools is determined by student performance on tests in the various areas. The administration of such tests permits the measurement of student growth over time. For example, comparing the performance of one year's grade 4 with the performance of the same students the previous year determines growth.

Two standards were used to evaluate the achievement of elementary and middle schools: growth standards and performance standards. Growth standards reflect how much is gained in achievement scores for the same group of students after a given amount of time. Performance standards reflect changes in absolute achievement as measured by the percent of students at or above specified levels of performance.

Although performance standards are uniform for all schools, the State Board establishes growth goals every year for each of North Carolina's schools. To date, North Carolina has more than 1,600 elementary and middle schools and almost 400 high schools. The growth goal is different for each school and is based upon past levels of performance for each school, and statewide average growth from a baseline year.

Under the ABCs, the goal for all K-8 schools is to meet their expected growth. For high schools, gain is determined by the performance of current students relative to that of previous students. For example, the gain in Algebra I is determined by comparing one year's performance with the baseline (average) of two previous years.

A K-8 school that exceeds its growth goal by at least 10 percent achieves "exemplary" growth. Schools that attain specified levels of growth/gain are eligible for incentive awards or other recognition, e.g. *Schools of Excellence* and *Schools of Distinction*. Those schools whose growth and performance fall below specified levels are designated as "low-performing." School performance and incentive categories for elementary, middle, and high schools are:

Schools of Excellence

A School of Excellence is a school that meets its expected growth (K-8) or expected gain (high school) standard and has at least 90 percent of its students performing at or above grade level for K-8 schools, or at or above Achievement Level III for high schools. Such schools are recognized at a statewide luncheon sponsored by the State Board of Education and the Department of Public Instruction. In addition, they receive banners, certificates, and financial rewards.

Schools of Distinction

A School of Distinction is a school that has at least 80 percent of its students performing at or above grade level (for K-8 schools), or at or above Achievement Level III (for high schools) irrespective of growth or gain (but does not qualify as a School of Excellence). Distinguished schools receive plaques and certificates.

Top 10 and Top 25 Schools in Academic Growth/Gain

The Top 25 Schools in Academic Growth are K-8 schools who have attained the state's highest values on the exemplary growth composite. The Top 10 Schools in Academic Gain are high schools that have attained the State's ten highest values on the exemplary gain composite. These schools are recognized at the annual statewide luncheon. In addition, they receive banners, certificates, and school incentive awards.

Schools Making Exemplary Growth/Gain

Exemplary Schools are those that attain their exemplary growth (K-8) or exemplary gain (high school) standard. They receive certificates and school incentive awards.

Schools Making Expected Growth/Gain

Schools that attain their expected growth (K-8) or expected gain (high schools) standard [but not their exemplary growth (K-8) or exemplary gain (high schools) standard] receive certificates of recognition and school incentive awards.

Schools Having Adequate Performance

These schools do not meet their expected growth or expected gain standards; but they have at least half their students scoring at or above grade level (K-8), or at or above Achievement Level III (high schools), as measured by the performance composite.

Low-Performing Schools

Low-Performing Schools are those that fail to meet the expected growth or gain standard and have significantly less than 50% of their students performing at or above grade level (K-8), or at or above Achievement Level III (high schools).

The ABCs High School Accountability Model establishes standards for the improvement of North Carolina's high schools. Table 4 shows the components of the high school model and their implementation timetable. Items 1-5 were implemented for the first time in 1997-98, with items 6-9 to be incorporated in subsequent years. The results of items 1-5 and baseline information about item 6 are presented in this report. Items 6 and 7 will be implemented in 1998-99.

Table 4. Implementation Schedule for North Carolina's ABCs High School Accountability Program

1997-1998
<ol style="list-style-type: none">1. Results on the five currently mandated End-of-Course Tests: Algebra I, English I, Biology, Economic, Legal and Political Systems; U. S. History.2. Results on a new High School Writing Test. (<i>This is a modification of the previous English II Test.</i>)3. Percent completing College Prep or College Tech Prep Course of Study.4. Comprehensive Tests in Reading and Mathematics (<i>will be administered in grade 10 beginning in 1997-98 and included for awards in 1998-99.</i>)5. SAT Results (<i>scores and participation rates to be reported, but not included in the composite score</i>)
1998-1999
<ol style="list-style-type: none">6. Five additional courses added to performance composite.7. Scores on NCHSCT included in computation for growth/gain composite.8. Passing rate on the High School Competency Tests.9. Dropout rates (grades 9-12 - change in rates comparing consecutive years). <i>Will be reported but not used to determine awards.</i>

ABCs Accountability: Elementary and Middle Schools

Statewide Performance

Grade 3 through Grade 8

The first year's ABCs results for K-8 schools were summarized in the 1997 edition of *State of the State*. In addition, first year trends in average performance on the various components of the ABCs were presented. Table 5 presents the 1998 ABCs results for elementary and middle schools.

As shown in Table 5, the percentage of elementary and middle schools meeting the expected or exemplary growth standard increased from 56.7% to 83.9% within a year. The percentage of schools exhibiting exemplary growth more than doubled within the same period. Most dramatically, the percentage of schools designated as low performing was reduced to less than one-eighth of the value of the previous year. Also, within the period of a year, the Schools of Excellence and Schools of Distinction nearly doubled.

Table 5. Number and Percent of North Carolina’s Public Elementary and Middle Schools Receiving Awards and Recognition, 1997-1998

Award or Recognition Category	1996-97		1997-98	
	# of Schools	% of Schools	# of Schools	% of Schools
Made Exemplary Growth	531	32.5	1137	66.0
Made Expected Growth (not Exemplary)	395	24.2	308	17.9
Received No Recognition/Adequate Performance	583	35.8	261	15.2
Low-Performing	123	7.5	15	0.9
Total ABCs Schools	1632	100.0	1722	100.0
Made Expected or Exemplary Growth		56.7		83.9
Other Recognition (may overlap above categories)	# of Schools	% of Schools	# of Schools	% of Schools
Schools of Excellence	12	0.7	24	1.4
Schools of Distinction	158	9.7	289	16.8
Top 25 Schools in Academic Growth	25	1.5	26 ¹	1.5

¹Tie

End of Grade (EOG) Tests

Background

End-of-Grade (EOG) tests were mandated by the North Carolina General Assembly. The purpose was to provide accurate measurement of individual student skills and knowledge and to provide accurate measurement of skills and knowledge of groups of students for school, school system, and state accountability. These skills and knowledge bases are specified in the North Carolina *Standard Course of Study*. A major advantage of EOG tests is that gains or losses in performance across time can be monitored. End-of-Grade tests use developmental scale scores to measure student growth in reading and mathematics.

Statewide Performance

Reading Scale Scores

Table 6 presents the average scale scores for grades 3 through 8 students and year-to-year cross-sectional growth on the statewide reading end-of-grade tests from 1995 to 1998. In 1998, the greatest growth in Reading (5.9) was observed for grade 5 students, followed closely by grade 4 students (5.2). The least amount of growth was observed for grade 6 students (2.8).

Table 6. Mean Scale Scores for Grade 3 through Grade 8 Students in North Carolina on the Statewide Reading End-of-Grade (EOG) Tests, 1995-1998

<u>Average Reading Score¹</u>					<u>Average Reading Growth</u>			
Grade	1995	1996	1997	1998	Grade	1995-96	1996-97	1997-98
3	143.4	143.8	144.1	145.7				
4	147.6	148.7	148.4	149.3	3 to 4	5.3	4.6	5.2
5	152.4	152.1	153.0	154.3	4 to 5	4.5	4.3	5.9
6	154.5	155.3	155.6	155.8	5 to 6	2.9	3.5	2.8
7	158.0	157.9	158.2	159.0	6 to 7	3.4	2.9	3.4
8	160.1	160.0	160.9	161.9	7 to 8	2.0	3.0	3.7

¹Data are not based on matched student scores, but are cross-sectional.

Mathematics Scale Scores

The average scale scores for grades 3 through 8 students and year-to-year cross-sectional growth on the statewide mathematics end-of-grade tests from 1995 to 1998 are shown in Table 7. Average growth in mathematics (7.4) was greater than average growth in reading (4.2) from 1997 to 1998. The amount of growth decreased progressively at the higher grade levels.

