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**WAKE COUNTY PUBLIC SCHOOL SYSTEM
K-5 ASSESSMENT RESULTS: 2005-06**

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ABSTRACT

Moderate to high percentages of Wake County Public School System (WCPSS) students demonstrated grade-level performance on most K-5 assessment measures in 2005-06. Second grade students' writing performance was considerably lower on their unassisted writing samples with only 26.6% meeting the stage-of-writing standard. Overall performance on literacy assessments remained relatively constant compared to previous years' results, whereas slight declines were apparent in mathematics mastery levels. The most striking improvement was found among reading book-level proficiency rates in which kindergarten students experienced a ten-percentage point increase. K-5 assessment results reveal reading and mathematics achievement gaps between subgroups. Hispanic/Latino students, free or reduced-price lunch (FRL) students, students with disabilities (SWD), and limited English proficiency (LEP) students had the lowest performance rates. These student subgroups did experience gains in reading book-level proficiency between 2004-05 and 2005-06; however, their mathematics proficiency decreased slightly, with the exception of LEP students. Readers should be aware that in 2005-06, the rate of missing K-5 assessment data was higher than in 2004-05.

SUMMARY OF RESULTS

This report summarizes K-5 assessment data provided by elementary teachers in the Wake County Public School System (WCPSS). Receptive literacy, expressive literacy, and mathematics assessment district results are summarized for 2005-06 and comparative results, primarily over a two-year period, are provided when available. Student subgroup results and school-level results are presented to provide useful data for identifying trends in academic performance among WCPSS elementary schools. The distribution of the total number of students assessed and the percentage meeting grade-level benchmarks at the school-level are discussed, with specific schools designated as exemplars.

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In 2005-06, teachers did not report any assessment data for over 5,000 students, which accounts for 9% of the elementary student population in 2005-06, who were enrolled as of June 2006. This rate of missing data is 2.5 percentage points higher than the rate of missing data in 2004-05. The vast majority of missing data are from schools selected to use eMARC (Management of Assessments, Resources, & Curriculum). Based on the reported K-5 assessment data for 2005-06, moderate to high percentages of students demonstrated grade-level performance. Overall performance on literacy assessments remained relatively constant compared to previous years' results, whereas slight declines were apparent in mathematics mastery levels.

Receptive Literacy:

- Longitudinal results suggest a relatively constant pattern of annual improvement in the percentage of kindergarten students achieving book-level standards since 2001-02, whereas improvement remains relatively stable for 1st- and 2nd-grade students. Eighty-nine percent of kindergarten students met book-level standards in 2005-06, which is a ten-percentage point improvement from 2004-05.
- Most students in grades 2-5 (73.3%) scored proficient on reading strands with only modest variations in performance across strands.
- Lower percentages of students in grades 3-5 performed at or above grade level on expository (58.1%) and narrative (58%) assessments. These results are consistent with 2004-05 findings.

Expressive Literacy:

- Slightly over half (55.2%) of students in grades K-2 met stage-of-writing standards for their unassisted writing samples and a similar percentage (54.4%) of students in grades 3-5 scored proficient on writing conventions. Second grade students' writing performance was considerably lower with only 26.6% meeting the grade-level standard. A higher percentage, 33.9%, of 2nd-grade students were writing at the stage just below the standard.
- The majority (58.6%) of students in grades 2-5 scored proficient on writing strands with greater variations in performance across strands.
- The percentage of 3rd- through 5th-grade students who mastered writing content, based on assessments of their most recent writing collection, was 67.3%. Interestingly, 4th-grade students were less likely to meet grade-level writing conventions and writing content proficiency standards than were 3rd and 5th-grade students.

Mathematics:

- Most K-5 students (69.6%) were proficient in all five mathematics strands with very little variation in performance across strands. However, a slight downward trend in mathematics strands proficiency rates was evident between 2004-05 and 2005-06.

Subgroup Trends:

- Similar to 2004-05, subgroup results revealed differences in the achievement levels of elementary students. Hispanic/Latino students, free or reduced-price lunch (FRL) students, students with disabilities (SWD) students, and limited English proficiency (LEP) students continue to show a need for instructional assistance to improve reading and mathematics proficiency. These student subgroups did experience gains in reading book-level proficiency between 2004-05 and 2005-06; however, their mathematics proficiency decreased slightly, with the exception of LEP students.

School-Level Trends:

- School-level results show a wide range in the percentage of students by grade level who were proficient on various literacy measures and mathematics strands, suggesting substantial variation between mastery percentages among schools. Reading book-level proficiency rates for grades K-2, writing content standards for grade 5, and kindergarten students' mastery of all mathematics strands were less disparate among WCPSS elementary schools.

K-5 ASSESSMENT RESULTS: 2005-06

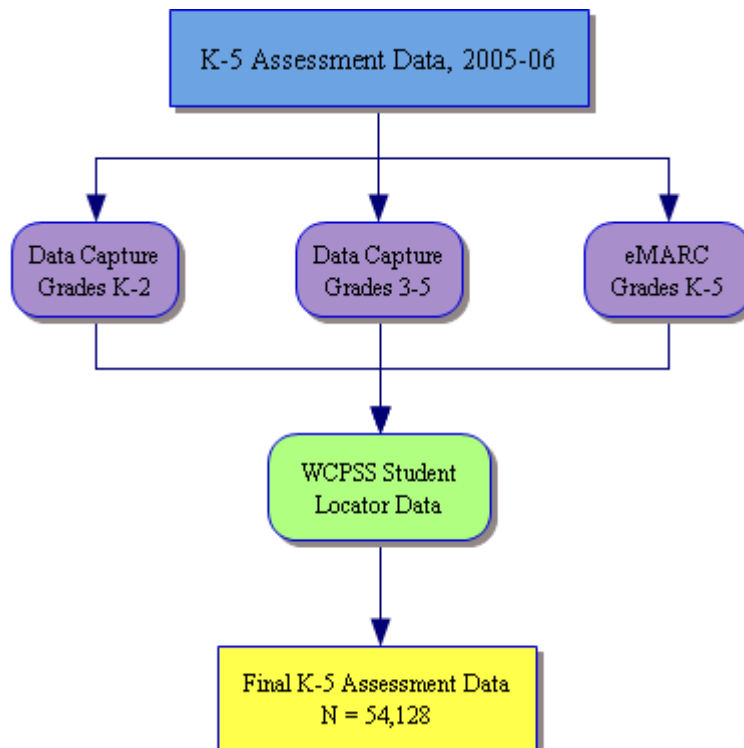
METHODOLOGY

Data and Sample

WCPSS elementary teachers submitted K-5 assessment data electronically using either the K-5 Assessment Data Capture Forms or the eMARC system. The data capture forms are electronic surveys, one for grades K-2 and another for grades 3-5, submitted by teachers at the end of the school year. The eMARC system provides an online application that monitors student progress throughout the year and allows year-end data to be extracted for annual analysis. Thirty-one elementary schools elected to use eMARC in 2005-06. The other 57 elementary schools were expected to complete the data capture surveys.

All K-5 assessment data submitted to the Evaluation and Research Department by a specified date were cleaned. As presented in Figure 1, the files were then merged with WCPSS student locator files to obtain student demographic information. The final combined dataset contained K-5 assessment data for 54,128 students. All tables and figures in this report present these data.

Figure 1
K-5 Assessment Data Flow Chart



Analysis

Descriptive analyses are conducted on a wide selection of literacy assessments including both receptive literacy and expressive literacy measures. Mathematics results include analyses of students' mastery of mathematics curriculum strands. K-5 assessment district results are summarized for 2005-06 and comparative results, primarily over a two-year period, are provided when available.

Aggregate school-level results are presented to provide useful data for identifying trends and areas in need of improvement as well as influencing instructional practices at WCPSS elementary schools. The distribution of the number of students assessed and the percentage meeting grade-level benchmarks at the school level are discussed, with specific schools designated as exemplars. This analysis does not include schools submitting data for five or fewer students within each grade level on the various assessments.

Return Rates

In 2005-06, nearly all student data from the 88 elementary schools were submitted using the appropriate tool. Ninety-nine percent of student data from schools expected to use data capture surveys were appropriately submitted. Ninety-two percent of student data from the schools electing to use eMARC were submitted accordingly. The remaining 8% of the data for 3,213 students were submitted using data capture surveys rather than eMARC.

