



Data Analysis

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Notes



Data Analysis

Background Information

Data is analyzed to answer three questions:

- Who is succeeding academically?
- Who is not succeeding?
- How do we improve student achievement?

Multiple sources of data should be used to get a clear and complete picture of a school's performance. Test scores are used first because they are the most accessible measure we have by which we can determine how students are doing.

Why do we test?

The federal *No Child Left Behind Act* and Georgia's *A+ Education Reform Act of 2000* require annual testing in specific grades and subjects. The purposes of the assessments are to identify students performing below grade level, to provide teachers with diagnostic information, and to assist the school systems in establishing priorities as they plan.

Federal law requires annual testing in reading and math in grades 3–8 and one grade in 9-12. Georgia uses the High School Graduation Test given in grade 11 to satisfy the high school requirement. Beginning in the 2007-2008 school year a science test must be given at least once in elementary, middle, and high school. **State law** (OCGA 20-2-281) requires a kindergarten assessment, criterion-referenced tests in grades 1-8 in reading, math, and English language arts. In grades 3-8 science and social studies tests must be given also. A writing assessment is required in grades 3, 5, 8, and 11. End-of-course tests and the high school graduation test are required in high school. Local school systems may elect to administer, with state funding, nationally norm-referenced tests in reading, math, science, and social studies in either grades 3, 4 or 5, and in either grades 6, 7, or 8. Some local systems add additional testing requirements and pay for them with local funds. Both federal and state laws require that the state participate in the National Assessment of Educational Progress (NAEP).

Why do we have to have both CRCTs and ITBS or Stanford 9?

The CRCT is the criterion-referenced competency test, and the Iowa Test of Basic Skills (ITBS) and Stanford 9 are norm-referenced tests. A criterion-referenced test measures how well students have learned a particular curriculum. "Cut scores" determine the intervals for the categories of scoring: exceeds the standard (350-450), meets the standard (300-349), and does not meet the standard (below 300). The CRCTs, writing assessments, end-of-course tests and graduation test are criterion-referenced tests. Norm-referenced tests measure how well students perform on questions of general knowledge compared to the national average. Scores are reported in percentiles of 1 to 99. The 50th percentile is the median and is considered an average score. The 25th percentile -- meaning the student performed better than 25% of the students who took the test and worse than 75% -- and below show significant weakness. The CRCT tests how well students have mastered the curriculum established by the State Board of Education. The norm-referenced test compares our students' mastery of general knowledge to other students in the nation.

What is the NAEP test?

The National Assessment of Education Progress (NAEP) is sometimes referred to as the nation's report card. The test is given in reading, math, science, and social studies. Results are provided only at the state level. Federal law requires states to participate in reading and math assessments in grades four and eight every other year. This is considered a check and balance to the state test results. If state



scores are high and NAEP scores are low, it could mean that the state test is not challenging enough or that the state standards are too low. The chart below shows that the 4th grade CRCT math scores track the NAEP scores closely, but there is a large difference in the reading scores in 4th and 8th grades. NAEP scores are reported as below basic, basic, proficient, and advanced.

COMPARISON OF NAEP BELOW BASIC AND CRCT DOES NOT MEET

	4th Grade Reading		8th Grade Reading	
	2006-2007		2006-2007	
	<u>NAEP</u>	<u>CRCT</u>	<u>NAEP</u>	<u>CRCT</u>
All	34%	15%	30%	11%
Asian	22%	7%	No data	6%
Black	52%	23%	44%	16%
Hispanic	42%	24%	38%	20%
White	21%	8%	16%	6%
Males	38%	17%	35%	14%
Females	31%	13%	25%	9%
FRL	49%	23%	43%	17%
Not FRL	20%	7%	18%	5%

	4th Grade Math		8th Grade Math	
	2006-2007		2006-2007	
	<u>NAEP</u>	<u>CRCT</u>	<u>NAEP</u>	<u>CRCT</u>
All	21%	22%	36%	19%
Asian	10%	6%	No data	4%
Black	36%	32%	52%	27%
Hispanic	25%	27%	45%	24%
White	10%	14%	20%	11%
Males	21%	23%	36%	21%
Females	22%	21%	36%	16%
FRL	32%	30%	51%	27%
Not FRL	9%	11%	22%	10%

	4th Grade Science		8th Grade Science	
	2005-2006		2005-2006	
	<u>NAEP</u>	<u>CRCT</u>	<u>NAEP</u>	<u>CRCT</u>
All	37%	12%	47%	24%
Asian	23%	4%	29%	10%
Black	58%	20%	71%	37%
Hispanic	52%	18%	65%	32%
White	19%	5%	28%	12%
Males	37%	12%	45%	25%
Females	37%	11%	49%	22%
FRL	53%	18%	67%	35%
Not FRL	19%	5%	30%	13%

**Where do I find information?**

State, system, and school “report cards” are produced by the Office of Student Achievement (www.gaosa.org). This site has test scores, graduation and attendance data, and demographics. Prior to 2003, the Georgia Department of Education (www.gadoe.org) also produced a report card. That historical information is still archived on the site. The annual Report on Adequate Yearly Progress for schools, systems and the state is on this website. The “Needs Improvement list” does not actually exist. There is a report on the status of Title I schools that indicates whether they made AYP, whether they are in “needs improvement,” and in what year of the “needs improvement” cycle the school is in. Prior to *No Child Left Behind*, the requirement to meet AYP applied only to Title I schools. Now it applies to all schools, systems, and states. 2004 was the first year that a non-title I school or school system could be in “needs improvement.”

