

## PERFORMANCE INDICATORS ELEMENTARY AND MIDDLE SCHOOL GRADES 3-8

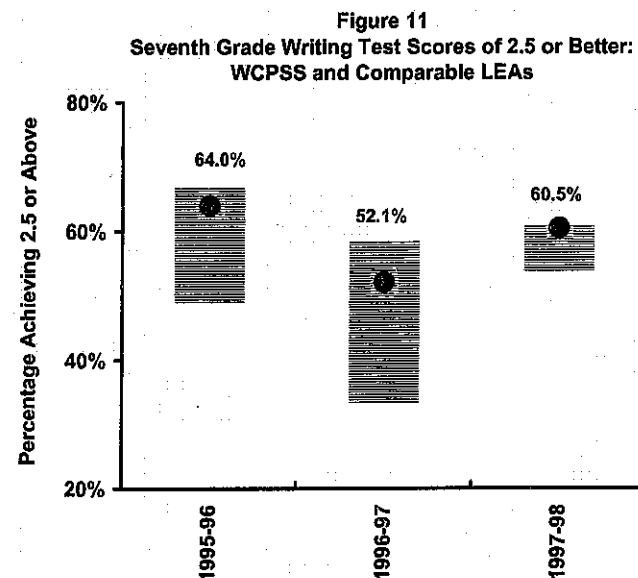
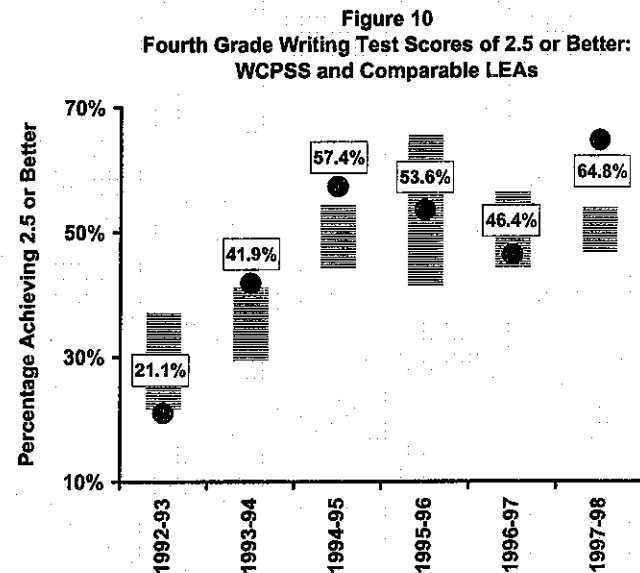
### FOURTH AND SEVENTH GRADE WRITING TEST SCORES

*Fourth and seventh grade writing test scores in WCPSS have been inconsistent over time—sometimes better than comparable LEAs and sometimes worse—but the test scores increased in 1997-98.*

In North Carolina, the 4<sup>th</sup> and 7<sup>th</sup> grade writing tests are elements in the state's ABC Accountability Model for elementary and middle schools, along with the end-of-grade reading and mathematics exams. The writing test was first conducted in 4<sup>th</sup> grade during the 1992-93 year, and in 7<sup>th</sup> grade during the 1995-96 year. On a scale of 1 to 4, writing test scores of 2.5 or better are considered to be at or above grade level performance.

Scores on the writing tests have been inconsistent over time in both the state and WCPSS, suggesting some difficulty with establishing valid and reliable scoring rubrics; however, state scores are beginning to stabilize. In WCPSS, 4<sup>th</sup> grade writing test scores improved in the first three years of test administration, fell the next two years, but improved in 1997-98. Seventh grade WCPSS writing test scores also fell in the 1996-97 year, but improved in 1997-98.

The earlier decline in WCPSS writing test scores was reversed in 1997-98, and WCPSS continues to conduct extensive training with teachers on instructional practices and scoring rubrics.



### END-OF-GRADE READING TEST SCORES

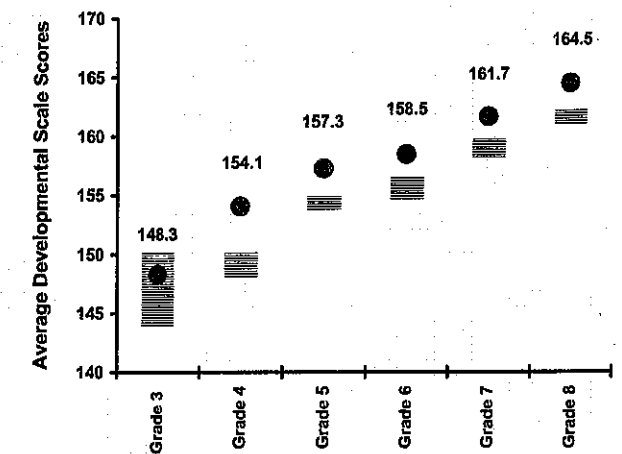
*WCPSS scores on the 1997-98 end-of-grade reading test exceeded those of all comparison LEAs in five of six grade levels. Within WCPSS, developmental scale scores have been climbing over time at each grade level, and over three fourths of students at all grade levels demonstrate mastery of subject matter.*

The end-of-grade (EOG) tests for reading are scaled developmentally so that scores are expected to rise with each passing year. This developmental pattern is evident in Figure 12 which shows that WCPSS performed better than any of the comparison LEAs at all but one grade level in the 1997-98 year.