K-5 assessment results were reported for a larger number of students than in previous years; however, WCPSS experienced a substantial increase in its student population in 2005-06. As such, the number of students in grades K-5 was greater in 2005-06 than in prior years. Therefore, it is important to consider the number of students with unreported data when evaluating return rates. As indicated in Table 1, teachers did not report data for a sizable number (5,568) of students in grades K-5. That translates into unreported data for 9.3% of the elementary student population, who were enrolled as of June 2006, which is 2.5 percentage points higher than unreported data in 2004-05. Kindergarten and 1st-grade students had the highest frequency of unreported data in 2005-06. Additionally, the amount of unreported data for kindergarten and 1st-grade students was considerably greater in 2005-06 compared to 2004-05. The response rates for 2nd- through 5th-grade students were higher in 2005-06 compared to 2004-05. Higher return rates are desirable to ensure that trends are representative of the system.

Table 1
K-5 Assessment Data Submitted by Grade, 2005-06

Grade	Student Data Reported	Student Enrollment	# Unreported Student Data	Response Rate	Response Rate, 2004-05
K	9,228	10,747	1,519	85.9%	95.8%
1	8,753	10,401	1,648	84.2%	96.7%
2	9,609	10,088	479	95.3%	93.9%
3	9,120	9,796	676	93.1%	92.1%
4	8,610	9,313	703	92.5%	89.4%
5	8,808	9,351	543	94.2%	90.9%
K-5 Combined	54,128	59,696	5,568	90.7%	93.2%

Note: Student enrollment as of June 2006.

Limitations

The amount of unreported K-5 assessment data dilutes district and school-level summary results. As shown in Table 1, teachers did not report any K-5 assessment data for many elementary students. Additionally, reported student data were not always complete. To provide the most accurate representation of the results, the frequency of missing data is documented and discussed throughout this report. Missing data for each grade are computed by subtracting the number of students assessed from the number of student data reported (rather than the number of students enrolled). The discussion section will offer possible explanations for the missing data.

The K-5 assessment instruments were developed for instructional use, and are more subjective in nature than standardized tests, such as the North Carolina End-of-Grade exams. While standards exist for the utilization of the instruments, and some training is provided in their use, the instruments did not go through the same type of development and testing as norm-referenced and more rigorously standardized tests. The data are valuable to teachers for planning instruction and schools for examining trends, however, they should be used cautiously for program evaluation.

The school-level analyses results should also be carefully interpreted with consideration for the diverse student populations attending WCPSS elementary schools. LEP students, FRL students, and SWD students; and more importantly, students within more than one of these subgroups, have been identified as at risk for low academic performance. The reader should also remember that the K-5 assessment results are measures of school performance rather than growth.

RECEPTIVE LITERACY ASSESSMENT RESULTS¹

Instructional Reading Book-Level Standards

District results for reading book-level standards are summarized for 2005-06 as well as displayed to show longitudinal results beginning in 2001-02. Aggregate school-level reading results are presented to provide information about the span in numbers of students assessed and the percentage meeting grade-level benchmarks.

Table 2 shows that the vast majority (84.5%) of all students in grades K-2 achieved book-level standards.

- Book-level assessment results indicate that kindergarten students were somewhat more likely than 1st- and 2nd-grade students to meet reading grade-level benchmarks.

Table 2
Reading Book-Level Standards, 2005-06

		# Students Assessed	# Achieved Standard	% Achieved Standard	Missing eMARC	Missing Data Capture
Grade	Book-Level Standard					
K	3-4	8,234	7,328	89.0%	346	648
1	15-16	8,535	6,912	81.0%	130	88
2	23-24	9,024	7,560	83.8%	477	108
K-2 Combined		25,793	21,800	84.5%	953	844

Longitudinal results suggest a relatively constant pattern of annual improvement in the percentage of kindergarten students who achieved book-level standards since 2001-02 with a considerable increase between 2004-05 and 2005-06. Improvement remains relatively stable for 1st- and 2nd-grade students, as shown in Table 3.

- Eighty-nine percent of kindergarten students met book-level standards in 2005-06, a ten-percentage point improvement from 2004-05. More than 1,000 fewer kindergarten students were assessed in 2005-06 than in 2004-05.
- Seven hundred and seventy-five fewer 1st-grade students were assessed in 2005-06 compared to 2004-05. A greater number of 2nd-grade students were assessed in 2005-06 than in any year since 2001-02. Achievement results for these grades have remained stable, just about 80%, despite fluctuations in the quantity of reported data.

¹ Print concepts summary results are not presented in this report due to a large number of missing data and inconsistency in reporting.

Table 3
Reading Book-Level Standards, 2001-02 to 2005-06

	# Students Assessed	% Achieved Standard
Grade K (Book-Level Standard 3-4)		
2001-02	7,805	74.4%
2002-03	8,706	76.9%
2003-04	8,067	80.3%
2004-05	9,346	79.0%
2005-06	8,234	89.0%
<i>Percentage point change 2001-02 to 2005-06</i>		+14.6
Grade 1 (Book-Level Standard 15-16)		
2001-02	7,888	79.7%
2002-03	8,445	79.7%
2003-04	7,981	80.9%
2004-05	9,310	81.4%
2005-06	8,535	81.0%
<i>Percentage point change 2001-02 to 2005-06</i>		+1.3
Grade 2 (Book-Level Standard 23-24)		
2001-02	7,597	84.2%
2002-03	8,189	84.2%
2003-04	7,411	83.8%
2004-05	8,668	84.7%
2005-06	9,024	83.8%
<i>Percentage point change 2001-02 to 2005-06</i>		-0.4

Aggregate school-level results, as illustrated in Table 4, indicate a wide range in numbers of students assessed on book levels. The range in the percentage of students who met grade-level benchmarks is much more constricted, especially among kindergarten students, suggesting less variation between mastery percentages among schools. Median grade-level achievement results are very positive as well.

Kindergarten Students:

- Wildwood Forest Elementary School submitted data for the greatest number of kindergarten students and 91.7% met reading standards.
- The percentage of kindergarten students meeting book-level standards ranged from 71% to 100%, suggesting that most if not all kindergarten students were reading at expected levels.
- Ballentine Elementary School was at the top of the distribution with 100% of its 27 assessed kindergarten students reading at book level 3-4.

- The median mastery percentage was 90%, therefore half of all schools that submitted data for kindergarten students had at least 90% of those students achieving reading book-level benchmarks.

First-Grade Students:

- First-grade students had a much wider range in mastery percentages, 46.2%-96.9% compared to kindergarten students.
- Davis Drive and Hunter elementary schools had the highest reading mastery percentages for 1st-grade students. The kindergarten and 2nd-grade students assessed at these schools performed equally well.
- Half of all schools that submitted data for 1st-grade students had at least 81.1% of those students achieving book-level benchmarks.

Second-Grade Students:

- Schools show a similar range in 2nd-grade reading mastery percentages (52.9% to 97.8%) as 1st-grade students.
- The greatest percentages of 2nd-grade students reading at book level 23-24 were assessed at Hilburn Drive and Turner elementary schools.
- Half of all schools that submitted data for 2nd-grade students had at least 85.2% of those students achieving book-level benchmarks.

Table 4
School-Level Reading Book-Level Standards, 2005-06

		Range		Median
Grade	Book-Level Standard	# Students Assessed	% Achieved Standard	% Achieved Standard
K	3-4	16 to 168	71% to 100%	90.0%
1	15-16	16 to 193	46.2% to 96.9%	81.1%
2	23-24	9 to 190	52.9% to 97.8%	85.2%

Note: Schools submitting data for five or fewer students within each grade level were excluded from the analysis.

Reading Strands

As illustrated in Table 5, most students in grades 2-5 scored proficient on reading strands, although mastery percentages are lower than those seen on EOG reading exams. Modest variations in performance across strands are apparent.

- Students in grade 4 have the lowest proficiency rates across reading strands compared to the other assessed grades.
- Fifth-grade students have higher percentages of proficiency on reading strands compared to 3rd- and 4th-grade students. This pattern is similar to reading EOG results for 2005-06.
- At all grades, students are slightly more likely to be proficient in reading habits than vocabulary strategies and text comprehension.