Table 7. Mean Scale Scores for Grade 3 through Grade 8 Students in North Carolina on the Statewide Mathematics End-of-Grade (EOG) Tests, 1995-1998

<u>Average Mathematics Score¹</u>					<u>Average Mathematics Growth</u>			
Grade	1995	1996	1997	1998	Grade	1995-96	1996-97	1997-98
3	141.2	141.9	142.8	142.3				
4	147.9	148.5	149.5	151.5	3 to 4	7.3	7.6	8.7
5	154.4	155.2	156.4	157.4	4 to 5	7.3	7.9	7.9
6	160.2	161.4	162.0	163.6	5 to 6	7.0	6.8	7.2
7	166.0	166.4	167.5	169.2	6 to 7	6.2	6.1	7.2
8	170.3	170.6	171.1	173.7	7 to 8	4.6	4.7	6.2

¹Data are not based on matched student scores, but are cross-sectional.

Achievement Levels

Achievement levels are used to describe End-of-Grade performance because they allow the comparison of student and group performance to preset standards. These standards are based on what is expected in each subject at each grade level. Achievement levels were determined by relating judgments of thousands of North Carolina teachers regarding the performance of each of their students to each student's performance on the end-of-grade multiple-choice tests. The four achievement levels used by the statewide testing program are listed in Table 8.

Table 8. Description of Four Achievement Levels used in North Carolina's End-of-Grade (EOG) Testing

Level I	Students performing at this Level do not have sufficient mastery of knowledge and skills in the subject area to be successful in the next grade.
Level II	Students performing at this level demonstrate inconsistent mastery of knowledge and skills in the subject area and are minimally prepared to be successful at the next grade level.
Level III	Students performing at this level consistently demonstrate mastery of the grade level subject matter and skills and are well prepared for the next grade level.
Level IV	Students performing at this level consistently perform in a superior manner clearly beyond that required to be proficient at grade level work.

Reading Achievement Levels

Table 9 shows the percent of students moving from one reading achievement level to the next in subsequent years. Column one shows the reading achievement levels, column two the number of students in the reading achievement levels in 1997, and columns 3-6 the percent of students remaining at the 1997 levels, or moving to higher or lower levels in 1998. For example, of the 41,818 students in Reading Achievement Level I in 1997, 39.2 percent remained at that level in 1998 and 60.9 percent progressed to higher levels (i.e., 47.8 percent who scored in Level II plus 12.0 percent who scored in Level III plus 1.1 percent who scored in Level IV in 1998.) [Percentages do not add to 100 percent due to rounding.]

Overall, Table 9 shows that students who started out in higher achievement levels tended to continue their high performance in the next year. For example, of the students in Reading Levels III, and IV in 1997, 63.2 percent and 81.6 percent, remained at those levels in 1998, respectively. Among students who started out in Levels I and II, some students improved the subsequent year, but far too many continued to perform in the lowest achievement levels. For example, of the students scoring in Levels I and II in 1997, 39.2 percent and 47.6 percent, respectively, remained at the same level in 1998.

Table 9. Transition between End-of-Grade (EOG) Reading Achievement Levels for Grade 3 through Grade 8 Matched Cohorts in North Carolina, 1997-1998

	N at Level 1997	% Level I 1998	% Level II 1998	% Level III 1998	% Level IV 1998
Level I	41,818	39.2	47.8	12.0	1.1
Level II	114,442	11.3	47.6	38.5	2.6
Level III	203,490	1.0	11.7	63.2	24.1
Level IV	145,539	0.0	0.5	17.8	81.6

Mathematics Achievement Levels

Table 10 shows the percent of students progressing from one mathematics achievement level to the next in subsequent years. Column one shows the mathematics achievement levels, column two the number of students in the mathematics achievement levels in 1997, and columns 3-6 the percent of students remaining at the 1997 levels, or moving to higher or lower levels, in 1998. For example, of the 28,965 students in Mathematics Achievement Level I in 1997, 34.7 percent remained at that level in 1998 and 65.3 percent progressed to higher levels (i.e., 49.9 percent who scored in Level II, plus 14.7 percent who scored in Level III plus 0.7 percent who scored in Level IV in 1998.)

The performance trend in mathematics achievement was very similar to that observed for reading achievement, with students who started out in higher achievement levels tending to continue high performance and many of those who started at the lower achievement levels continuing low performance. For example, of the total students in Mathematics Achievement Levels III and IV in 1997, 62.2 percent and 83.4 percent, respectively, remained at those levels in 1998. However, of the students who started at Mathematics Achievement Levels I and II, 34.7 percent and 45.4 percent, respectively, remained at level in 1998.

Table 10. Transition between End-of-Grade (EOG) Mathematics Achievement Levels for Grade 3 through Grade 8 Matched Cohorts in North Carolina, 1997-1998

	N at Level 1997	% Level I 1998	% Level II 1998	% Level III 1998	% Level IV 1998
Level I	28,965	34.7	49.9	14.7	0.7
Level II	103,335	11.8	45.4	40.5	2.4
Level III	203,831	1.2	13.5	62.2	23.1
Level IV	170,330	0.0	0.5	16.0	83.4

Writing Assessment

Background

The annual writing assessment is a state-mandated assessment of student writing performance in grade 4, grade 7, and grade 10. The writing assessment was added to the North Carolina Testing Program in 1983-84 and was included in the ABCs to ensure emphasis is placed on this vital skill in each student's academic experience.

In addition, the revised *Standard Course of Study (SCS)* emphasizes writing as a basic skill that can be improved with appropriate emphasis and instruction. Three modes of writing are included in the writing assessment: narrative, expository, and descriptive. Grade 4 students are required to write a narrative composition (personal or imaginative), while grade 7 students are asked to write either an expository (clarification or point-of-view) or descriptive composition. The compositions in grades 4 and 7 are assigned scores of 1, 2, 3, 4, or Non-Scorable (NS). A composition is assigned NS when a student's response is not readable or otherwise un-scorable.

The standard for acceptable writing at grades 4 and 7 is the mid-point score of 2.5 or above on a four-point scale. This standard is regarded as a representative and achievable level for grades 4 and 7 students.

Statewide Performance

Grades 4 and 7

Table 11 shows the percent of grade 4 students meeting or exceeding the 2.5 standard on the annual writing assessment from 1995-96 to 1997-98. Of all grade 4 students tested statewide, 51.7 percent met or exceeded the 2.5 standard in 1997-98, increasing by 3.1 percent from 1996-97, and 0.2 percent from 1995-96.

The percent of grade 7 students meeting or exceeding the 2.5 standard on the annual writing assessing from 1995-96 to 1997-98 is shown in Table 11. Of all the grade 7 students tested statewide in 1997-98, 62.5 percent met or exceeded the 2.5 standard in 1997-98, 7.6 percent more than in 1996-97 and 3.1 percent more than in 1995-96.

Table 11. Percent of Grade 4 and Grade 7 Students in North Carolina at or above 2.5 on the Annual Writing Assessment, 1996-1998

	<u>Percent of Students At or Above 2.5</u>					
	Grade 4			Grade 7		
	1995-96	1996-97	1997-98	1995-96	1996-97	1997-98
Number Tested	88,415	90,638	94,386	87,072	88,422	91,332
% ≥ 2.5	51.5	48.6	51.7	59.4	54.9	62.5

ABCs Accountability Model: High Schools

Statewide Performance

The number and percent of high schools receiving awards and recognition in 1997-98 are presented in Table 12. Of the participating high schools, 83.0 percent met either expected or exemplary gain standards, 0.2 percent received recognition as Schools of Distinction, and 3.6 percent were Low-Performing.

Table 12. Number and Percent of Public High Schools in North Carolina Receiving Awards and Recognition, 1998

Award or Recognition Category	# of Schools	% of Schools
Made Exemplary Gain	265	63.2
Made Expected Gain (not Exemplary Gain)	83	19.8
Adequate Performance	50	11.9
Low-Performing	15	3.6
Violated Testing Requirements	6	1.4
Total ABCs Schools	419	100.0
Made Expected or Exemplary Gain		83.0
Other Recognition (may overlap above categories)	# of Schools	% of Schools
Schools of Excellence	0	0
Schools of Distinction	1	0.2
Top 10 Schools in Academic Gain ¹	11	2.6

¹One high school was added as a result of SBE action.

English II Assessment

Background

The English II Assessment of Writing is a state-mandated end-of-course test that assesses writing performance in grade 10. The test is a component of the North Carolina Statewide Testing Program and assesses mastery of the writing curriculum, the application of grammatical skills, and achievement in literary analysis.

Student essays are scored on a six-point scale for content and a three-point, four-domain scale for conventions. The proficiency standard for English II is 3.0 on the six-point scale.