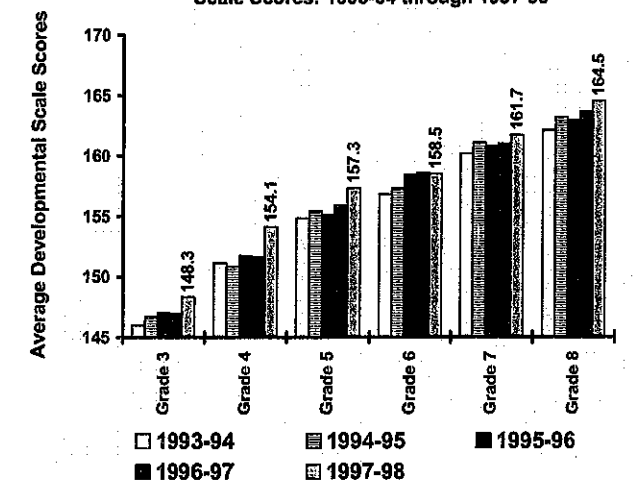
Figure 13 depicts how the average EOG reading developmental scale scores have been steadily climbing in WCPSS over time. Scores at all grade levels were higher in 1997-98 than in 1993-94. While scores at 6<sup>th</sup> grade remained the same in 1997-98, scores at all other grades were the highest ever.

The EOG reading and mathematics tests are also scored for four achievement levels: I, II, III and IV, with levels III and IV indicating subject mastery at or above grade level. Figure 14 shows that in the last three years, three fourths or more of all students in grades 3-8 performed at or above grade level on the EOG reading test. This percentage has reached 80% or higher a number of times, as in 1997-98. Eighth grade students have consistently been the strongest performers. Achievement at Level III or IV on the 8<sup>th</sup> grade EOG reading and math tests is now a graduation requirement in North Carolina.

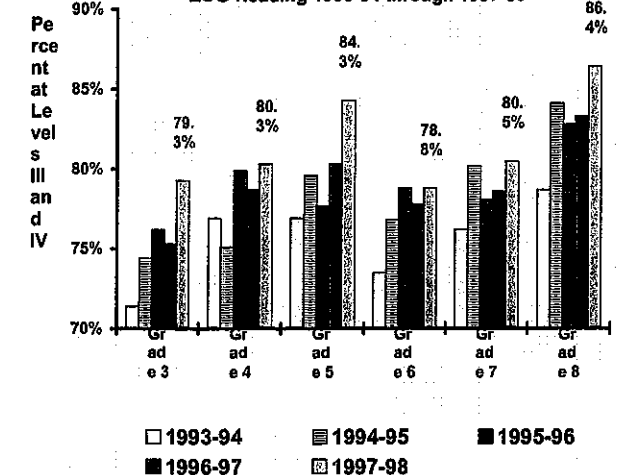
**Figure 12**  
1997-98 EOG Reading Average Developmental Scale Scores: WCPSS and Comparable LEAs



**Figure 13**  
WCPSS EOG Reading Average Developmental Scale Scores: 1993-94 through 1997-98



**Figure 14**  
Percent of WCPSS Students at Levels III and IV: EOG Reading 1993-94 through 1997-98



### END-OF-GRADE MATHEMATICS TEST SCORES

WCPSS scores on the 1997-98 end-of-grade math test exceeded those of all comparison LEAs at every grade level, 3-8. Within WCPSS, developmental scale scores have been climbing over time at each grade level, and 75-84% of students at all grade levels demonstrate mastery of subject matter.

The EOG examinations for mathematics are scaled developmentally so that scores are expected to rise with each passing year. This developmental pattern is evident in Figure 15 which shows that WCPSS performed better than any of the comparison LEAs at all grade levels in the 1997-98 year.

Figure 16 depicts how the average EOG math developmental scale scores have been steadily climbing in WCPSS over time. Scores at all but 3<sup>rd</sup> grade were higher in 1997-98 than in 1993-94, and scores at grades 4-8 in 1997-98 were the highest ever.

Figure 17 indicates that in the last two years, three fourths or more of all students in grades 3-8 performed at or above grade level on the EOG math test. Every grade except 3<sup>rd</sup> grade reached 80% or higher in the 1997-98 year. Students in grades 5-8 made a dramatic improvement, and 4<sup>th</sup> grade students performed at an even higher level than in 1996-97.

Figure 15  
1997-98 EOG Math Average Developmental Scale Scores:  
WCPSS and Comparable LEAs

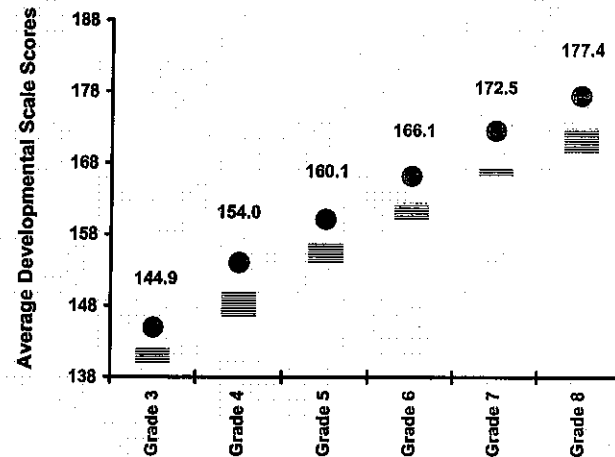


Figure 16  
WCPSS EOG Math Average Developmental Scale Scores: 1993-94 through 1997-98

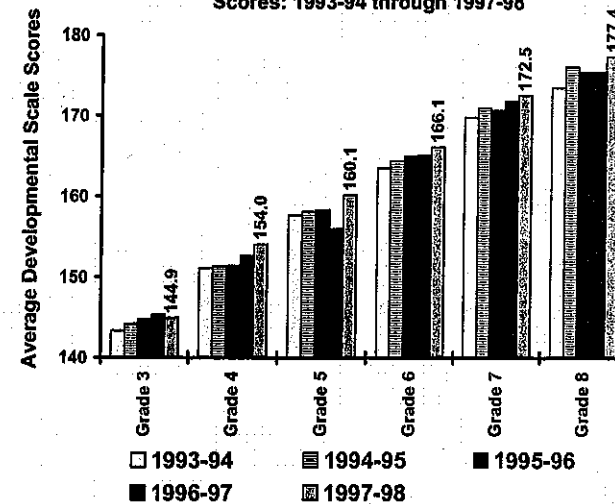
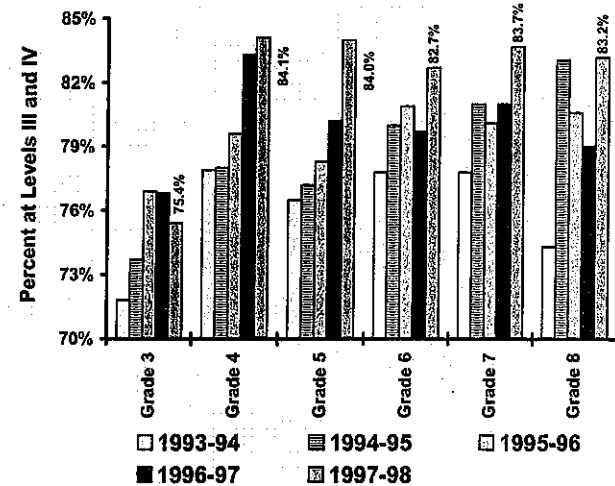