Table 5
Reading Strands Proficiency, 2005-06

Grade	Reading Strands			All Reading Strands			
	Reading Habits	Vocabulary Strategies	Text Comprehension	Proficient in All Strands	Data Reported	Missing eMARC	Missing Data Capture
2	86.5%	83.7%	81.6%	77.5%	9,207	162	240
3	81.3%	77.0%	76.3%	70.4%	8,871	131	118
4	79.3%	75.4%	75.9%	69.3%	8,368	156	86
5	82.9%	80.2%	81.2%	75.5%	8,590	124	94
2-5 Combined	82.6%	79.2%	78.8%	73.3%	35,036	573	538

Note: A student is considered proficient in all strands if he/she is proficient in each strand. If a student is missing scores on one or more strands, his/her proficiency in all strands is considered missing.

Expository and Narrative Rubrics

District data reported for expository and narrative rubrics are given for 2005-06 and proficiency rates are presented for 2004-05 and 2005-06. Aggregate school-level results provide the range in the number of students assessed and percent proficient on each assessment.

As shown in Table 6, missing data on both expository and narrative rubric assessments are more common among schools submitting data using eMARC than data capture, especially at grade 3.

Table 6
Expository and Narrative Rubrics Data Reported, 2005-06

Grade	Expository Rubric			Narrative Rubric		
	Data Reported	Missing eMARC	Missing Data Capture	Data Reported	Missing eMARC	Missing Data Capture
3	7,807	788	525	7,860	733	527
4	7,473	693	444	7,596	642	375
5	7,854	633	321	7,923	591	291
3-5 Combined	23,134	2,114	1,290	23,379	1,966	1,193

Similar to 2004-05 results, Figures 2 and 3 show that the majority of students in grades 3-5 scored proficient on both expository and narrative rubric assessments.

- In 2005-06, students performed similarly on expository and narrative rubrics.
- Almost no changes were found in proficient rates on expository rubric assessments between 2004-05 and 2005-06.
- Proficiency results were relatively similar between 2004-05 and 2005-06 narrative rubric assessments. Only slight declines were seen at grades 3 and 4.
- A slightly greater percentage of 5th-grade students scored proficient on expository rubric and narrative rubric assessments compared to 3rd- and 4th-grade students.

Figure 2
Expository Rubric Proficiency, 2004-05 to 2005-06

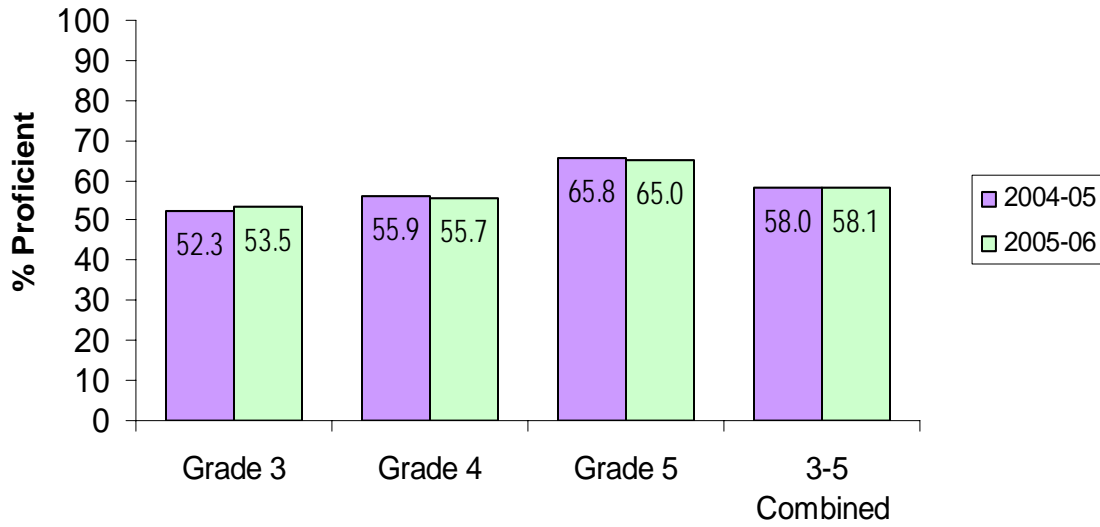
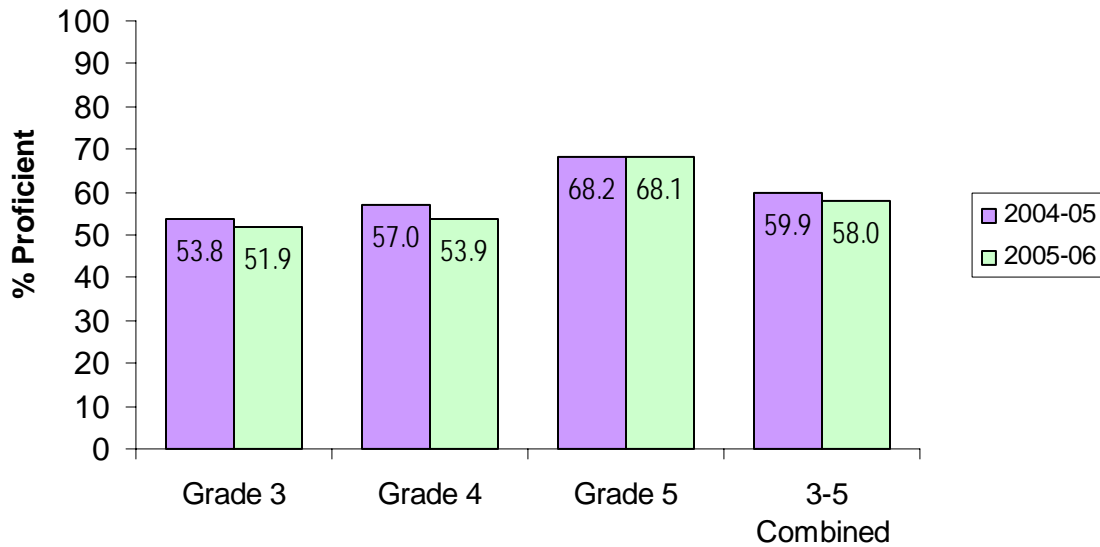


Figure 3
Narrative Rubric Proficiency, 2004-05 to 2005-06



Aggregate school-level results for expository and narrative rubric assessments, as observed in Table 7, show that the numbers of students assessed and mastery percentages are widely dispersed. Reading performance tends to improve as students' grade level increases. Likewise, the median percentage of reading performance is highest at grade 5. Overall, median achievement results for grades 3-5 are considerably lower than those found at grades K-2.

Third-Grade Students:

- Morrisville Elementary School was at the top of the expository rubric assessment distribution with the majority of its students assessed showing mastery. Morrisville remained at the upper end of the narrative rubric distribution with a slightly lower percentage of students scoring proficient (78.5%).
- The median percentage of 3rd-grade students who mastered the expository rubric assessment and the narrative rubric assessment were 51.9% and 52.7% respectively. Half of all schools that submitted data for 3rd-grade students had slightly over 50% of those students achieving reading grade-level proficiency.

Fourth-Grade Students:

- Nearly all of the 4th-grade students at Davis Drive mastered expository rubric (91.6%) and narrative rubric (91.1%) assessments (over 150 students were assessed).
- Median achievement results for expository and narrative rubrics for grade 4 are similar to those found at grade 3.

Fifth-Grade Students:

- Fuller Elementary School had the highest percentage of 5th-grade students proficient on both assessments.
- Fifth-grade students performed very well at Davis Drive. Ninety-three percent mastered expository rubrics and 94.7% mastered narrative rubrics (data for 170 students were reported for each assessment).
- Median achievement results of 5th-grade students for expository and narrative rubrics were more positive than those at grades 3 and 4.

Table 7
School-Level Expository and Narrative Rubric Proficiency Results, 2005-06

Grade	Range		Median
	# Students Assessed	% Achieved Standard	% Achieved Standard
Expository Rubric			
3	36 to 182	11.9% to 85.9%	51.9%
4	27 to 169	16.5% to 91.6%	53.1%
5	20 to 175	11.5% to 95.1%	64.2%
Narrative Rubric			
3	22 to 180	7.5% to 83.3%	52.7%
4	27 to 189	13.4% to 91.1%	52.0%
5	19 to 176	15.6% to 97.6%	65.2%

Note: Schools submitting data for five or fewer students within each grade level were excluded from the analysis. One additional outlying school was not included because only six 4th-grade students were assessed.

EXPRESSIVE LITERACY ASSESSMENT RESULTS

Unassisted Writing Sample

District results for unassisted writing samples are summarized for 2005-06. Aggregate school-level results are presented to provide information about the span in numbers of students assessed and the percentage meeting grade-level standards.