Statewide Performance

Grade 10

In 1997-98, approximately 46.0 percent of all students taking the English II test met or exceeded the 3.0 standard, a decline of 3.7 percentage points from the previous year. Table 13 shows the percent of students meeting or exceeding the 3.0 standard on the Annual English II Assessment from 1995-96 to 1997-98.

Table 13. Percent of Grade 10 Students in North Carolina Scoring at or above 3.0 on the Annual English II Assessment, 1995-96 to 1997-98

	<u>Percent At or Above 3.0</u>		
	<u>Grade 10</u>		
	1995-96	1996-97	1997-98
Number Tested	79,951	79,662	81,260
% \geq 3.0	48.5	49.7	46.0

Competency Tests

Background

The North Carolina Competency Standard requires that students who entered grade 9 in 1994-1995 and after meet rigorous performance criteria to receive high school diplomas. Students must achieve eighth grade proficiency by performing at Achievement Level III or above on the reading and mathematics tests.

Students who do not meet the standard initially are given multiple opportunities to reach the required level during their high school years. They are required to retake only

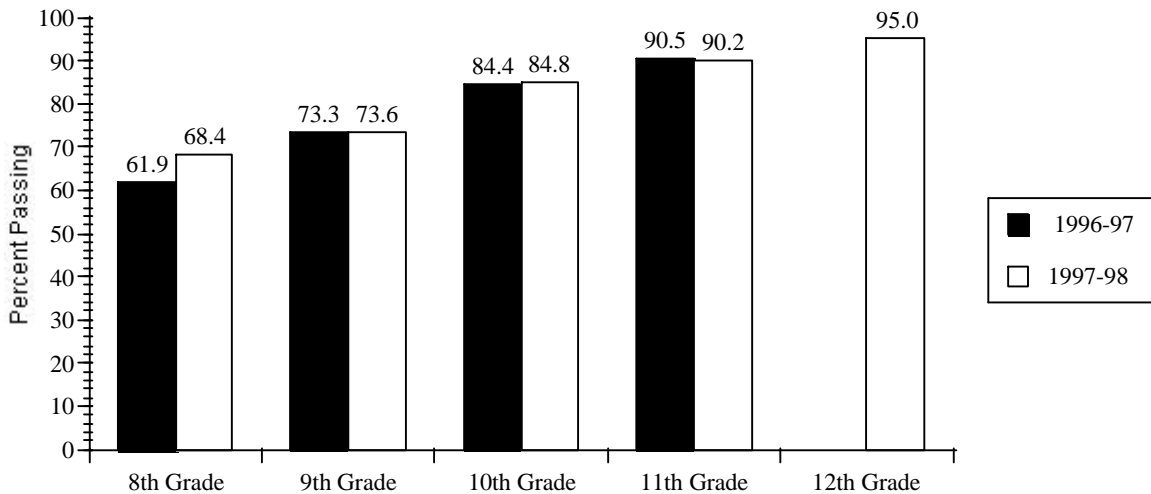
the sections not passed previously. The Class of 1998, grade 9 in 1994-95, was the first class required to meet the new standard.

Statewide Competency Test results for 1996-97 and 1997-98 are presented in this report as the baseline for future ABCs results.

Statewide Performance

The percentages of students passing the competency standard by class in 1996-97 and 1997-98 are shown in Figure 10. In the Class of 2001, 61.9 percent met the competency standard in grade 8, while 73.6 percent had met it by grade 9. In the Class of 1998, 90.5 percent of the students had met the new standard at the end of grade 11. In the graduating class of 1998, 95 percent of the students met the new competency standard, while five percent were unsuccessful.

Figure 10. Percent of Students in North Carolina Passing the Competency Standard by Class in 1996-97 and 1997-98.



Section 3. Closing the Gap in Student Performance

Background

One of the goals of public elementary and secondary education in North Carolina is to graduate all students from high school with skills and knowledge appropriate for succeeding in work and/or higher education. The extent to which such skills and knowledge are acquired is frequently judged by performance on standardized examinations/programs such as the SAT, the NAEP, the ITBS, AP, EOC and EOG tests. Unfortunately, in North Carolina and the nation as a whole, minority students lag in performance when compared to majority students on such assessments. This lag in performance, commonly referred to as the “gap,” has become the focus of enormous concern and debate.

Singham (1998) perhaps provided the most cogent and efficacious approach to the problem when he stated:

The educational achievement gap is not an artifact. It is real and has serious social, economic, and political consequences. Its roots lie in complex and historically rooted ethnic relationships and characteristics. But the situation is by no means hopeless...we have to start looking at the problem in new and deep ways, and we must avoid the temptations to seek simplistic one-shot solutions if we are going to make any real headway.

Such a viewpoint gave rise to the first *Improving Minority and At-Risk Student Achievement: Blueprint for Excellence* conference, which convened in Greensboro, North Carolina on March 10, 1997. Growing concerns by the state’s parents, educators, and policy-makers regarding the academic achievement and performance of minority students also provided impetus for the conference. The development of the conference was supported by numerous agencies and organizations. One of the major goals of the Conference was to discern and design effective intervention strategies for improving academic performance and achievement among minority students in North Carolina.

The purpose of this section of the 1998 *State of the State* is to review the current performance of minority and gender groups in the state. It is hoped that in subsequent years, the report will permit readers to monitor progress made in closing the gaps in academic performance among student groups in North Carolina’s elementary and secondary schools.

National Assessment of Educational Progress (NAEP)

Race/Ethnicity

Grade 4

In 1998, North Carolina's grade 4 White students attained a higher average scale score in reading than grade 4 Black and Hispanic students (see Table 14). However, the gap between the performance of the state's Black students and White students had decreased from 32 points in 1994 to 27 points in 1998. For Hispanic students, the gap decreased from 36 points in 1994 to 31 points in 1998. Thus, Hispanic students and Black students have narrowed the scoring gap by five points since 1994.

Table 14. Average NAEP Reading Scale Scores for Grade 4 Students in North Carolina, the Southeast and the Nation by Race/Ethnicity, 1992 to 1998

Region	Year	Black	Hispanic	White
North Carolina	1998	200	196	227
	1994	193	189	225
	1992	194	192	221
Southeast	1998	190	191	220
	1994	188	184	219
	1992	194	194	220
Nation	1998	193	195	225
	1994	186	188	223
	1992	192	199	223

Grade 8

The NAEP reading results for grade 8 students by racial/ethnic groups are displayed in Table 15. In North Carolina, grade 8 White students attained a higher average scale score than any other racial/ethnic group. This score exceeded the Southeast average by six points, but was one point less than the national average.

The average scale score for American Indian students (261) was higher than that for Black students (249) and Hispanic students (239), and was only ten points lower than that attained by White students. However, American Indians comprised less than five percent of the total population tested.

Performance trends for grade 8 racial/ethnic groups could not be determined because NAEP had not been administered previously to grade 8 students in North Carolina.

Table 15. Average NAEP Reading Scale Scores for Grade 8 Students in North Carolina by Race/Ethnicity, 1998

Region	American			
	Indian	Black	Hispanic	White
North Carolina	261	249	239	271
Southeast	***	243	245	265
Nation	248	241	243	270

*** NAEP did not report a score because sample size was insufficient to permit a reliable estimate.

Gender

Grade 4

In 1998, the average reading scale score for grade 4 female students in North Carolina was seven points higher than that of male students (see Table 16). In 1992, the average scale score for female students was five points higher; hence, the gender gap for grade 4 students has widened since 1992.

Table 16. Average NAEP Reading Scale Scores for Grade 4 Students in North Carolina by Gender, 1992 to 1998

Region	Year	Male	Female
North Carolina	1998	213	220
	1994	209	220
	1992	209	214
Southeast	1998	207	212
	1994	202	215
	1992	205	216
Nation	1998	212	218
	1994	207	218
	1992	211	219

Grade 8

North Carolina's grade 8 female students scored higher than male students in North Carolina, the southeast and the nation. North Carolina's males scored one point higher in Reading than males across the Nation and five points higher than males in the Southeast. No historical data were available for trend analysis. The average scale scores in reading for grade 8 students by gender are shown in Table 17.

Table 17. Average NAEP Reading Scale Scores for Grade 8 Students in North Carolina by Gender, 1998

Region	Female	Male	Difference ¹
North Carolina	270	256	14
Southeast	265	251	14
Nation	268	255	13

¹Female score minus male score

Iowa Tests of Basic Skills (ITBS)

Race/Ethnicity

Grade 5

Among grade 5 students, Asians ranked higher than all other racial/ethnic groups on all subtests of the ITBS in 1998, with all ranks above the national average except Language Advanced Skills (see Table 18). White students exceeded the national norm in Reading Total Skills, Reading Advanced Skills, Mathematics Total Skills, and Mathematics Advanced Skills, but were below the national norm (50) in Language Total Skills and Language Advanced Skills.