Figure 17  
Percent of WCPSS Students at Levels III and IV:  
EOG Math 1993-94 through 1997-98



### RACIAL COMPOSITION

All racial groups in WCPSS increased their numbers during the 1990s; Hispanic students increased at the fastest rate.

Between 1991-92 and 1997-98, the Hispanic student population increased by 286%; Asian-American students by 81%; Native-American students by 53%; Caucasian students by 34%, and African-American students by 33%. The dramatic increases in the Hispanic and Asian-American student groups affect instructional programs such as English as a Second Language.

Figure 7  
Enrollment of WCPSS Students by Race and Year

Race \ Year	91-92	92-93	93-94	94-95	95-96	96-97	97-98
Caucasian	46,359	48,337	50,492	52,921	55,702	58,102	59,846
African-Am	18,142	19,021	19,774	20,477	21,489	22,700	24,098
Asian-Am	1,650	1,797	1,860	2,033	2,320	2,659	2,986
Hispanic	621	759	931	1,202	1,563	1,908	2,394
Native-Am	143	136	135	157	198	193	219

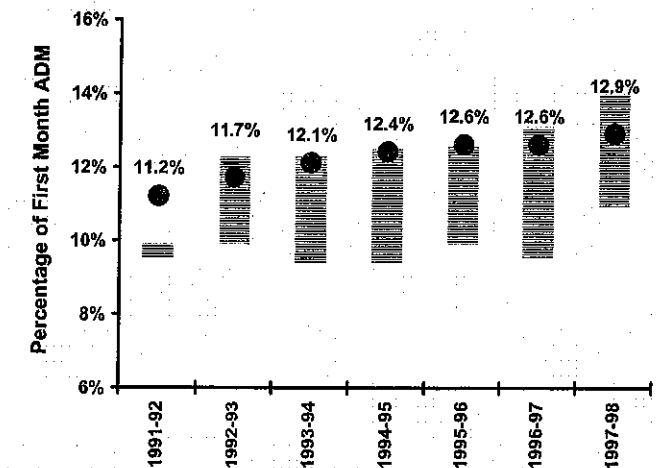
### STUDENTS WITH DISABILITIES

The percentage of WCPSS students with disabilities was at the upper range of values among comparison LEAs, and increased every year in the 1990s.

In WCPSS, there were 7,448 students with disabilities in the 1991-92 school year, and 11,422 such students in the 1997-98 year. The number of WCPSS students with disabilities in 1997-98\* was 53.4% greater than in the 1991-92 year.

\*Unduplicated count of children ages 3-21 as of December 1, 1997. Students with disabilities have Individual Education Plans (IEPs) and are eligible for federal funds (Title VI-B).

Figure 8  
Students with Disabilities as a Percentage of First Month ADM:  
WCPSS and Comparable LEAs

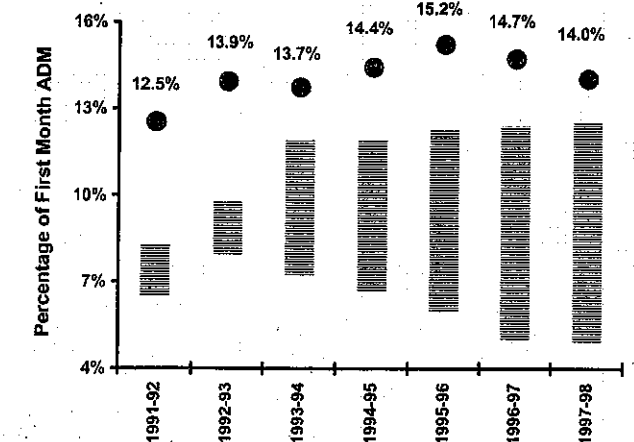


### ACADEMICALLY GIFTED STUDENTS

The percentage of WCPSS students classified as academically gifted exceeded the highest values among comparison LEAs throughout the 1990s.

In WCPSS, there were 8,300 academically gifted (AG) students in the 1991-92 year, and 12,459 such students in the 1997-98 year. The number of WCPSS students classified AG in 1997-98 was 50% greater than in the 1991-92 year.

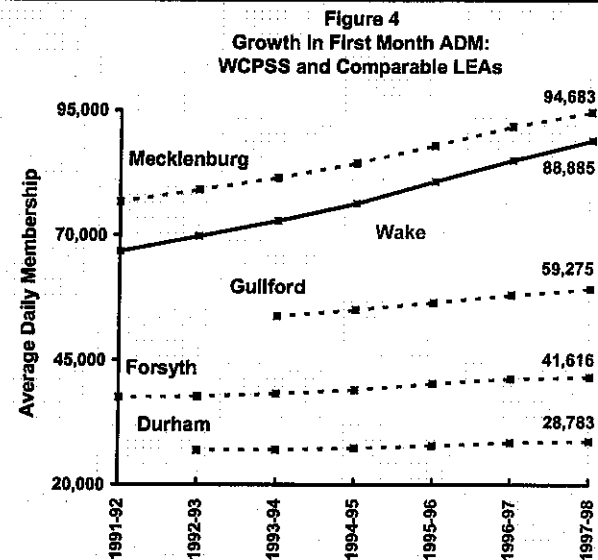
Figure 9  
AG Students as a Percentage of First Month ADM:  
WCPSS and Comparable LEAs