Table 8 shows that slightly over half of all students in grades K-2 achieved grade-level writing standards. Grade-level results show substantial variation in the percentage of students who achieved the stage-of-writing standard on their unassisted writing sample, especially at grade 2.

- Most kindergarten students and about two thirds of 1st-grade students achieved writing standards.
- Only slightly more than one fourth of 2nd-grade students with reported unassisted writing sample data performed at the late independent stage of writing. Several eMARC elementary schools did not report these data for many of their 2nd-grade students.

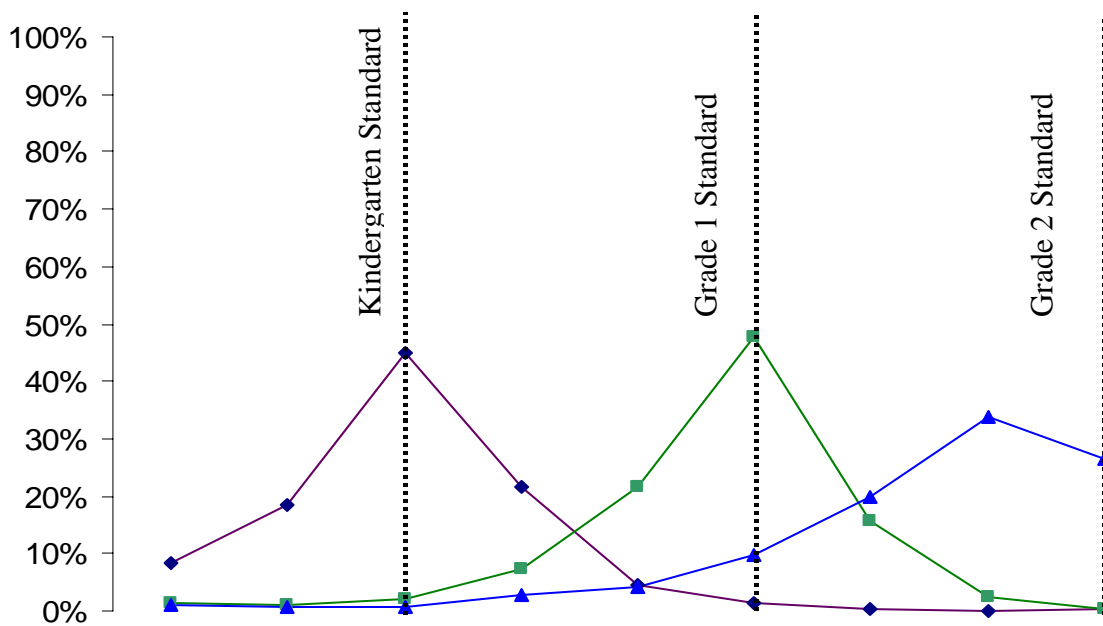
Table 8
Stage-of-Writing Standard for Most Recent Unassisted Writing Sample, 2005-06

Grade	Stage-of-Writing Standard	# Students Assessed	% Achieved Standard	Missing eMARC	Missing Data Capture
K	Late Emergent	9,193	73.3%	31	4
1	Late Developing	8,728	66.2%	24	1
2	Late Independent	9,208	26.5%	388	13
K-2 Combined		27,129	55.2%	443	18

Figure 4 details at which stage of writing these students are assessed. While most kindergarten and 1st-grade students met or exceeded grade-level writing standards, only slightly more than one fourth of 2nd-grade students achieved their standard.

- Patterns resembling a normal distribution were apparent for kindergarten and 1st-grade students. In this case, the patterns show that few students were writing at the extreme low or high stages of writing, more students were writing at the stages just below or above the standard, and most kindergarten and 1st-grade students were assessed at the stage-of-writing standard for their grade level.
- The scaling pattern for 2nd-grade students reflects very few students assessed at the lower stages of writing, a steady increase in the percentage of students writing at stages late developing and early independent, and most students writing at the mid independent stage, which is just below late independent.

Figure 4
Percentage of Students in Grades K-2 at Each Stage-of-Writing, 2005-06



Grade	Prewriting and Early Emergent	Emergent	Late Emergent	Early Developing	Developing	Late Developing	Early Independent	Mid Independent	Late Independent
K	8.2%	18.5%	44.8%	21.5%	4.7%	1.5%	0.5%	0.1%	0.2%
1	1.4%	1.2%	2.2%	7.2%	21.7%	47.8%	15.6%	2.4%	0.5%
2	1.0%	0.8%	0.8%	2.9%	4.2%	9.9%	20.0%	33.9%	26.5%

Note: Shaded cells indicate grade-level writing standard met.

Aggregate school-level stage-of-writing standard results for unassisted writing samples are presented in Table 9. The median percentage of writing performance is lowest at grade 2.

Kindergarten Students:

- Among the elementary schools that submitted data, the percentage of kindergarten students who met writing standards ranged from 40.9% to 94.1%. West Lake, Davis Drive, Hunter, and Highcroft Drive elementary schools were at the top of the distribution.
- The median percentage of kindergarten students writing at the late emergent stage or higher was 73.3%, therefore half of all schools that submitted data for kindergarten students had at least 73.3% of those students achieving writing grade-level standards on unassisted writing samples.

First-Grade Students:

- The percentage of 1st-grade students meeting writing standards ranged from 22.6% to 87.3%, which was a wider range than seen for kindergarten students. Once again Highcroft Drive and Hunter placed at the top of the distribution, and 1st-grade students at Baucom and Lincoln Heights elementary schools performed equally well.

Second-Grade Students:

- The range in the percentage of 2nd-grade students meeting writing standards was much lower than in previous grades. Underwood Elementary School placed at the top of the distribution with 68.5% of its 2nd-grade students achieving the late independent stage of writing. The kindergarten and 1st-grade students assessed at Underwood also performed very well (88.4% and 80% respective proficiency rates). Ballentine and Root elementary schools also fell at the upper end of the distribution.
- Only six elementary schools reported more than half of their 2nd-grade students writing at grade-level standards.
- A dozen elementary schools reported less than 10% of their 2nd-grade students writing at the late independent stage. An additional 19 elementary schools reported less than 20% (but more than 10%) of their 2nd-grade students writing at the late independent stage.
- The median percentage of 2nd-grade students meeting writing standards was considerably low. Half of all schools that submitted data for 2nd-students had only a quarter (24.4%) of those students achieving writing grade-level standards on unassisted writing samples.

Table 9
School-Level Stage-of-Writing Standard for
Most Recent Unassisted Writing Sample, 2005-06

		Range		Median
Grade	Stage-of-Writing Standard	# Students Assessed	% Achieved Standard	% Achieved Standard
K	Late Emergent	17 to 187	40.9% to 94.1%	73.3%
1	Late Developing	19 to 196	22.6% to 87.3%	65.6%
2	Late Independent	9 to 190	0% to 68.5%	24.4%

Note: Schools submitting data for five or fewer students within each grade level were excluded from the analysis.

Writing Strands

Table 10 shows the majority of all students in grades 2-5 demonstrated proficiency on all writing strands, with the best performance among 5th-grade students.

- Within each writing strand, 4th-grade students had the lowest levels of mastery.
- The highest proficiency rates were found within the last writing strand, publishing.
- More students appear to have mastered prewriting and drafting than revising and editing.

Table 10
Writing Strands Proficiency, 2005-06

Grade	Writing Strands					All Writing Strands			
	Prewriting	Drafting	Revising	Editing	Publishing	Proficient in All Strands	Data Reported	Missing eMARC	Missing Data Capture
2	78.6%	75.9%	68.0%	66.3%	80.0%	60.6%	9,147	205	257
3	74.4%	72.2%	60.8%	61.3%	76.2%	54.3%	8,802	182	136
4	70.6%	68.3%	59.9%	59.2%	73.0%	52.5%	8,253	235	122
5	78.3%	78.4%	72.6%	71.6%	80.6%	66.8%	8,545	170	93
2-5 Combined	75.6%	73.8%	65.4%	64.6%	77.5%	58.6%	34,747	792	608

Note: A student is considered proficient in all strands if he/she is proficient in each of the five strands. If a student is missing scores on one or more strands, his/her proficiency in all strands is considered missing.

Writing Conventions and Writing Content Rubric

District data reported for writing conventions and writing content rubric and corresponding proficiency rates are provided for 2005-06. As with previous assessments, the range in the number of students assessed and the percent proficient at each school are discussed for both writing conventions and writing content rubric results.