GSCI’s Center for School Performance (www.GeorgiaEducation.org) provides state, system, and school demographic profiles, test scores, achievement gap graphs, and similar school comparisons. This is the only site that compares test scores of demographically similar schools. It is also the only site that compares more than 3 years of trend data.



How to Analyze Test Scores

Analyzing data is like putting together a puzzle: start with the big pieces to see how and where the smaller pieces fit. It is easy to get caught up in the numbers, so keep in mind that the purpose of the analysis is to see who is succeeding, who is not, and how to improve student achievement.

Start with the state. Go to www.GeorgiaEducation.org's Center for School Performance. Look at the Profile report to see the demographics of the state. What changes are occurring? What implications do those changes have for student achievement?



2008 Profiles Report Georgia

Demographics and Other Factors	2008	2007	2006	2005	2004
Total Enrollment	1,609,681	1,589,839	1,559,828	1,515,646	1,486,125
Ethnicity/Race					
Asian/Pacific Islander	3%	3%	3%	3%	3%
Black/African American	38%	38%	38%	38%	38%
Hispanic	10%	9%	8%	8%	7%
Multiracial	3%	3%	2%	2%	2%
Native American	0%	0%	0%	0%	0%
White/Non-Hispanic	46%	47%	48%	49%	51%
Other Subgroups					
Free/Reduced Lunch	51%	50%	50%	48%	46%
Limited English Prof	5%	5%	5%	5%	4%
Special Education	11%	12%	12%	12%	12%
Migrant	0%	0%	0%	1%	1%

Exercise: How much has the Hispanic student population grown since 2004?

The Hispanic population has grown from 7% of the total student enrollment to 10% - an increase of three percentage points. This may initially appear insignificant, but let's take a closer look:

2004: $(1,486,125 \times 7\%) = 104,029$ Hispanic students

2008: $(1,609,681 \times 10\%) = 160,968$ Hispanic students

- An increase of 56,939 Hispanic students represents a 55% increase in Hispanic students. (56,939 divided by 104,029 equals 55%)
- Total enrollment for the state has increased by 123,556 since 2004. Almost half of the new student enrollment since 2004 has been Hispanic. (56,939 divided by 123,556 equals 46.08%)



Next, look at test scores for all the students at the state level.

State Reports

Test Scores

2008 CRCT Test Scores Analysis Georgia For All Students - 2nd Grade

View Scores by Group:

Select a Test:

Subject	2008	2007	2006	2005	2004
Reading					
Exceeds Standard	39%	48%	39%	53%	50%
Meets Standard	53%	43%	50%	34%	35%
Does Not Meet	8%	9%	11%	13%	14%
Number Tested	128,174	124,508	120,760	116,999	113,364
# Does Not Meet	10,254	11,206	13,284	15,210	15,871
English/Lang Arts					
Exceeds Standard	26%	21%	19%	40%	34%
Meets Standard	58%	63%	64%	49%	52%
Does Not Meet	16%	16%	16%	11%	13%
Number Tested	128,158	124,440	120,722	116,941	113,329
# Does Not Meet	20,505	19,910	19,316	12,864	14,733
Math					
Exceeds Standard	22%	21%	33%	34%	32%
Meets Standard	63%	60%	55%	54%	55%
Does Not Meet	15%	19%	13%	12%	13%
Number Tested	128,311	124,712	121,161	116,917	113,293
# Does Not Meet	19,247	23,695	15,751	14,030	14,728

Points to Ponder:

- The percent exceeding the standard should be going up, and the percent not meeting the standard should be going down. This would mean that not only are more students at grade level but also more students are doing high level work.
- If there is a decrease in the percent meeting the standard, is there an increase in the percent exceeding the standard or not meeting the standard?
- If there is an increase in the percent of students not meeting the standard, are more students below grade level?
- Look for changes in the number of students tested.
- The trend information is more important than comparing one year to another.
- Remember you are not comparing the same group of students.
- Has improvement been greater in one subject? Is there a reason?
- Changes in percentage points is not the same as changes in percents.



Exercise: The percent of second grade students exceeding the standard in English/Language Arts has increased by 7 percentage points in the last three years. The percent of students who did not meet the standard, however, was the same in the last three years. Is that a bad sign?

Not necessarily, but the answer requires further analysis. First, this question compares trend information to a year-over-year comparison. Trend data is more important because we are not comparing the same group of students. Second, look at the number of students tested and how the disaggregated groups performed.

Is there a difference in the number of students tested each year?