**POPULATION GROWTH**

*Student population growth in WCPSS exceeded all other comparison LEAs throughout the 1990s.*

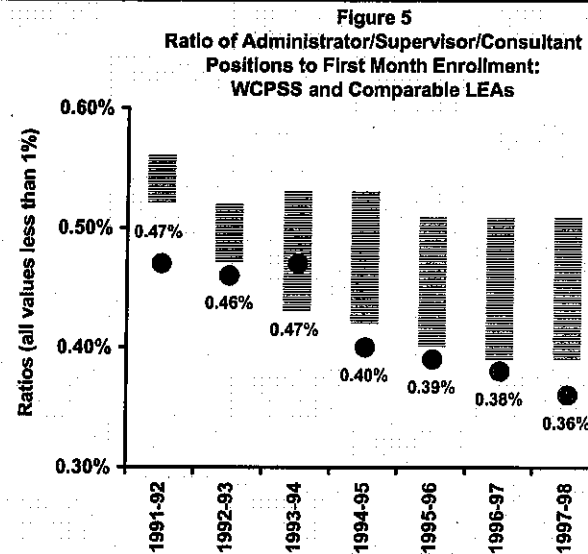
WCPSS is the second largest school district in the state. It has steadily grown throughout the 1990s, and the growth in average daily membership (ADM) over this period has exceeded that of any comparison LEA. Every year in the 1990s, WCPSS has added more students to its population than has Mecklenburg County, the largest school district in the state. Between 1991-92 and 1997-98, WCPSS experienced a 33.4% growth in first month ADM.



**ADMINISTRATOR, SUPERVISOR, AND CONSULTANT POSITIONS**

*The ratio of administrator, supervisor, and consultant positions to student enrollment in WCPSS has been the lowest among comparison LEAs in six of seven years.*

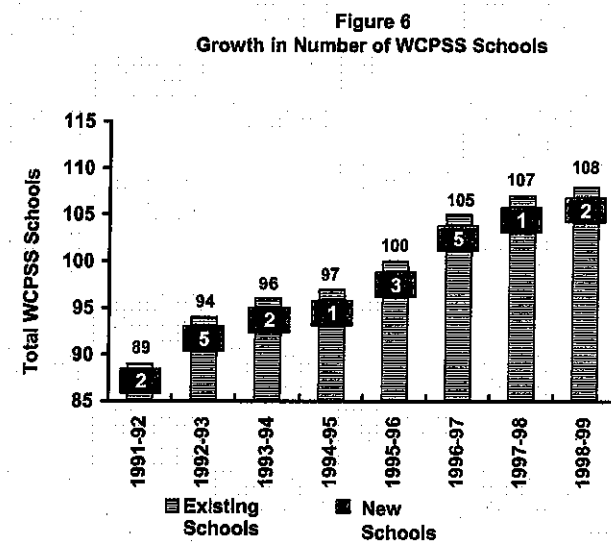
While the student population in WCPSS has increased 33.4% since 1991-92 and many new schools have opened, the ratio of administrator, supervisor, and consultant positions to first month student enrollment has fallen 23.4%. The trend is for the ratio to decrease or remain the same in comparison LEAs, and WCPSS leads the group in declining ratios.



**WCPSS SCHOOL CONSTRUCTION**

*Twenty-two new schools have opened in WCPSS since the 1990-91 school year.*

In WCPSS, there were 84 regular schools and 3 alternative schools operating in the 1990-91 year. In the eight years since then, WCPSS has opened 22 new schools, not counting replacement schools. Two new schools opened in 1998-1999 bringing the total to 108 schools; 70 elementary schools, 20 middle schools, 14 high schools, and 4 alternative schools. More new schools are planned to open in the 21<sup>st</sup> century.



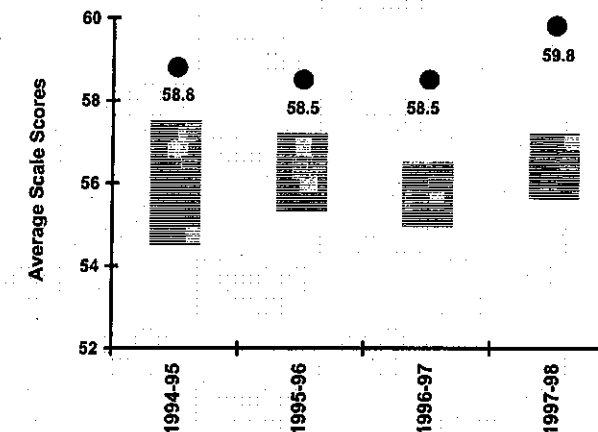
**PERFORMANCE INDICATORS  
HIGH SCHOOL GRADES 9-12**

**END-OF-COURSE TESTS**

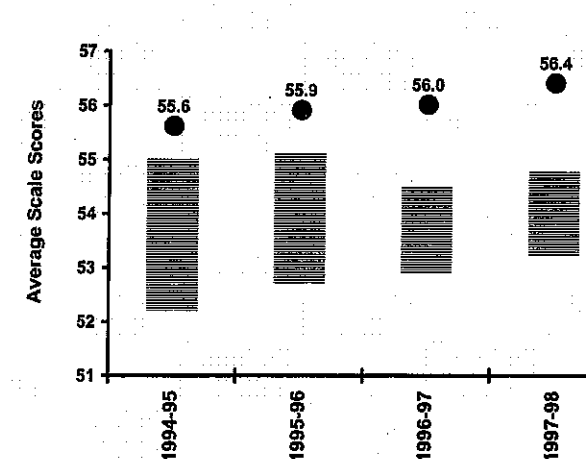
*WCPSS high school students performed better than students in comparable LEAs on end-of-course tests in core subject areas: Algebra I, Biology, U.S. History, English I, and Economics, Law and Politics.*

In the 1997-98 school year, the North Carolina Department of Public Instruction began to factor results on these five end-of-course (EOC) tests into the state's ABC Accountability Model for high schools.