As shown in Table 11, missing data on writing conventions and writing content is more common among schools submitting data using eMARC.

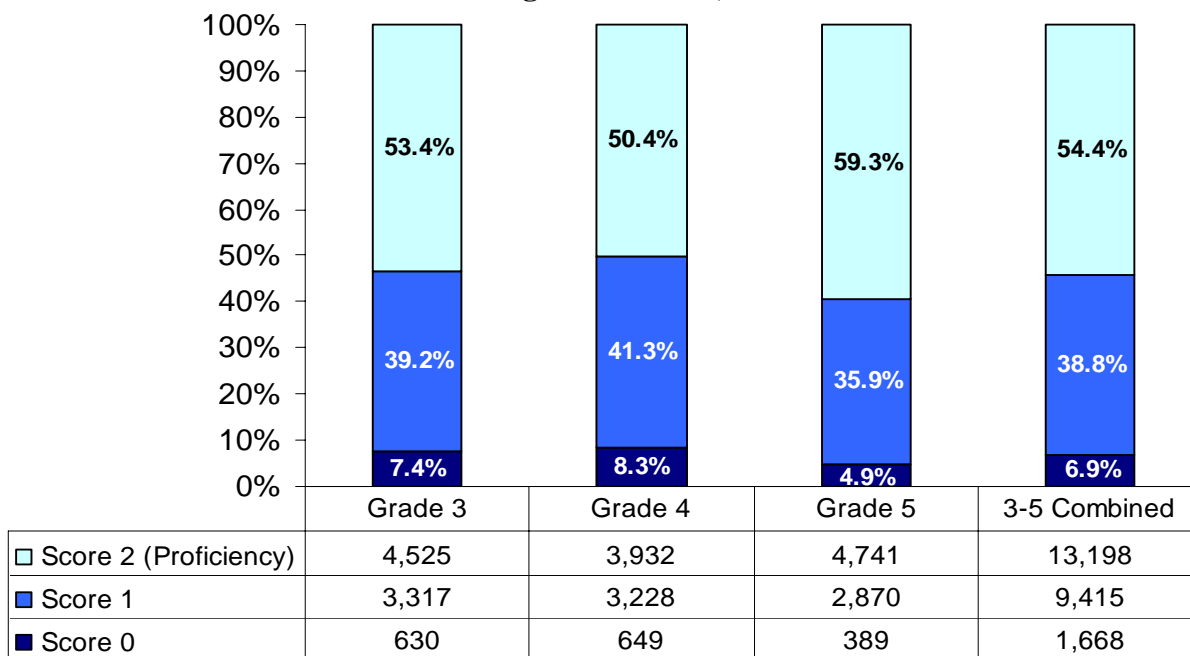
Table 11
Writing Conventions and Writing Content Rubric Data Reported, 2005-06

Grade	Writing Conventions			Writing Content Rubric		
	Data Reported	Missing eMARC	Missing Data Capture	Data Reported	Missing eMARC	Missing Data Capture
3	8,472	465	183	8,134	474	512
4	7,809	692	109	7,582	717	311
5	8,000	662	146	7,787	681	340
3-5 Combined	24,281	1,819	438	23,503	1,872	1,163

Results displayed in Figure 5 show that over half of students in grades 3-5 were considered proficient on writing conventions, that is, they received a score of 2 on their edited, final draft within their writing portfolio.

- Interestingly, 4th-grade students were less likely to meet grade-level writing conventions proficiency standards than 3rd and 5th-grade students.
- Fifth-grade students had the highest proficiency rate (59.3%) on this assessment. The same percentage, 59.3%, of WCPSS 4th-grade students scored proficient overall on the North Carolina Grade 4 Writing Test in 2005-06.

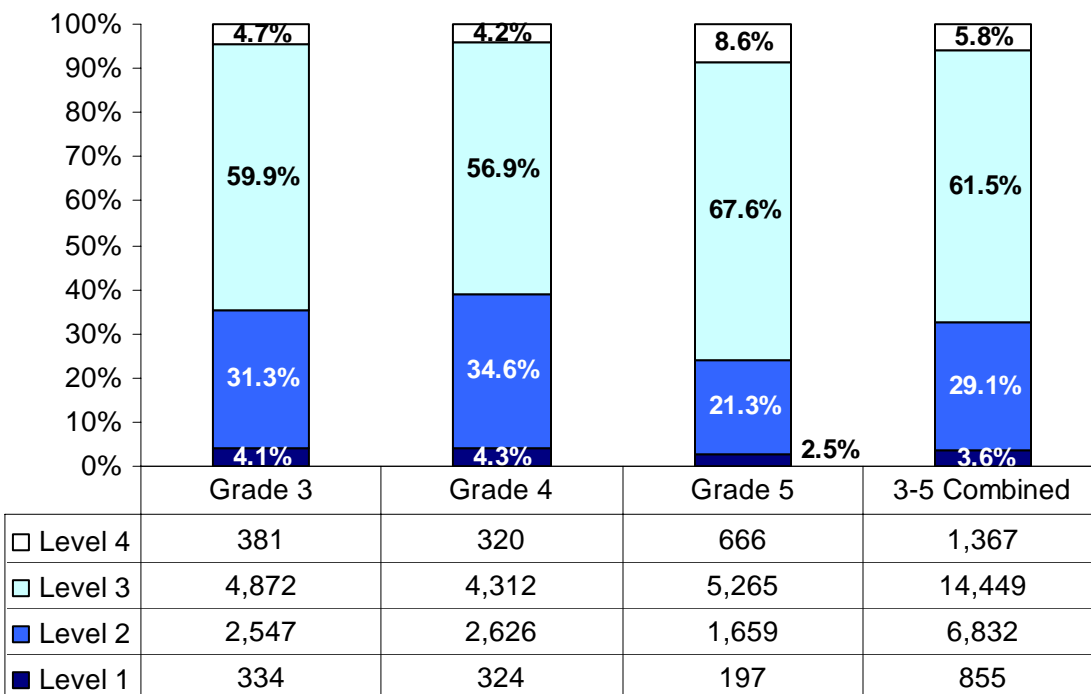
Figure 5
Writing Conventions, 2005-06



A higher percentage of students have writing content mastery, based on assessments of their most recent writing collection, than was evident when assessing writing conventions. Figure 6 shows that about two thirds of students in grades 3-5 were considered proficient on writing content rubric.

- Similar to results for writing conventions, compared to 3rd and 5th-grade students, a smaller percentage of 4th-grade students were proficient on writing content.
- Seventy-six percent of 5th-grade students showed mastery on writing content assessments. This is more than ten percentage points higher than 3rd- and 4th- grade proficiency levels.

Figure 6
Writing Content Rubric for Most Recent Writing Collection, 2005-06



The numbers of students assessed on writing conventions and writing content and the corresponding mastery percentages are widely dispersed among schools, as presented in Table 12. The ranges in the percentages of 3rd-, 4th-, and 5th-grade students who mastered writing conventions are much wider than those found for writing content. The ranges in writing content mastery between schools are similar stage-of-writing standard results at grades K and 1. Median achievement results for writing conventions are comparatively lower than writing content median achievement results, which are also comparable to kindergarten and 1st-grade writing results.

Third-Grade Students:

- Considering the range in percentages achieving writing standards, third-grade students were less likely to master writing conventions standards than writing content.
- Olive Chapel Elementary School placed at the top of the writing conventions range of mastery percentages as well as the writing content distribution, with the vast majority of students showing mastery.
- The majority of the schools who placed above the median percentage of students proficient for writing content also fell above the median for writing conventions.

Fourth-Grade Students:

- Davis Drive Elementary School placed at the top of the writing content proficiency distribution; however, a considerably lower percentage of students were proficient on writing conventions (63.9%).
- Fourth-grade students at Olive Chapel continued to perform at the upper end of the writing conventions and writing content distributions.
- Oak Grove, Root, and Morrisville elementary schools had high mastery levels on both writing conventions and writing content. Students in grades 3 and 5 at these schools also performed well above the median proficiency percentage.
- Schools at the lower end of the writing conventions distribution tended to perform better on writing content. However, most schools at the lower range of writing content performed similarly on writing conventions.