Grade 5 American Indian, Hispanic and Black students ranked below the national average (50) on all subtests in 1998. The highest score among these groups was 42.6 NPR (achieved by American Indians in Mathematics Advanced Skills).

Table 18. National Percentile Ranks (NPRs) for Grade 5 Students in North Carolina on the Iowa Tests of Basic Skills (ITBS) by Race/Ethnicity, 1996-1998

	Year	American Indian	Asian	Black	Hispanic	White
Reading						
Total Skills	1998	26.8	68.3	27.3	27.2	60.5
	1997	28.5	38.3	29.5	27.0	57.5
	1996	21.5	46.0	26.8	27.2	57.1
Advanced Skills	1998	31.0	66.4	31.4	30.8	59.1
	1997	26.4	36.3	31.2	35.8	59.0
	1996	23.0	53.9	30.7	31.4	58.7
Language						
Total Skills	1998	12.4	54.8	22.4	25.7	42.9
	1997	25.0	52.3	25.7	26.0	42.7
	1996	14.8	49.0	20.2	25.8	42.5
Advanced Skills	1998	17.8	44.3	23.6	31.1	44.2
	1997	27.5	43.6	24.2	31.0	44.1
	1996	21.0	38.2	18.5	23.7	44.1
Mathematics						
Total Skills	1998	30.3	82.0	33.1	37.2	59.0
	1997	42.6	59.0	32.5	33.0	58.9
	1996	27.5	51.0	25.0	37.1	54.0
Advanced Skills	1998	35.6	80.7	36.0	43.0	58.2
	1997	42.6	58.3	36.0	35.9	58.2
	1996	36.0	50.1	28.8	43.0	57.6
Total						
Survey Battery	1998	20.0	64.0	25.8	29.0	52.7
	1997	28.0	45.0	27.9	31.0	52.4
	1996	19.0	51.0	22.2	29.8	50.4

Grade 8

Unlike grade 5 students, where Asians ranked higher than other racial/ethnic groups on all ITBS subtests, grade 8 students attained more mixed results in 1998 (see Table 19). However, grade 8 Asian students ranked higher than other racial/ethnic groups in Language Total Skills, Mathematics Total Skills, and Mathematics Advanced Skills in 1998. All scores were above the national average (50), except Language Advanced Skills.

White students performed better than all other racial/ethnic groups in Reading Total Skills, Reading Advanced Skills, and Language Advanced Skills in 1998. All scores for grade 8 White students were above the national average (50) except Language Total Skills and Language Advanced Skills.

American Indian, Black, and Hispanic students ranked below the national average (50) on all components of the ITBS in 1998, 1997, and 1996. The pattern of weaker performances in Language Advanced Skills and the Language Total Skills was evident for all racial/ethnic groups.

Table 19. National Percentile Ranks (NPRs) for Grade 8 Students in North Carolina on the Iowa Tests of Basic Skills (ITBS) by Race/Ethnicity, 1996-1998

	Year	American Indian	Asian	Black	Hispanic	White
Reading						
Total Skills	1998	28.0	57.0	28.4	39.0	61.5
	1997	26.5	36.0	24.6	35.8	61.8
	1996	35.7	52.0	24.7	26.5	59.2
Advanced Skills	1998	39.8	58.0	34.0	39.8	61.0
	1997	39.6	40.3	28.0	37.0	61.1
	1996	39.8	50.3	28.3	31.0	60.9
Language						
Total Skills	1998	19.7	52.0	27.8	20.0	45.9
	1997	22.7	40.8	25.8	29.5	51.5
	1996	31.0	43.0	26.3	13.0	46.3
Advanced Skills	1998	25.0	44.0	29.8	19.3	47.4
	1997	25.4	34.8	25.4	29.9	53.8
	1996	34.9	30.1	25.5	18.9	47.4
Mathematics						
Total Skills	1998	32.6	74.0	29.0	38.4	59.2
	1997	29.2	57.0	24.4	26.5	59.4
	1996	29.2	58.8	23.8	24.3	55.4
Advanced Skills	1998	27.4	72.0	32.7	41.4	60.9
	1997	32.9	57.5	27.3	26.8	61.0
	1996	32.2	67.0	27.0	30.0	54.5
Total						
Survey Battery	1998	27.8	60.5	27.1	32.0	53.5
	1997	27.0	45.5	22.8	29.0	56.7
	1996	32.0	53.0	22.9	18.5	52.4

Gender

Grade 5

In 1998, grade 5 female students ranked higher than male students on all components of the ITBS except Reading Total Skills, Mathematics Total Skills and Advanced Skills (see Table 20). Thus, females demonstrated higher overall reading comprehension and language achievement. However, only the score for Advanced Reading Skills (53.7) was at or above the national average (50).

Conversely, male students ranked higher than female students in Mathematics Total Skills and Mathematics Advanced Skills, demonstrating higher overall mathematical achievement. Both ranks exceeded the national average in 1998.

Grade 8

In Reading Total Skills, male students ranked higher than female students and exceeded the national average (50) in 1998 (see Table 21). However, in Reading Advanced Skills, female students ranked higher than males and exceeded the national average. Thus, female students exhibited better reading comprehension, while males demonstrated better overall reading skills in 1998.

Female students scored markedly higher than males in Language Total Skills and Language Advanced Skills in 1998, the same trend as the two previous years. However, all scores were well below the national average.

In Mathematics Total Skills and Mathematics Advanced Skills, male students scored higher than female students in 1998, matching the results of the previous year.

Table 20. National Percentile Ranks (NPRs) for Grade 5 Students in North Carolina on the Iowa Tests of Basic Skills (ITBS) by Gender, 1996-1998

	Year	Female	Male	Difference ¹
Reading				
Total Skills	1998	46.4	46.5	-0.1
	1997	48.7	48.6	0.1
	1996	46.3	46.0	0.3
Advanced Skills	1998	53.7	47.9	5.8
	1997	48.4	48.1	0.3
	1996	48.3	47.7	0.6
Language				
Total Skills	1998	40.1	31.5	8.6
	1997	39.9	32.9	7.0
	1996	37.3	29.6	7.7
Advanced Skills	1998	43.6	31.4	12.2
	1997	38.3	37.7	0.6
	1996	38.3	31.2	7.1
Mathematics				
Total Skills	1998	48.1	53.6	-5.5
	1997	47.9	53.5	-5.6
	1996	43.3	47.6	-4.3
Advanced Skills	1998	49.9	50.3	-0.4
	1997	49.9	50.3	-0.4
	1996	49.5	43.5	6.0
Total				
Survey Battery	1998	43.8	42.7	1.1
	1997	45.6	41.4	4.2
	1996	42.9	37.4	5.5

¹Female score minus male score

Table 21. National Percentile Ranks (NPRs) for Grade 8 Students in North Carolina on the Iowa Tests of Basic Skills (ITBS) by Gender, 1996-1998

	Year	Female	Male	Differenc ^{e1}
Reading				
Total Skills	1998	49.4	52.2	-2.8
	1997	49.5	45.2	4.3
	1996	48.9	48.6	0.3
Advanced Skills	1998	54.7	49.9	4.8
	1997	50.5	45.3	5.2
	1996	50.4	49.6	0.8
Language				
Total Skills	1998	45.5	33.0	12.5
	1997	46.2	33.5	12.7
	1996	46.2	32.6	13.6
Advanced Skills	1998	46.9	40.7	6.2
	1997	46.9	38.0	8.9
	1996	46.9	35.1	11.8
Mathematics				
Total Skills	1998	49.2	54.8	-5.6
	1997	48.7	49.2	-0.5
	1996	43.2	43.2	0
Advanced Skills	1998	48.4	54.8	-6.4
	1997	48.3	53.6	-5.3
	1996	48.2	48.0	0.2
Total				
Survey Battery	1998	47.5	43.8	3.7
	1997	46.4	41.4	5.0
	1996	44.8	38.7	6.1

¹Female score minus male score

Scholastic Assessment Test (SAT)