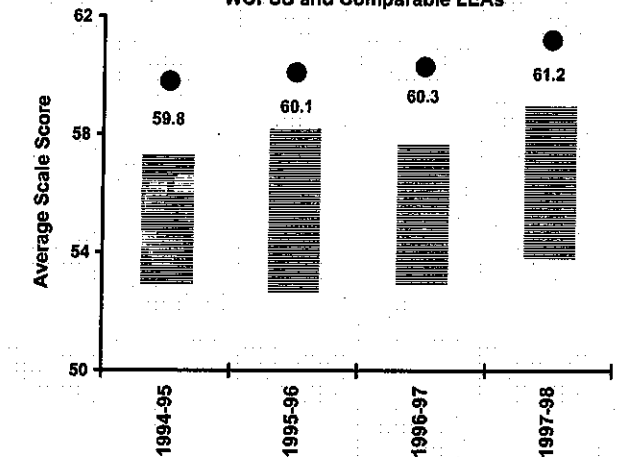
**Figure 19**  
Biology EOC Examination:  
WCPSS and Comparable LEAs



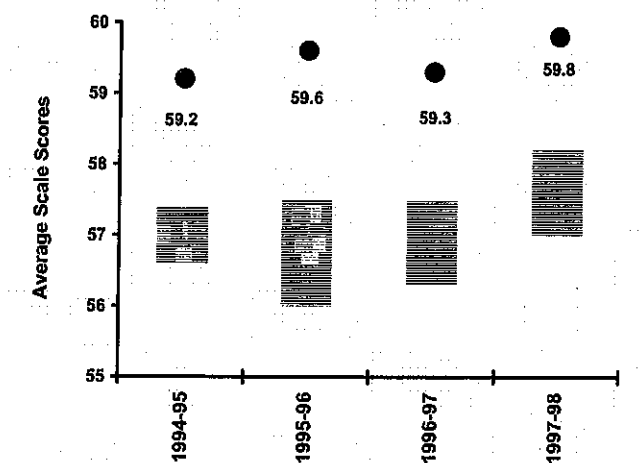
**Figure 21**  
English I EOC Examination:  
WCPSS and Comparable LEAs



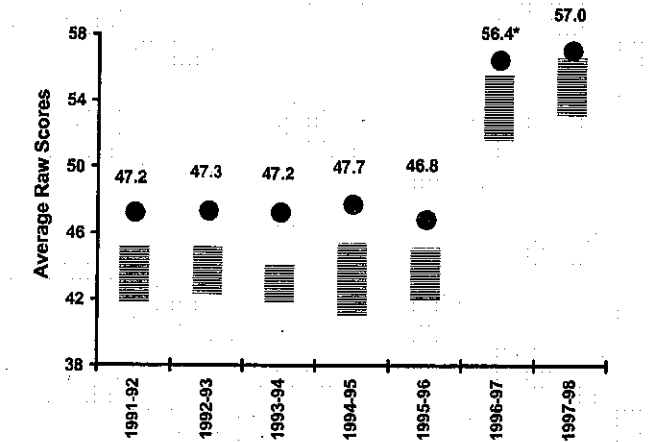
**Figure 18**  
Algebra I EOC Examination:  
WCPSS and Comparable LEAs



**Figure 20**  
U.S. History EOC Examination:  
WCPSS and Comparable LEAs



**Figure 1**  
ELP EOC Average Scores:  
WCPSS and Comparable LEAs



Note: \*Beginning in 1996-97, ELP Scores are reported as developmental scale scores; before this they were reported as raw scores.

### GRADES 7-12 DROPOUT RATE

*The dropout rate in WCPSS for grades 7-12, once in the mid-range of values among comparable LEAs, is now below that of comparable LEAs.*

For high schools, the dropout rate is another element that will be included in the ABC Accountability Model. The WCPSS dropout rate fluctuated in the 1990s; increased two years, fell for three years, and remained about the same in 1997-98. Improvement in the dropout rate occurred despite an increasing student population base, stricter enforcement of out-of-school suspension rules, and a strong local economy (which can lure students who desire employment to leave school).

### SAT RESULTS

*SAT scores in WCPSS exceeded those in comparable LEAs every year in the 1990s, with increases in every year except one.*

The percent of WCPSS students participating in the SAT exam has been steady throughout the 1990s, ranging between 73% and 76%. Percent participation is an important variable when comparing performance across states or LEAs. States and LEAs with high percent participation tend to have lower average scores than those with lower percent participation. While testing a very high percentage of students, the WCPSS average score of 1052 for the total SAT in 1997-98 was above the national average of 1017. In all of North Carolina, only one relatively small LEA--Chapel Hill City with about 8,500 students--tested as high a percentage of students as WCPSS and earned higher SAT scores than WCPSS in 1997-98.