Fifth-Grade Students:

- Overall, 5th-grade students were very likely to be proficient on writing content. The range in the percentage who achieved the writing content standard was narrower compared to grades 3 and 4 and compared to all writing conventions results.
- Fifth-grade median achievement results for writing conventions and writing contents were more positive than those at grades 3 and 4. Half of all schools that submitted data for 5th-grade students had 60.3% of those students achieving writing conventions grade-level standards and 76.3% achieving writing content grade-level standards.

Table 12
School-Level Writing Conventions and Writing Content Rubric Proficiency, 2005-06

Grade	Range		Median
	# Students Assessed	% Achieved Standard	% Achieved Standard
Writing Conventions			
3	21 to 194	12.9% to 87.1%	51.5%
4	12 to 175	14.6% to 84.0%	49.8%
5	18 to 181	19.2% to 93.5%	60.3%
Writing Content			
3	18 to 191	23.8% to 89.6%	64.6%
4	12 to 169	29.4% to 89.8%	59.8%
5	18 to 181	47.2% to 96.3%	76.3%

MATHEMATICS RESULTS

District data reported for mathematics strands are given for 2005-06 and proficiency rates for individual strands and all strands are presented for 2004-05 and 2005-06. Aggregate school-level results for all mathematics strands show the range in the number of students assessed and percent proficient.

As illustrated in Table 13, over 5,000 students in grades K-5 from eMARC schools had missing mathematics strands assessment results. This amount of missing data is almost 17 times greater than the missing data from schools using data capture surveys.

Table 13
Mathematics Strands Data Reported, 2005-06

Grade	Data Reported	Missing eMARC	Missing Data Capture
K	8,891	335	2
1	8,618	129	6
2	8,393	1,195	21
3	7,862	1,178	80
4	7,211	1,294	105
5	7,343	1,351	114
K-5 Combined	48,318	5,482	328

Note: A student is considered proficient in all strands if he/she is proficient in each of the five strands. If a student is missing scores on one or more strands, his/her proficiency in all strands is considered missing.

Table 14 shows that students perform relatively the same across the individual mathematics strands, with the lowest proficiency rates in algebra in 2005-06.

- The mathematics strands proficiency results for 2005-06 were strikingly similar to 2004-05 results in that more than three fourths of students were proficient in each mathematics strand.
- Trivial decreases in mastery percentages were apparent at each grade level, with the greatest declines between 2005-06 and 2004-05 at grades 3 and 4 within the data strand and the algebra strand.

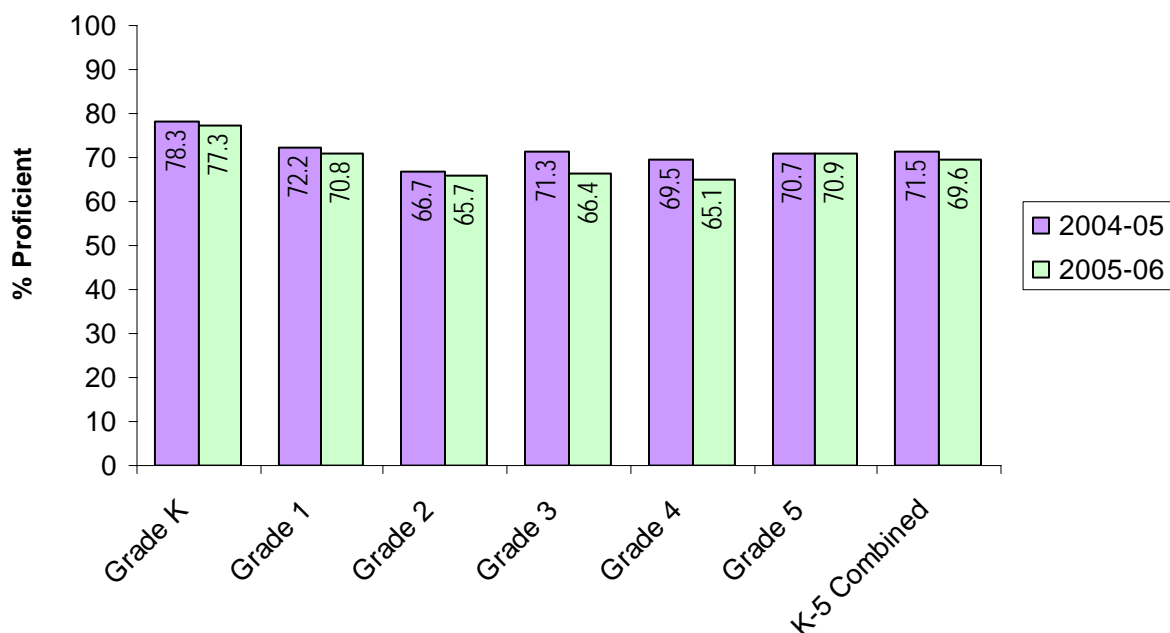
Table 14
Mathematics Proficiency for Each Strand, 2004-05 to 2005-06

		Number and Operations	Measurement	Geometry	Data	Algebra	Data Reported
Grade K	2004-05	85.8%	84.7%	85.5%	86.7%	86.3%	8,217
	2005-06	84.0%	84.5%	84.5%	85.4%	85.7%	8,891
Grade 1	2004-05	83.6%	82.9%	82.1%	79.9%	80.7%	8,100
	2005-06	83.2%	80.6%	82.7%	79.7%	78.9%	8,618
Grade 2	2004-05	78.2%	78.7%	79.9%	75.5%	74.2%	8,145
	2005-06	78.6%	79.3%	78.7%	75.0%	73.7%	8,393
Grade 3	2004-05	83.8%	76.8%	82.4%	80.0%	79.1%	7,151
	2005-06	81.1%	75.2%	80.0%	75.6%	75.8%	7,862
Grade 4	2004-05	80.7%	77.6%	80.7%	78.7%	75.4%	6,769
	2005-06	79.7%	76.3%	78.8%	75.3%	71.7%	7,211
Grade 5	2004-05	84.4%	79.6%	81.1%	78.4%	75.7%	7,476
	2005-06	83.2%	77.8%	80.1%	79.6%	76.3%	7,343
K-5 Combined	2004-05	82.8%	80.2%	82.0%	79.9%	78.7%	45,858
	2005-06	81.7%	79.2%	80.9%	78.6%	77.3%	48,318

Figure 7 compares the percentage of students proficient in all five mathematics strands over a two-year period. Although little change in proficiency rates occurred between 2004-05 and 2005-06, a downward trend in mastery percentages is exhibited.

- Students at each grade level performed relatively the same in 2005-06 compared to 2004-05, with the largest declines in proficiency rates among 3rd- and 4th-grade students.
- Comparisons between proficiency rates for all strands and proficiency rates for individual mathematics strands, as shown in the previous table (Table 14), indicate that students in grades K-5 are more likely to be proficient on an individual mathematics strand than all five strands.

Figure 7
Mathematics Proficiency for All Strands, 2004-05 to 2005-06



Aggregate school-level mathematics proficiency results for all strands are presented in Table 15. Results show a large range in numbers of students assessed per school. The range in the percentage of students by grade level who are proficient on all mathematics strands is wide as well, although less so among kindergarten students, suggesting substantial variation between mastery percentages among schools. Median grade-level achievement results are similar to the aforementioned district-level proficiency rates, as shown in Figure 6 above.

Kindergarten Students

- The range in the percentage of kindergarten students proficient on all mathematics strands is more constricted than the other grade levels. Olive Chapel placed at the top of the distribution with 95.1% of its students achieving mastery.

- About 90% of the kindergarten students at Zebulon Elementary were proficient on all mathematics strands, however, students in grades 1-5 had much lower levels of proficiency.
- Kindergarten students also had the highest median percentage of achieved proficiency compared to the other grade levels. Half of all schools that submitted data for kindergarten students had 77.9% of those students mastering each assessed area of mathematics.

First-Grade Students

- All 51 1st-grade students assessed at Wakelon Elementary School achieved mathematics proficiency standards. Highcroft Drive Elementary School also placed at the top of the distribution with 94% of its 150 students mastering all mathematics strands.
- First-grade students at Olive Chapel continued to perform at the upper end of the distribution.
- Some elementary schools with kindergarten students who were performing at the top of the range of percent proficient had 1st-grade students performing below the median percentage of mastery (70.8%).

Second-Grade Students

- Oak Grove, Turner Creek, and Brassfield elementary schools fell at the upper end of the mastery distribution.
- Second-grade students had the lowest median percentage of achieved proficiency compared to the other grade levels. Half of all schools that submitted data for 2nd-grade students had 63.8% of those students mastering all mathematics strands.