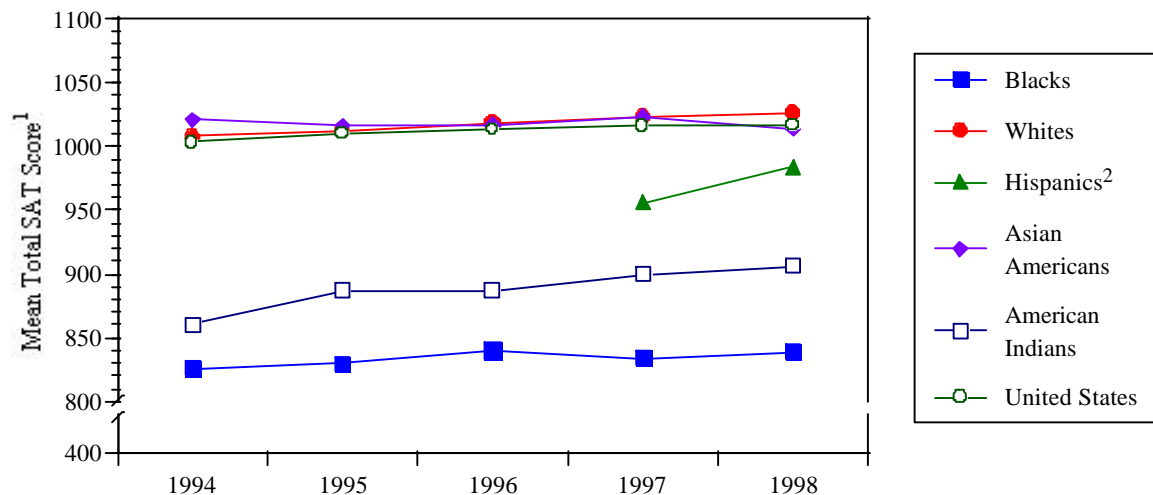
Race/Ethnicity

From 1988 to 1998, minority students increased from 23 percent to 33 percent of the national SAT-taking population, while Whites decreased proportionally during the same period. This trend might suggest that more racial and ethnic minorities are aspiring to attend college than in previous years. In this regard, College Board President, Donald Stewart commented, “Despite the recent backlash against affirmative action, racial and ethnic minorities continue to see college as the route to a better life” (College Board, 1998).

Historically, North Carolina’s White and Asian students have scored higher on the SAT I than other racial/ethnic groups (see Figure 11). In 1998, White students attained the highest average total SAT score in the state, followed by Asians, Hispanics, American Indians, and Blacks.

In 1998, all racial/ethnic groups in North Carolina scored below their national counterparts except Hispanics, who scored 24 points higher than their counterparts in the southeast and 68 points higher than those in the nation (see Figure 12). This result might be associated with the small proportion of Hispanics among the state’s SAT takers in 1998 (see Table 22). In 1998, North Carolina’s Black students had the greatest disparity between participation rate for the state and the nation, with a participation rate almost double that of the nation. Generally speaking, the higher the SAT participation rate, the lower the average SAT scores (College Board, 1998).

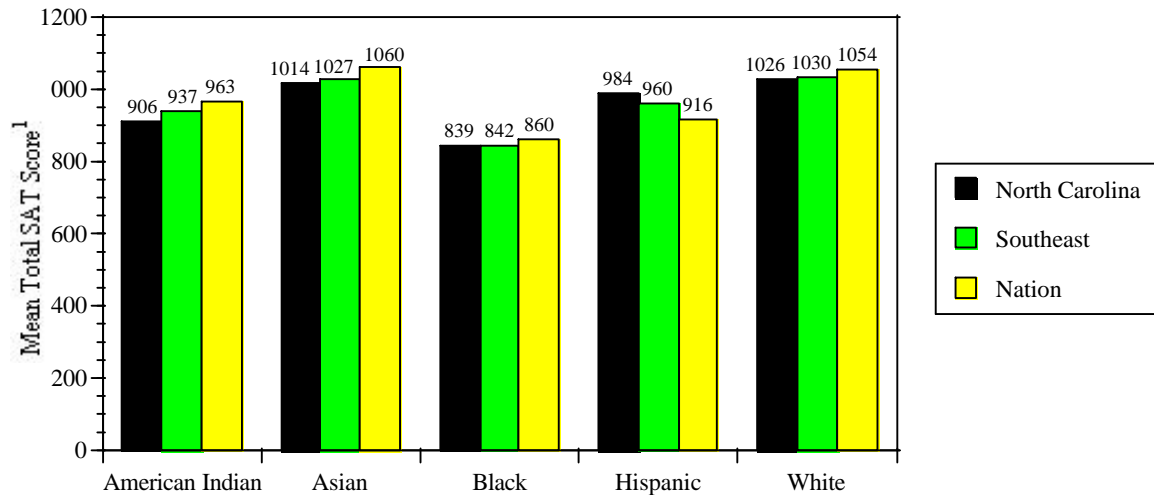
Figure 11. Mean Total SAT Scores for North Carolina Students by Race/Ethnicity, 1994-1998.



¹All Scholastic Assessment Test scores are reported on the recentered score scale (1995).

²Hispanic students were reported in the Other category prior to 1997.

Figure 12. Mean Total SAT Scores for Students in North Carolina, the Southeast, and the Nation by Race/Ethnicity, 1998.



¹All Scholastic Assessment Test scores are reported on the recentered score scale (1995).

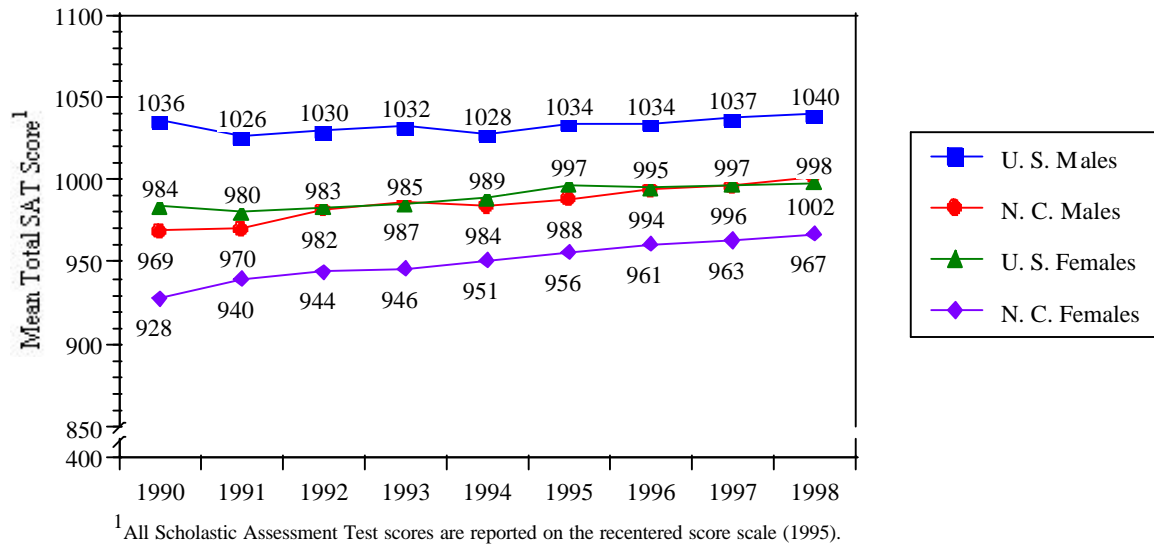
Table 22. Percent of Students in North Carolina and the Nation Participating in the Scholastic Assessment Test (SAT) by Race/Ethnicity, 1998

	Percent of Students	
	North Carolina	Nation
American Indian	1.4	0.9
Asian	2.7	8.0
Black	19.0	9.8
Hispanic	1.4	7.7
White	67.1	60.1
Other	1.4	3.0
No Response	7.0	10.5

Gender

Historically, male students have attained higher average total SAT scores than females in North Carolina, the difference being primarily in mathematics (see Figure 13). The gap between male and female average SAT scores was 41 points in 1990 and 35 points in 1998, with an average gap of 33 points over the past five years. In 1998, the average mathematics score for males (509) was 30 points higher than that for females (479) [College Board, 1998]. Average total scores for North Carolina’s male and female students have increased gradually since 1994, while the gap has remained stable.

Figure 13. Mean Total SAT Scores for Students in North Carolina and the Nation by Gender, 1990-1998.



Advanced Placement Examination

Race/Ethnicity

White students represented the highest percentage (84 percent) of students taking AP examinations in 1998 (see Figure 14). Black students and Asian students comprised 8.1 percent and 4.4 percent, respectively. Given that Black students make up 31 percent of the public school population in North Carolina, their representation among total test takers was very low. Yet, the percent of Black students taking the examination in North Carolina was greater than that of Black students nationally. Conversely, Asians account for only one-half percent of the school population, but represented more than four percent of AP test takers in the state.