Figure 22  
Grades 7-12 Dropout Rate:  
WCPSS and Comparable LEAs

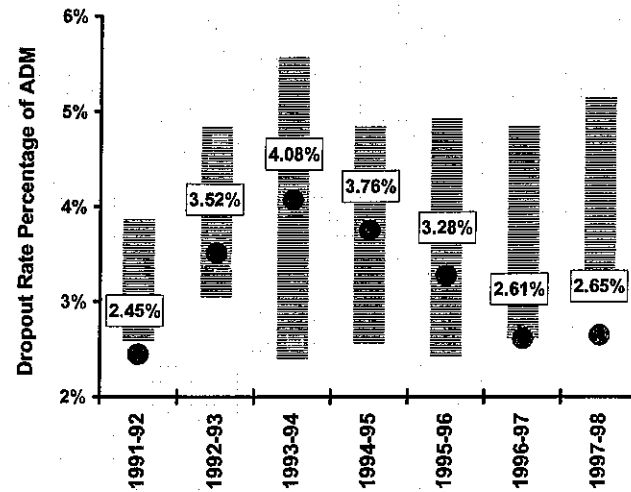
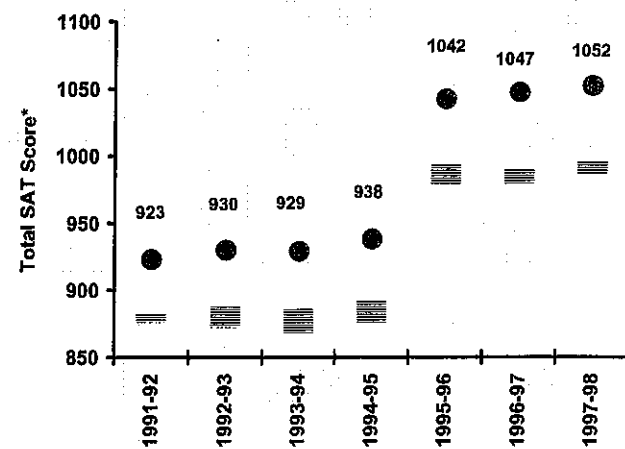


Figure 23  
Scholastic Aptitude Test:  
WCPSS and Comparable LEAs



Note: \* SAT scores were recentered after April 1995 to realign the verbal and math sections, and put the average score for the total battery near 1000.

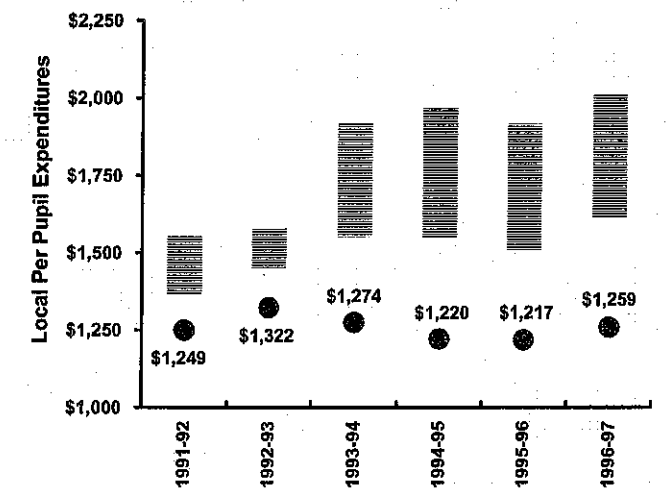
## SCHOOL SYSTEM CHARACTERISTICS

### LOCAL PER PUPIL EXPENDITURES

*Local per pupil expenditures in WCPSS have been below all other comparison LEAs throughout the 1990s.*

Local per pupil expenditures have always been below that of any of the comparison LEAs throughout the 1990s. In the mid-1990s, WCPSS per pupil expenditures began to decline, putting them even further below those of the comparison LEAs. Although the WCPSS per pupil expenditure increased slightly in 1996-97, it remained well below those of the comparison LEAs.

Figure 2  
Local Per Pupil Expenditures Excluding Child Nutrition:  
WCPSS and Comparable LEAs

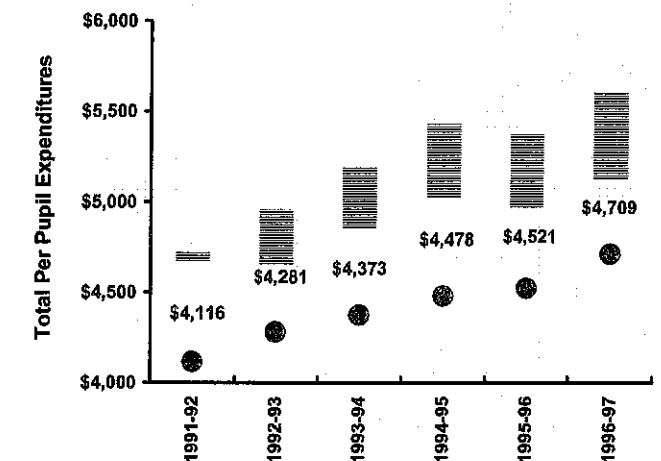


### TOTAL PER PUPIL EXPENDITURES

*The total of federal, state, and local per pupil expenditures in WCPSS has been below all other comparison LEAs throughout the 1990s.*

When all sources of revenue are combined, the total of federal, state, and local per pupil expenditures has also been below that of comparison LEAs throughout the 1990s. Each year in the WCPSS, the percentage increase in total expenditures over the year before has been less than 5%.

Figure 3  
Total Federal, State, and Local  
Per Pupil Expenditures Excluding Child Nutrition:  
WCPSS and Comparable LEAs



## UNDERSTANDING DATA ANALYSES IN THIS REPORT

This report summarizes a selection of school system characteristics and performance indicators collected since the 1991-92 school year for the Wake County Public School System (WCPSS) and comparable local education agencies (LEAs) in North Carolina. LEAs that are compared to WCPSS include:

- **Durham**
- **Winston-Salem/Forsyth**
- **Guilford**
- **Charlotte-Mecklenburg**

The LEAs being compared to WCPSS are large school districts that have been described as similar in nature to WCPSS. Using data from the 1990 Census, the North Carolina Department of Public Instruction indicates there is similarity among these districts on variables such as:

- the percentage of working parents of 6-17 year-olds;
- the percentage of 6-17 year olds below the poverty level;
- the educational attainment of residents in the LEA; and
- the average household income.

The data in this report are presented in figures to reveal:

- longitudinal trends in WCPSS from the 1991-92 through the 1997-98 school year; and
- comparisons of WCPSS with other LEAs over this same period.

Instructions for interpreting many of the figures in this report are provided in the example below.