Third-Grade Students

- Eighty-eight percent of the 3rd-grade students at Salem Elementary were proficient on all mathematics strands. Most students at Salem mastered all assessed areas of mathematics at the other grades as well.
- Olive Chapel and Oak Grove continued to fall at the upper end of the percent proficient distribution.

Fourth-Grade Students

- The highest percentage of 4th-grade students achieving mathematics standards was at Oak Grove.
- Many of the schools at the top of the percent proficient range for 4th-grade students also had high percentages of students mastering mathematics at the other grade levels, for example, Davis Drive, Green Hope, Baucom, Morrisville, Brassfield, and Salem elementary schools.

Fifth-Grade Students

- Davis Drive, Brassfield, Turner Creek, Green Hope, and Oak Grove elementary schools remain at the top of the percent proficient range for 5th-grade students.

Table 15
School-Level Mathematics Proficiency for All Strands, 2005-06

Grade	Range		Median
	# Students Assessed	% Achieved Standard	% Achieved Standard
K	22 to 187	41.1% to 95.1%	77.9%
1	16 to 196	36.4% to 100%	70.8%
2	9 to 190	26.2% to 89.1%	63.8%
3	20 to 198	16.7% to 87.8%	67.5%
4	22 to 175	10.1% to 89.7%	64.7%
5	18 to 182	25.4% to 90.6%	72.2%

Note: Schools submitting data for five or fewer students within each grade level were excluded from the analysis.

SUBGROUP RESULTS

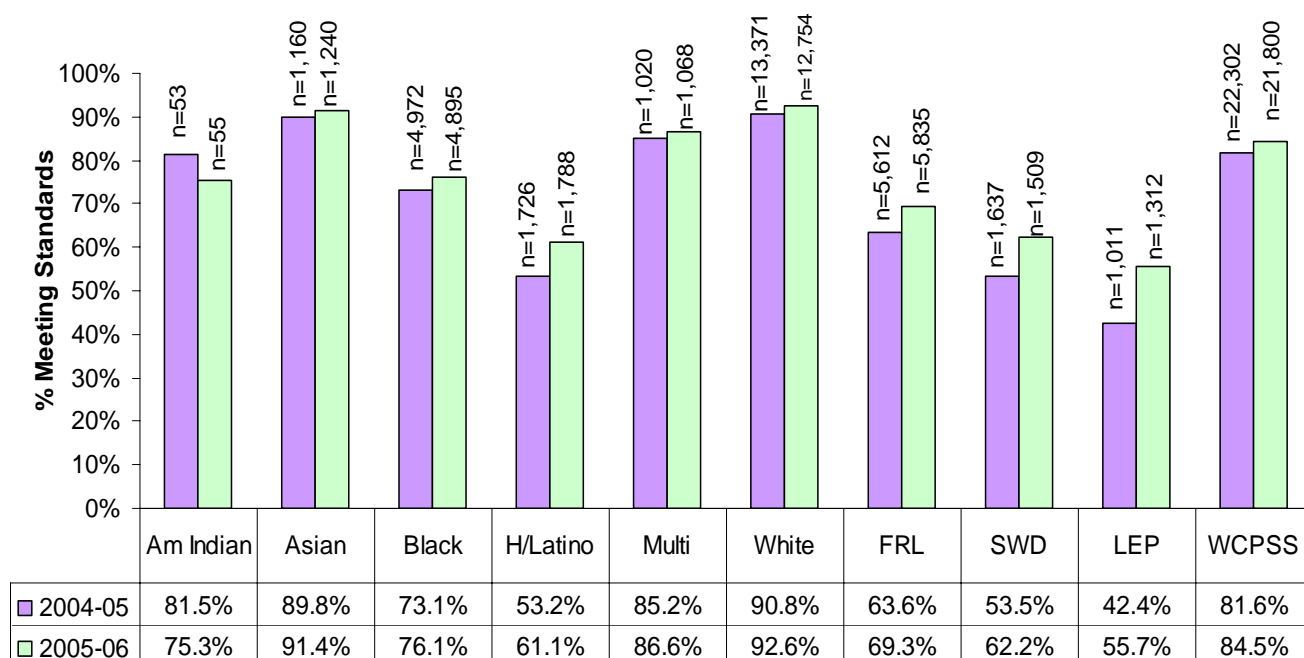
Figures 8 and 9 illustrate the differences in reading and mathematics achievement between subgroups early in students' education. It is important to remember that students may be included in more than one subgroup when interpreting the results.

Receptive Literacy

According to results presented in Figure 8, students have diverse levels of reading ability at grades K-2. Student subgroups with the lowest reading proficiency rates had the greatest gains between 2004-05 and 2005-06.

- LEP students had the lowest reading proficiency rates followed by Hispanic/Latino students, SWD students, and FRL students. These student subgroups also exhibited the greatest improvements in reading proficiency.
- LEP students experienced the largest gain in reading proficiency between 2004-05 and 2005-06 (a 13.3 percentage point increase).
- SWD students, Hispanic/Latino students and FRL students also had relatively large gains in reading proficiency between 2004-05 and 2005-06 (8.7 percentage points, 7.9 percentage points and 5.7 percentage points respectively).
- In comparison to 2004-05 results, Asian students, Black/African American students, Multiracial students, and White students experienced trivial increases in the percentage meeting reading book-level standards.
- In 2005-06, the largest gap was between White students and LEP students, at 36.9 percentage points.

Figure 8
K-2 Students Meeting Book-Level Standards by Subgroups, 2005-06



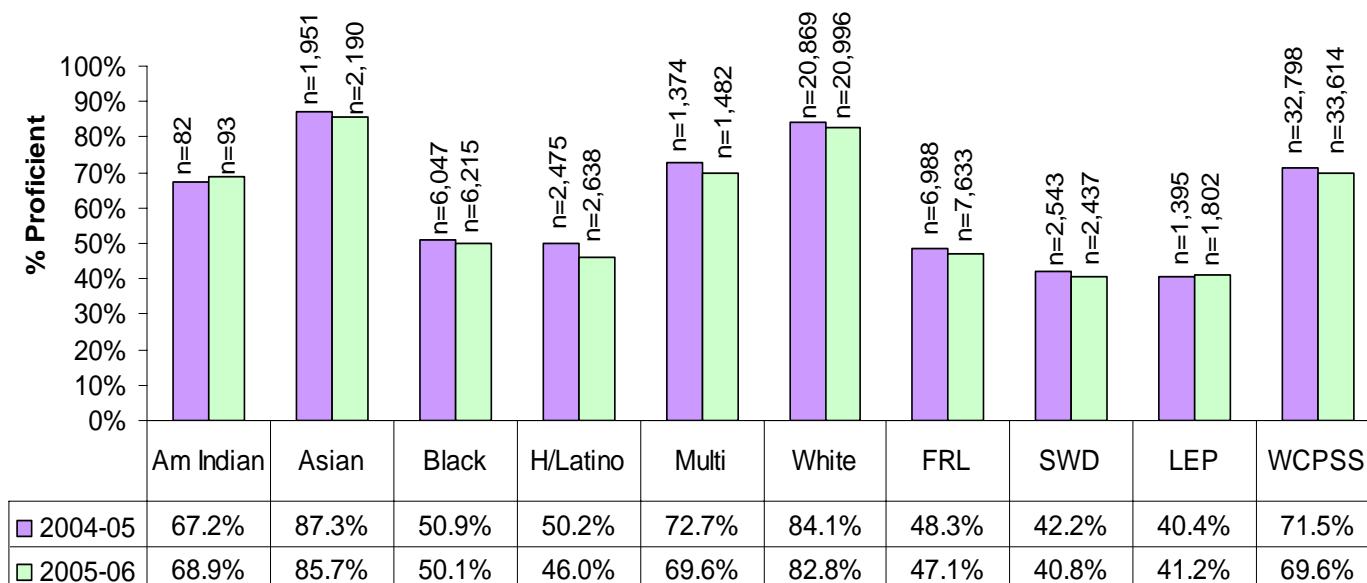
Note: N counts are total number of students meeting book-level standards in that subgroup. Fewer students were assessed in 2005-06 compared to 2004-05 in every subgroup except American Indian students and Multiracial students (not shown in Figure).

Mathematics

Gaps in students’ mathematics achievement are also evident. As shown in Figure 9, students have diverse levels of mathematics ability as early as K-5. Overall, results based on 2005-06 assessments show modest declines in proficiency since 2004-05, with the exception of American Indian students and LEP students. A greater number of students were assessed in 2005-06 compared to 2004-05 in every subgroup except SWD students.