Figure 14. Percent of North Carolina’s Students Taking Advanced Placement (AP) Examinations by Race/Ethnicity, 1998.

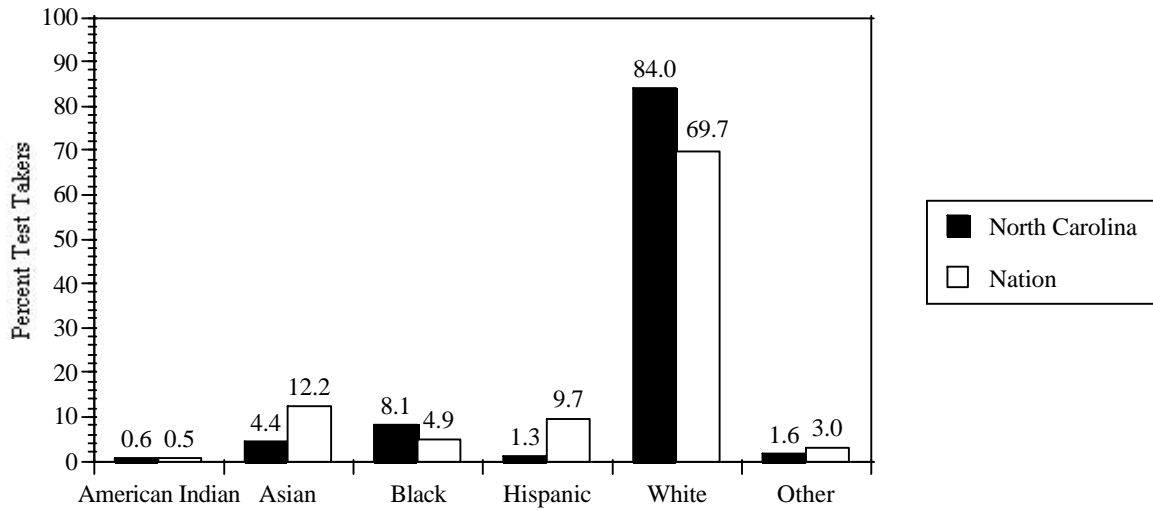
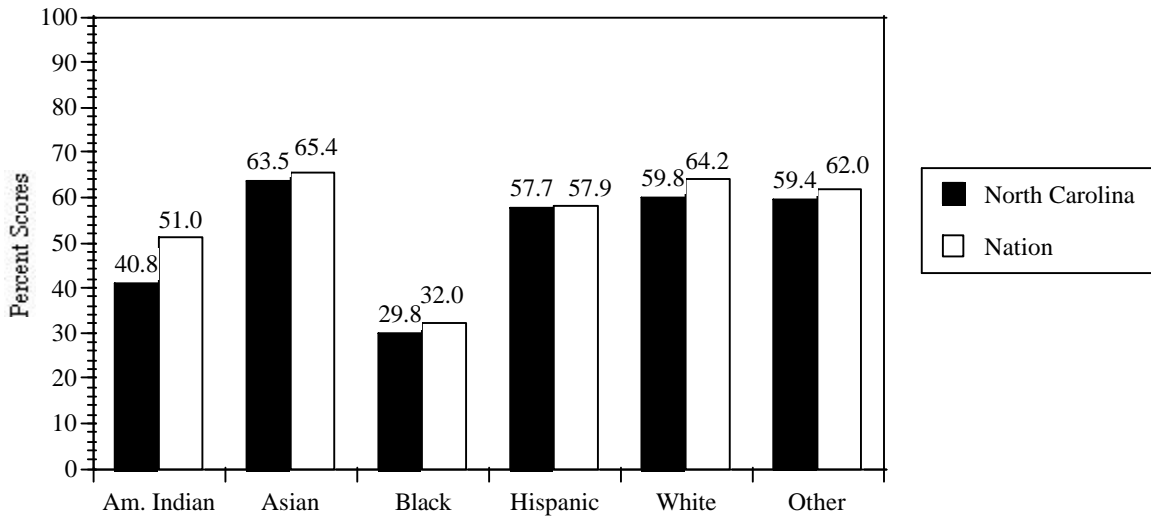


Figure 15 shows the percent of students in North Carolina and the nation scoring three or higher on Advanced Placement examinations in 1998. Asian students attained a higher percentage of grades equaling 3 or higher (63.5 percent) than any other racial/ethnic group. Among White students, 59.8 percent attained scores equaling three or higher. Black students attained the lowest percent of grades equaling three or higher (29.8 percent), although this is close to the 32.0 percent of Blacks nationally scoring three or higher. Hispanic students attained a relatively high percent of grades equaling three or higher (57.7 percent), even though they represented only 1.3 percent of all examination takers in the state.

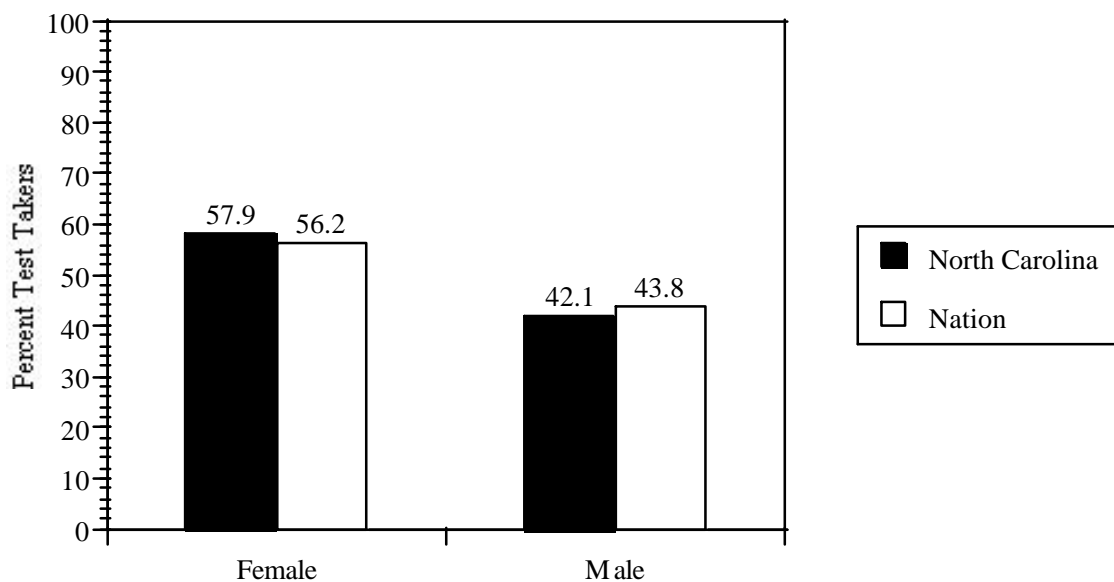
Figure 15. Percent of Advanced Placement (AP) Test Scores Equal to 3 or Higher in North Carolina and the Nation by Race/Ethnicity, 1998.



Gender

The percentage of North Carolina's females (57.9 percent) taking the examination was slightly greater than the percentage in the Nation (56.2 percent), shown in Figure 16. Males comprised a slightly larger percentage of test takers in the Nation (43.8 percent) than in North Carolina (42.1 percent). More females (57.4 percent) than males (42.6 percent) were AP exam test takers in 1998, although they comprise only 49 percent of the school population.

Figure 16. Percent of Advanced Placement (AP) Examination Takers in North Carolina and the Nation by Gender, 1998.