### INTERPRETING

#### FIGURES IN THIS REPORT

##### *An Example*

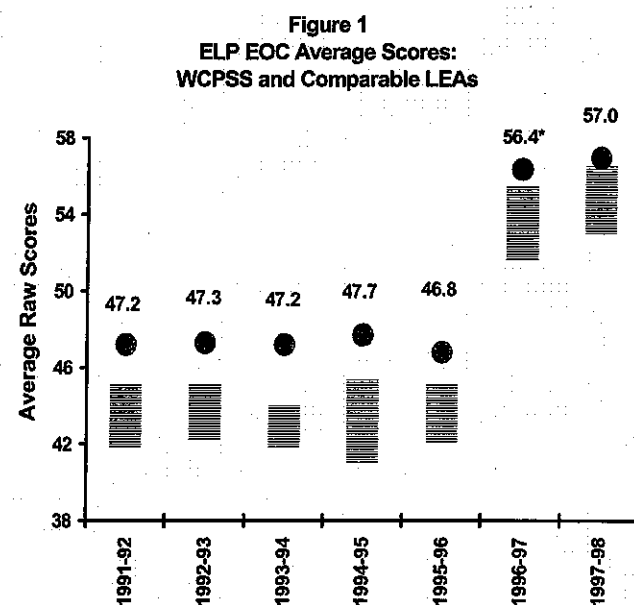
This figure, depicting real data for the Economics, Law, and Politics (ELP) end-of-course (EOC) exam, is similar to many of the figures that appear in this report. Within the figure, the dots and numerical values indicate the values for WCPSS, while the striped bars indicate the values for the other LEAs being compared to WCPSS, ranging from the LEA with the lowest value to the LEA with the highest value in each year being reported.

The comparison LEAs differ for some of the years because schools in Durham and Guilford counties did not merge into county-wide systems until the 1992-93 and 1993-94 years, respectively. Comparisons with WCPSS for all figures in this report are as follow:

- 1991-92: Forsyth and Mecklenburg
- 1992-93: Durham, Forsyth and Mecklenburg
- 1993-94 through 1997-98: Durham, Forsyth, Guilford and Mecklenburg

All sources of data are referenced at the end of this report.

*WCPSS scores on the ELP EOC exam exceeded those in all other comparison LEAs throughout the 1990s.*



Note: \*Beginning in 1996-97, ELP Scores are reported as developmental scale scores; before this they were reported as raw scores.

## SUMMARY

Overall, WCPSS is academically the strongest among the comparable LEAs in North Carolina, despite growing faster and spending less per pupil. WCPSS also has a lower dropout rate and a lower ratio of administrator, supervisor, and consultant positions than any of the comparison LEAs.

#### Areas where WCPSS exhibited relative academic strengths in 1997-98:

- EOG performance in reading and math;
- EOC performance in core courses;
- Low dropout rate being maintained; and
- SAT performance improving.

#### Areas where WCPSS exhibited relative academic weaknesses in 1997-98:

- EOG writing performance in grade 7;
- EOG math performance at grade 3; and
- ELP scores not rising as quickly as comparable districts.

WCPSS students have achieved high test scores which have gradually improved during the 1990s. As the system works to achieve the goal of 95% of 3<sup>rd</sup> and 8<sup>th</sup> graders scoring at or above grade level by 2003, improvement will need to accelerate. The gradual gains of recent years will not reach the 2003 goal. WCPSS will need to support existing personnel with staff development training, recruit the best among new teachers, implement the best instructional programs, and rigorously evaluate existing programs.

## SOURCES

This report contains the most accurate and current data for WCPSS and comparison LEAs available at the time of publication. Published sources of data were used, except in a few instances in the 1997-98 year, as noted below.

**Figures 2 and 3:** Local, state, and federal per pupil expenditures are reported each year by the North Carolina Department of Public Instruction (NCDPI) for each LEA in a *Statistical Profile* publication. Per pupil expenditure is computed only for current expense expenditures connected with the daily operation of schools (excluding community services, Head Start, adult education, and inter/intra fund transfers) by using final ADM figures in the denominator. "State" and "Federal" expenditures are the amounts spent for education from the budgets of state and federal governments, respectively, while "Local" expenditures are regarded as all expenditures not funded by state or federal governments.

**Figures 4-9:** Values for the first month ADM; number of teachers, administrators, supervisors and consultants; racial composition of student population; number of students with disabilities; and number of AG students are reported each year by the NCDPI for each LEA in the *Statistical Profile* publication. The opening of new WCPSS schools in the 1990s was measured by noting the year in which the school first appeared in the annual WCPSS directory listing of all schools.

**Figures 1 and 10-21:** EOC testing in grades 9-12 began in North Carolina with administration of the Algebra I EOC test in 1985-86. EOG testing in grades 3-8 began in 1992-93. EOC and EOG test results are reported each year by the NCDPI for each LEA in a *State Testing Results* publication.

**Figures 22 and 23:** Dropout rates and SAT results are reported each year by the NCDPI for each LEA in a *Report Card* publication. The dropout rate collected in North Carolina is an unduplicated count. The 1997-98 dropout rate in WCPSS was obtained from NCDPI 1997-98 *Dropout Data*. The 1997-98 SAT results are reported by the NCDPI in its 1998 *SAT Report* publication. In North Carolina, percent participation on the SAT is calculated by dividing the number of 12<sup>th</sup> grade students who took the SAT by the seventh-month ADM for 12<sup>th</sup> grade students.

...making the largest year SAT improvement of state, North Carolina is 43th. Some educators the rank misleading.

By TIM SIMMONS  
STAFF WRITER

North Carolina extended its gains in one of the best-known measures of school success, posting a point increase in 1998 SAT scores for high school seniors. The eighth time in nine years the state's Scholastic Achievement Test scores have risen. North Carolina now has the most increase of any state in the past 10 years — a jump of 17 points.

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By LIZ MAHONEY  
STAFF WRITER

The Wake County public school system released SAT scores Tuesday from the 1998 school year and, for the fourth consecutive year, the numbers are on the rise. County-wide total SAT scores were 27 points higher than last year and 107 points higher than the year before. Area schools also fared well. Athens Drive High School's score jumped 27 points — from 1023 to 1050. High went up 22 points to 1050. "We are very pleased with the results," said Tom Dixon, principal at...