- Mathematics proficient rates among Black students, Hispanic/Latino students, FRL students, and SWD students decreased slightly between 2004-05 and 2005-06, with Hispanic/Latino students experiencing the largest decline.
- Results from 2005-06 show the lowest performance in mathematics among SWD students, followed by LEP students, Hispanic/Latino students, FRL students, and Black students. Students in these subgroups may benefit from targeted instructional assistance to improve mathematics proficiency.
- In comparison to 2004-05 results for higher performing subgroups, Asian students, Multiracial students, and White students experienced trivial decreases in the percentage mastering all mathematics strands.
- In 2005-06, the largest gap was between Asian students and SWD students, at 44.9 percentage points.

Figure 9
K-5 Students Proficient in All Mathematics Strands by Subgroups, 2005-06



Note: N counts are total number of students proficient in that subgroup. A greater number of students were assessed in 2005-06 compared to 2004-05 in every subgroup except SWD students (not shown in Figure).

DISCUSSION AND CONCLUSION

In 2005-06, teachers did not report any assessment data for over 5,000 students, which accounts for 9.3% of the elementary student population in 2005-06, who were enrolled as of June 2006. This rate of missing data is 2.5 percentage points higher than the rate of missing data in 2004-05. Teachers are not required to submit K-5 assessment data in the same manner that they are required to report state assessment results. The amount of unreported K-5 assessment data continues to impact the degree to which district and school-level K-5 summary results represent the enrolled elementary population. Findings of this report show that the vast majority of missing data are from schools that have elected to use eMARC to submit K-5 assessment data. Because it was not apparent whether teachers were not assessing these students or if they simply were not reporting complete student assessment data, several of the eMARC schools with large amounts of missing data were contacted. We learned that not all teachers were entering year-end assessment data into eMARC; therefore, teachers were assessing students to a greater extent than was represented by the reported data. Although schools are responsible for submitting complete and accurate data, it is the joint responsibility of the Evaluation and Research Department, the Instructional Technology and Media Department, and the Office of Elementary Education Services to provide accessible data collection instruments and to encourage data entry. Plans for 2006-07 data collection may include a review of current processes.

Reported data for the 54,128 elementary students reveal several interesting findings. Reading book-level results for kindergarten students are strikingly positive. Districtwide, 89% of kindergarten students met book-level standards in 2005-06, which is a ten-percentage point improvement from 2004-05. School-level results also indicate that kindergarten students are excelling in reading across all WCPSS elementary schools. No school had fewer than 71% of kindergarten students who were reading at book-level 3-4, and the median percentage of kindergarten students who achieved this standard was 90%. Additional research might examine whether these kindergarten students entered elementary school with pre-established high levels of literacy. Conversely, studies may test the hypothesis that more kindergarten students may be retained because of their failure to achieve the desired level of reading literacy, and as these students advance in reading the following year, the degree to which they inflate the percentage of kindergarten students meeting book-level standards.

Students in grades 3-5 continue to exhibit lower levels of reading proficiency as measured by the expository rubric and narrative rubric assessments compared to the EOG reading test. This is somewhat surprising because these assessments are closely aligned to the instructional calendar, rather than given in the fall and spring only, as EOG exams are structured. Expository and narrative assessments are more rigorous than EOG reading exams. Many of the questions require students to provide written responses; therefore, a student's writing ability can influence his/her performance. This may partially explain why expository and narrative proficiency rates bear more of a resemblance to statewide grade 4 writing test results for 2005-06. Students in grade 4 also have the lowest proficiency rates across reading strands compared 3rd- and 5th-grade students. However, higher percentages of students are proficient on reading strands than expository and narrative assessments. According to staff within the Office of Elementary School Services, instructional emphasis was placed on reading strand content areas, such as vocabulary, in 2005-06. School-level results reveal that the percentages of students proficient on expository

and narrative rubric assessments vary greatly by elementary school. Some schools reported fewer than 10% of their 3rd-, 4th- and/or 5th- grade students proficient on these assessments while over 90% of students in other schools were reported as achieving grade-level reading standards. Examining the practices and processes within the most effective schools, as well as the level of student diversity, may lead to a better understanding of the basis for this disparity.

Expressive literacy continues to be a focal curriculum area in need of improvement. Only 26.5% of 2nd-grade students performed at the late independent stage of writing on their most recent unassisted writing sample. Percentages of kindergarten and 1st-grade students within each stage of writing increase prior to peaking at the standard and then decline precipitously. The scaling pattern for 2nd-grade students reflects most students writing at the two stages immediately prior to the standard. While the stage-of-writing standards appear appropriate for kindergarten and 1st-grade students, the standard appears misplaced within the writing scale at grade 2. School-level results show that some schools are more successful in producing grade-level writing outcomes among 2nd-grade students, so the effects do not appear to be completely systematic. Although teachers were provided with exemplars of these standards, it is possible that teachers may not fully understand the standards and may not be comfortable identifying the characteristics of late independent writers. It is also possible that writing at the late independent stage exceeds the expected and actual ability of 2nd-grade students. It is conceivable that an adjustment of the stage-of-writing scale combined with more teacher directed instruction could propel an improvement in results.

Despite a renewed instructional emphasis on writing conventions in 2005-06, only slightly more than half (54.4%) of students in grades 3-5 mastered these skills. Students were more likely to have writing content mastery. Compared to 3rd- and 5th-grade students, 4th-grade students have the lowest proficiency rates on all expressive literacy assessments including writing strands. The percentages of students literate in writing also vary greatly by WCPSS elementary school. While some schools have much lower percentages of students proficient in writing conventions and content than the district, students at other schools are well-above district proficiency rates. In general, 5th-grade students at all schools have better performance than 3rd- and 4th- grade students. It is possible that 4th-grade students are overwhelmed with academic pressure to perform well on K-5 assessments, EOG exams, and the North Carolina 4th-Grade Writing Test.

Most students are proficient in all five mathematics strands and in each mathematics strand, with slightly lower proficiency rates in algebra. However, a slight downward trend in mathematics strands proficiency rates was evident between 2004-05 and 2005-06. This may be a result of the more rigorous mathematics curriculum that was fully implemented in 2005-06. Teachers may also have a better understanding of how to differentiate proficient students from non-proficient students.

School-level results show a wide range in the percentage of students by grade level who are proficient on all mathematics strands, suggesting substantial variation between mastery percentages among schools. Proficiency rates among kindergarten students, however, are less disparate. Certain schools were identified as maintaining high levels of mathematics mastery across grade levels. It would be interesting to study the teaching ethos within these schools and the extent of availability and participation in learning communities that may enrich mathematics

instruction. It is also important to remember that all assessment results are based on teacher judgments and that teachers may not be consistent in their ratings. Reliability could be improved through training and discussions with colleagues.

Disaggregated K-5 assessment results show that achievement gaps between subgroups are more extreme in mathematics than reading. In 2005-06, the largest gap for mathematics is between Asian students and SWD students, at 44.9 percentage points, whereas a 36.9 percentage point reading span exists between White students and LEP students. Results indicate that Hispanic/Latino students, FRL students, SWD students, and LEP students are most at risk of low performance in reading and mathematics, and may benefit from targeted instructional assistance. These student subgroups did experience gains in reading book-level proficiency between 2004-05 and 2005-06; however, with the exception of LEP students, their mathematics proficiency decreased slightly. Future studies may examine the extent to which teachers and school administrators have been diligent in referring these students to appropriate services, which consequently may have enhanced their learning and performance.

Although moderate to high percentages of students demonstrated grade-level performance on K-5 assessment measures in 2005-06, overall performance on literacy and mathematics assessments remained relatively constant compared to previous years' results. Expressive literacy results continue to be lower than receptive literacy measures. School-level analyses also reveal the disparity in proficiency rates between elementary schools. Although the relationship is not consistent, some of the schools recognized as low performing in certain areas of the curriculum do have high numbers of students identified in one or two of the at-risk subgroups. Additionally, rates of missing data and school-level analyses indicate that not all schools are submitting complete assessment data for students by grade-level, limiting the usefulness of K-5 assessment data in examining school and district performance. Continual efforts by central services staff, teachers, principles, and school administrators are necessary to bolster student assessment, data reporting, and ultimately, performance on K-5 measures of literacy and mathematics.