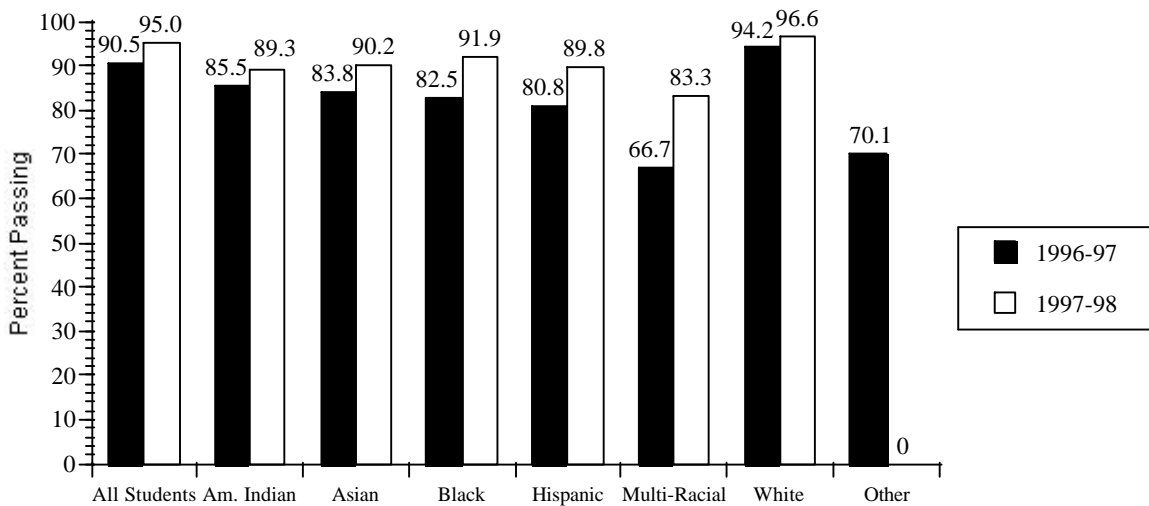


Competency Standard

Race/Ethnicity

White students represented the highest percent of students meeting the competency standard at graduation and in the previous year. Multi-Racial, Black, and Hispanic students showed the greatest increase in percent passing from the junior year to the senior year. Figure 17 shows the percent of racial/ethnic groups passing the competency standard in 1996-97 and 1997-98.

Figure 17. Percent of Students in North Carolina's Class of 1998 Passing the Competency Standard by Race/Ethnicity, 1996-97 and 1997-98.



Writing Assessment

Race/Ethnicity

Grade 4

Slightly more grade 4 Asian students (58.9 percent) than White students (58.7 percent) scored at or above the 2.5 standard in 1997-98. Among Multi-racial students, 54.3 percent met or exceeded the 2.5 standard, followed by Other students (51.8 percent), Hispanic students (40.5 percent), American Indian students (38.8 percent), and Black students (37.8 percent). Table 23 shows the percent of North Carolina's grade 7 students by race/ethnicity scoring 2.5 or higher on the Annual Writing Assessment.

Grade 7

For grade 7 students, 69.7 percent of the White students scored at or above 2.5 followed by Asians (68.7 percent), Multi-racial students (64.9 percent), Hispanic Students (53.1 percent), American Indian students (47.6 percent), and Black students

(47.6 percent). Table 23 shows the percent of North Carolina's grade 7 students by race/ethnicity scoring 2.5 or higher on the Annual Writing Assessment.

Table 23. Percent of Grade 4 and 7 Students in North Carolina Scoring at or above 2.5 on the Annual Writing Assessment by Race/Ethnicity, 1996-1998

Year	American Indian	Asian	Black	Hispanic	Multi-Racial	White	Other
Grade 4							
1997-98	38.8	58.9	37.8	40.5	54.3	58.7	51.8
1996-97	41.9	53.2	36.7	39.7	51.7	54.3	48.2
1995-96	37.7	63.0	38.6	46.6	52.7	57.2	54.6
Grade 7							
1997-98	47.6	68.7	47.6	53.1	64.9	69.7	56.3
1996-97	40.2	58.5	39.2	43.3	54.6	62.4	50.1
1995-96	46.3	66.5	46.4	52.3	59.6	65.9	52.2

Gender

Grade 4

Among grade 4 students, 56.5 percent of the female students scored at or above the 2.5 standard in 1997-98, compared with 47.1 percent of males, a difference of 9.4 percentage points. The gap narrowed substantially from the previous year. Table 24 shows the percent of grade 4 students by gender scoring 2.5 or higher on the Annual Writing Assessment.

Grade 7

For grade 7 students, 68 percent of the females scored at or above the 2.5 standard, 10.7 percentage points more than male students (57.3 percent). The gender gap narrowed by 4.4 percentage points for grade 7 students in 1998, but slightly less than that for grade 4 students. Table 24 shows the percent of grade 7 students scoring 2.5 or higher on the Annual Writing Assessment in 1998.

Table 24. Percent of Grade 4 and 7 Students in North Carolina Scoring at or above 2.5 on the Annual Writing Assessment by Gender, 1996-1998

Year	Female	Male	Difference ¹
Grade 4			
1997-98	56.5	47.1	9.4
1996-97	56.3	41.1	15.2
1995-96	56.7	46.4	10.3
Grade 7			
1997-98	68.0	57.3	10.7
1996-97	62.6	47.5	15.1
1995-96	67.6	51.8	15.8

¹Female score minus male score

English II Assessment

Race/Ethnicity

White students (53.7 percent) and Asian students (51.9 percent) attained the highest percent of passing scores on the English II Writing Assessment in 1997-98, with Black students attaining the lowest percentage (29.1 percent). All scores decreased from 1995-96 to 1997-98. The gap between Black students and White students has remained consistent from 1995-96 to 1997-98, while growing slightly between White students and Hispanic students. The percent of grade 10 students at or above the 3.0 standard on the English II by race/ethnicity is shown in Table 25.

Table 25. Percent of Grade 10 Students in North Carolina Scoring at or above 3.0 on the Annual English II Assessment by Race/Ethnicity, 1996-1998

Year	American Indian	Asian	Black	Hispanic	Multi-Racial	White	Other
1997-98	30.0	51.9	29.1	37.7	46.5	53.7	43.5
1996-97	30.1	57.3	33.1	42.0	53.4	57.4	53.9
1995-96	31.6	58.6	31.0	42.2	52.0	56.6	44.9

Gender

A higher percentage of female students (52.6 percent) scored at or above the standard (3.0) in English II than males (39.3 percent), the trend since 1995-96. However,

the gender gap was less in 1997-98 than in the two previous years. Table 26 shows the percent of grade 10 students scoring at or above 3.0 on the English II Assessment by gender from 1995-96 to 1997-98.

Table 26. Percent of Grade 10 Students in North Carolina Scoring at or above 3.0 on the Annual English II Assessment by Gender, 1996-1998

Year	Female	Male	Difference ¹
1997-98	52.6	39.3	13.3
1996-97	56.7	43.0	13.7
1995-96	56.5	40.7	15.8

¹Female score minus male score

End-of-Grade (EOG) Tests (Reading)

Race/Ethnicity

Grade 3 through Grade 8

Students are considered proficient in reading in grades 3 through 8 if their scores are within the Level III or Level IV ranges. Table 27 displays the percent of students who were proficient at these levels in 1996, 1997 and 1998 by race/ethnicity.

Among racial/ethnic groups, White students had the highest percentage of scores in reading at or above Level III for each grade in 1996, 1997 and 1998. The percentages increased in all of grades from 1996 to 1998. Asian students ranked second, several points lower than White students.

Black students showed the greatest improvement in reading over previous years and increased performance dramatically in all grades between 1996 and 1998. American Indian students improved in reading between 1996 and 1998 in all grades except grade 4. Hispanic students, while scoring slightly higher than American Indian and Black students in most grades, showed improved scores only in grades 3, 5, 7, and 8.

Gender

Grade 3 through Grade 8

In reading, Female students scored higher than males at all grade levels for the past three years, but males narrowed the gap in all grades except the grade 7 in 1997-98. Table 28 shows the percent of students proficient at Levels III and IV on Reading End-of-Grade tests by gender.