**1998 SAT Scores**

1998 graduates	Verbal	Math	Total	Verbal	Math	Total
Wake County	505	512	1,017	505	512	1,017
Charlotte-Mecklenburg	490	492	982	490	492	982
Forsyth County	521	531	1,052	521	531	1,052
Guilford County	541	558	1,099	541	558	1,099
Wake County	513	537	1,050	513	537	1,050
Wake County	522	528	1,050	515	518	1,033
Wake County	502	505	1,007	500	507	1,007

From 2A  
The quality of instruction in a school or school district, the results have become benchmarks by which schools are judged, said the school system in a released statement. "Therefore it is important to keep the test scores in perspective," said Dixon. "Every school wants to do the best it can," he said. "We try to remember the SATs are not the only reflection. We try to keep a balance." Across the United States SAT scores are up slightly. The country average is 1017, 35 points lower than Wake County. The North Carolina average is 70 points lower than Wake County. Wake County superintendent...

**SAT GAINS OVER 1988**

Rankings among states that test the high school seniors

State	Score
United States	1006
North Carolina	948
Oregon	1024
District of Columbia	940
Alaska	1019
Indiana	976
Georgia	953
Texas	984
New Jersey	925
Massachusetts	1007
New Hampshire	1034
Connecticut	1011
Washington	1042
Florida	982

## Area kids excel on computer test

By DEBORAH ROBIGLIO  
STAFF WRITER

As adults fumble with their computers at work, they might want to go home and ask their kids for some help. North Carolina students are proving they're good with computers, and kids in the high-tech Triangle are among the best. Based on the results of a new computer literacy test given to eighth-graders last year, kids are showing they can design spreadsheets or type...



# State of the System

WAKE COUNTY PUBLIC SCHOOL SYSTEM

**Authors:**  
Carol Speas  
Glenda Burch  
William L. Carruthers

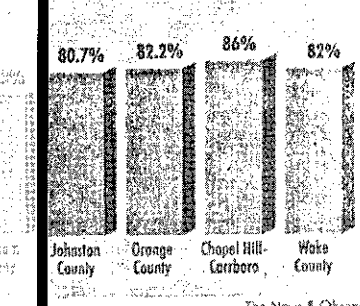
**Cover Design:**  
Jason Cossette

E&R Report No. 99.27  
June, 1999

Department of Evaluation and Research  
Wake County Public School System  
Raleigh, North Carolina

### Test of computer skills

...year's test given to eighth graders. Choice questions and perform tasks



## Putting the youngest to the test

### Teachers will monitor students' skills without the usual anxiety

By TIM SIMMONS  
STAFF WRITER

After avoiding the issue for more than a decade, state educators have decided to expand North Carolina's testing program to include its youngest learners. Beginning next year, schools will be encouraged to use "standardized assessments" to gauge the skills of children in kindergarten and first and second grades. The evaluations will be required in many grades the next year. The new tests will include no multiple-choice questions, no grid sheets and no anxiety. Instead, teachers will evaluate students by using a personal checklist. The state Board of Education's move to start the testing is a sign of the growing emphasis the state is placing on the school improvement program known as the ABCs of Public Education. A direct outgrowth of the program is to hold schools accountable for the quality of instruction. State educators are expected to approve a plan next month that would require students to pass the tests — called end-of-grade exams — in order to be promoted beyond grades three, four and five. With so much riding on the mandated tests, educators are telling local parents that the time to start evaluating students is the first day they enter school. "I don't want to afford to be surprised any more," said Carolyn Cobb, who oversees the evaluation of statewide accountability programs for North Carolina public schools. "Few teachers disagree with the need to do a better job of evaluating students' strengths and weaknesses. We want to make sure we're doing it as early as possible."



# State of the System

WAKE COUNTY PUBLIC SCHOOL SYSTEM

## Schools get good report card

The three public high schools in the Cary area — Cary, Apex and Athens Drive — have good reason to be proud of their work over the past year. Each school increased the average SAT score of its students — Athens from 1023 in 1997 to 1050 in 1998.

Increased SAT scores at Cary, Apex and Athens Drive high schools are encouraging examples of the school system's hard work.

national average. Those figures be kept in mind when the Wake school system is criticized. The high level of education parents in this area is a testament to the dedication of the school employees. And, of course, commitment to doing well is critical.

## SAT score inch upward across state

Despite continued increases in the past years, North Carolina's average score is still below the national average.

**OVERVIEW**

The purpose of this report is to summarize some major trends in the Wake County Public School System (WCPSS) and provide a set of benchmarks against which progress WCPSS in future years can be measured. This report is designed to provide educators and the general public with information that is accurate, up-to-date, and easy to interpret. In some places, the story presented here is a longitudinal one, because the important factor is change in WCPSS over time. In other places, the report focuses on comparisons with similar local education agencies (LEAs) in North Carolina. Some of the major findings are:

- Per pupil expenditures in WCPSS were lowest among all comparison LEAs for every year in the 1990s.
- Student dropout rates in WCPSS remained the lowest among comparison LEAs throughout the 1990s.
- Student population growth in WCPSS exceeded that of all comparison LEAs for every year in the 1990s.
- Overall, WCPSS again posted the strongest academic performance among all comparison LEAs, and steady gains were made throughout the 1990s.

By TIM SIMMONS

## Focus on reading pays off

North Carolina students reached an academic milestone Thursday, passing the national average in a reading exam of elementary and middle school students from around the country. Results were the best ever recorded for the state in the exam.

Above the national average: Connecticut, Kansas, Minnesota, Oklahoma, Virginia, Maine, Montana, Oregon, Washington.

The gains for both North Carolina and the nation came from the math section of the test, with no increase at either level in verbal skills. Scores for Triangle school districts were also up, with a three-point gain nationally left the U.S. average at 1,016.