Table 27. Percent of Students in North Carolina at Levels III and IV on End-of-Grade (EOG) Tests in Reading by Race/Ethnicity, 1996-1998

Year	American Indian	Asian	Black	Hispanic	White	Other
Grade 3						
1997-98	57.5	78.9	54.4	58.4	80.6	66.7
1996-97	46.2	72.9	46.2	51.8	75.7	68.8
1995-96	48.6	72.6	44.4	56.4	74.5	69.4
Grade 4						
1997-98	52.9	75.7	52.3	57.3	80.2	57.1
1996-97	51.5	72.8	47.8	55.8	77.3	64.3
1995-96	52.9	75.7	49.0	63.1	78.8	70.7
Grade 5						
1997-98	60.1	78.3	58.0	63.6	83.5	35.3
1996-97	53.9	76.8	51.3	59.1	79.8	69.2
1995-96	48.8	72.3	45.6	56.0	76.0	68.1
Grade 6						
1997-98	55.9	75.2	50.3	55.2	79.5	50.0
1996-97	47.8	74.0	46.0	55.0	77.0	65.9
1995-96	47.2	75.2	47.7	59.8	76.9	62.5
Grade 7						
1997-98	55.3	73.9	52.5	57.8	80.1	48.0
1996-97	47.8	70.4	46.8	55.1	77.7	67.8
1995-96	47.5	72.7	46.5	57.5	76.5	64.8
Grade 8						
1997-98	64.5	79.2	63.8	64.7	86.9	57.9
1996-97	58.6	77.5	58.3	62.3	83.0	72.3
1995-96	54.7	75.8	55.0	62.6	80.8	74.2

Table 28. Percent of Students in North Carolina at Levels III and IV on End-of-Grade (EOG) Tests in Reading by Gender, 1996-1998

Year	Female	Male	Difference ¹
Grade 3			
1997-98	75.2	68.0	7.2
1996-97	69.5	62.2	7.3
1995-96	68.8	60.8	8.0
Grade 4			
1997-98	74.7	67.2	7.5
1996-97	72.0	63.5	8.5
1995-96	73.0	65.9	7.1
Grade 5			
1997-98	78.5	71.9	6.6
1996-97	74.7	67.1	7.6
1995-96	70.7	62.5	8.2
Grade 6			
1997-98	74.3	65.9	8.4
1996-97	71.8	62.5	9.3
1995-96	73.1	62.6	10.5
Grade 7			
1997-98	76.1	66.4	9.7
1996-97	72.6	63.2	9.4
1995-96	73.0	60.9	12.1
Grade 8			
1997-98	83.2	75.8	7.4
1996-97	79.7	70.3	9.4
1995-96	78.2	67.1	11.1

¹Female score minus male score

End-of-Grade (EOG) Tests (Mathematics)

Race/Ethnicity

Grade 3 through Grade 8

Asian students had the highest percent of all subgroups, scoring Level III in mathematics from 1996 to 1998 in all grades except grade 3. The percent of White students demonstrating proficiency in mathematics was slightly less than that of Asians, although they improved at all grade levels in 1997 and out-performed Asian students in grade 3 in 1998. The percent of students proficient in mathematics by race/ethnicity from 1996 to 1998 is shown in Table 29.

In 1998, Black and American Indian students improved performance at all grade levels over their 1996 performance and narrowed the performance gap between themselves and White students by approximately five points each since 1996. Hispanic students, while scoring slightly higher than American Indian and Black students in most grades, showed improved scores only in grades 3, 5, 7, and 8 in 1998.

Gender

Grade 3 through Grade 8

In 1998, a higher percent of female students than male students in grades 3 through 8 scored at Level III or higher on EOG mathematics tests. This has been the trend since 1995, as shown in Table 30. No discernible pattern of change in the gender gap was noted.

Table 29. Percent of Students in North Carolina at Levels III and IV on End-of-Grade (EOG) Mathematics Tests by Race/Ethnicity, 1996-1998

Year	American					
	Indian	Asian	Black	Hispanic	White	Other
Grade 3						
1997-98	56.9	77.8	47.6	57.0	78.6	46.2
1996-97	52.1	81.5	49.9	59.6	80.2	72.6
1995-96	54.4	80.4	45.6	57.7	77.7	74.6
Grade 4						
1997-98	67.4	88.9	62.7	70.4	87.2	81.0
1996-97	60.7	83.9	54.8	67.0	83.8	73.2
1995-96	57.1	84.4	49.5	65.6	81.4	74.1
Grade 5						
1997-98	66.5	88.8	61.4	68.2	85.8	41.2
1996-97	56.7	85.1	53.6	62.5	82.0	72.0
1995-96	53.0	84.1	49.5	63.0	79.1	75.5
Grade 6						
1997-98	72.1	87.4	61.2	68.0	86.3	65.4
1996-97	58.6	84.8	51.2	62.2	82.6	67.8
1995-96	55.1	84.5	51.0	64.8	82.4	70.0
Grade 7						
1997-98	68.4	85.8	58.8	66.9	85.3	45.8
1996-97	55.0	81.7	48.3	58.5	81.0	71.5
1995-96	49.4	82.1	45.9	57.5	79.1	66.5
Grade 8						
1997-98	66.0	83.8	57.1	65.9	84.9	52.6
1996-97	53.3	79.4	46.6	59.3	79.3	67.9
1995-96	47.7	82.0	44.7	60.0	78.0	68.3

Table 30. Percent of Students in North Carolina at Levels III and IV on End-of-Grade (EOG) Mathematics Tests by Gender, 1996-1998

Year	Female	Male	Difference ¹
Grade 3			
1997-98	68.9	67.4	1.5
1996-97	71.2	69.2	2.0
1995-96	68.4	66.5	1.9
Grade 4			
1997-98	80.0	78.5	4.2
1996-97	76.0	73.1	2.9
1995-96	73.1	70.0	3.1
Grade 5			
1997-98	79.4	76.7	2.7
1996-97	75.2	71.0	4.2
1995-96	72.2	67.9	4.3
Grade 6			
1997-98	81.3	75.5	5.8
1996-97	74.9	70.6	4.3
1995-96	75.3	69.9	5.4
Grade 7			
1997-98	79.1	74.9	4.2
1996-97	72.8	68.9	3.9
1995-96	70.6	66.5	4.1
Grade 8			
1997-98	78.6	74.1	4.5
1996-97	71.3	66.6	4.7
1995-96	71.0	64.6	6.4

¹Female score minus male score

Summary

The *State of the State* report provides a mechanism for educators, students, parents, policymakers, and the public to monitor educational achievement and progress in North Carolina's public school system. The information presented in the 1998 edition provides a comprehensive overview of the achievement and progress made by North Carolina's public schools in 1998.

The 1998 results indicate that recent educational reforms and innovative initiatives in North Carolina's public schools are impacting positively on student performance and achievement. The overall performance of North Carolina's students on the NAEP, the ITBS, the SAT, AP Program Examinations, Competency Examinations, and the ABCs was encouraging in 1998. Clearly, North Carolina's public school students are improving in academic achievement and performance.

North Carolina's grades 4 and 8 students attained noteworthy NAEP reading results in 1998, exceeding the performance of their counterparts in the southeast and the nation. Hispanic and Black student groups narrowed the performance gap between them and White students by five points each on the NAEP reading assessment in 1998.

On the Iowa Tests of Basic Skills, North Carolina's students showed the greatest improvement in reading and mathematics since 1996, when the tests were first administered in the state. However, the overall performance in language by North Carolina's students lags that of other states. The gap in performance between North Carolina's White students and other racial/ethnic students on the ITBS continues to exist, with the greatest disparity between Black and White students. While Asian students scored higher than other racial/ethnic groups on all components of the ITBS in 1998, no appreciable closing of the gap was observed between White students and other racial/ethnic groups.

North Carolina's students have improved performance on the SAT markedly over the past several years, attaining the highest average total score ever in 1998. All of North Carolina's racial/ethnic groups increased average total SAT scores over previous years in 1998. North Carolina's White and Asian students continued to outperform other racial/ethnic groups in the state, but their scores were below the national average. However, the gap between North Carolina's average total score and that for the nation was the smallest in 27 years in 1998.

The overall performance on AP examinations was encouraging in 1998, with a respectable percent of North Carolina's students receiving grades of three or higher. The AP participation rate of North Carolina's students in 1998 showed substantial increase over that of 1988.

While more White students met the new competency standard in 1998 than other student groups, all racial/ethnic groups performed well. At graduation, nearly all students had met the competency standard.

The majority of grade 4 White, Asian, Multi-racial, and Other students met or exceeded the writing standard in 1998, while less than a majority of other grade 4 racial/ethnic groups met the standard. A similar trend was observed among grade 7 students, with all racial/ethnic groups attaining substantially higher scores. While female students continued to perform better in writing than male students in 1998, the gender gap has narrowed gradually over the past three years for grades 4 and 7 students.

On the End-of-Grade tests, all racial/ethnic groups performed better in 1997-98 than in the previous two years, a trend observed for all grades in reading and most grades in mathematics except grade 3. In reading and mathematics, American Indian and Black students showed the greatest progress in closing the gap, with Hispanics progressing at a slightly slower pace.

On the English II Assessment, less than a majority of grade 10 students met or exceeded the standard in 1998, nearly four percent fewer than in 1996-97. This result suggests that more focus is needed in this area.

The overall improvement in North Carolina's student performance and achievement in 1998 and previous years is encouraging. The governor has challenged all North Carolinians to commit themselves to making North Carolina's school system the best in America by 2010. To do this, North Carolina's students must continue or even accelerate the great progress made in recent years.

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