- The number tested shows that 3718 more students were tested in 2008 than in 2007. Which students did we have more of?
- Disaggregate the number of additional students tested by looking at the number tested in each subgroup.
- The number of white students tested increased by 148, so 96% of the additional students were minorities, particularly Black (1785) and Hispanic (918). 41% more were Limited English Proficient, and 98.6% more were Economically Disadvantaged.
- We had an increasing number of students in the groups with a higher percentage English/Language Arts below grade level.

How did the disaggregated groups perform?

- There was steady improvement over three years in the Black, Hispanic, Not Economically Disadvantaged, and Limited English Proficient students' performance.

The fact that the overall percentage not meeting the standard remained the same is probably a positive sign. There were more students in groups that have a higher percentage scoring below grade level, there was improvement in four subgroups, and overall we lost no ground.

Now look for achievement gaps.

This can be done in two ways. Click on a subject under "Achievement Gap Analysis" on the Test Scores report to see the scores graphed by student group. This allows you to easily compare the subgroups. You can also determine the achievement gap by disaggregating the test score report. Click on the box labeled "View Scores by Group" and select a subgroup. These pages also show the trend in the scores of the subgroups.

2008 CRCT Test Scores Analysis Georgia For All Students - 2nd Grade



[Print this Report](#)

View Scores by Group:

All

Select a Test:

CRCT- 2nd Grade

Additional Pages in this Report:

[System and State Comparisons](#)
Achievement Gap Analysis: [Reading](#)
[Lang Arts](#) [Math](#)

- Which groups of students have the highest proportion performing below grade level?
- Are some groups doing better than others?
- Which groups have more students not meeting the standard?
- Are the differences about the same in every subject?

The state analysis is the big picture. It provides something to which you can compare your system and school.



Do the same kind of analysis at the system and school level.

1. Start with the Profile report.



2. Look for changes in the student population.
3. Do you need further analysis, or does the report accurately reflect any changes?
4. What might the changes mean for test scores and student achievement?
5. Next, look at test scores for all students.
6. In each subject area, look at the change in the percent exceeding and the percent not meeting the standard.
7. Has the number of students being tested changed?
8. Compare the scores to the system and state.

2008 CRCT Test Scores Analysis Fulton County Schools For All Students - 4th Grade



View Scores by Group:

All

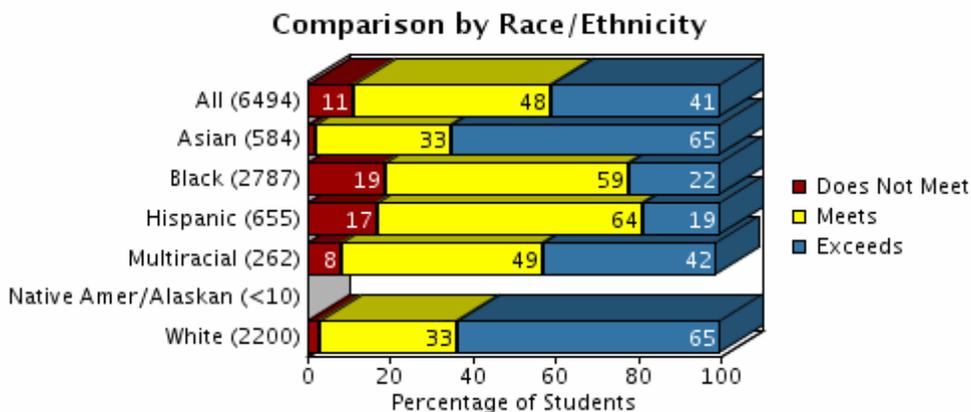
Select a Test:

CRCT- 4th Grade

Additional Pages in this Report:

System and State Comparisons
Achievement Gap Analysis: [Reading](#)
[Lang Arts](#) [Math](#) [Soc Studies](#) [Science](#)

9. Disaggregate the scores by clicking on the box labeled “View scores by group.”
10. Check the achievement gap graphs.





You now know how your school scored and how that score compares to your system and state. The last part of the puzzle is to see how your school compares to schools with similar demographics. The “Similar Schools” report will give you this information. **First**, select the test for which you want to compare scores. Because of the many different school configurations in Georgia, the search engine must look for all schools that gave a particular test then find the schools with a similar population to yours. The next page seen will list your school (the target school), Georgia, and all the similar schools. The demographics are shown also.

School Reports

Similar Schools

2008 Similar Schools Profiles Mimosa Elementary, Fulton County CRCT - 5th Grade



Select a Test:

Additional Pages in this Report:

[Test Scores Comparisons](#)
 Target Schools by Subject: [Reading](#)
[Lang Arts](#) [Math](#) [Soc Studies](#) [Science](#)

Select up to five schools for the Target Schools reports.

School	System	FRL	LEP	Asian	Black	Hisp	Multi	Native Amer	White	Spec Ed	Sim Index
Mimosa Elementary	Fulton County	74	45	3	18	64	5	0	10	11	-
Georgia	Georgia	51	5	3	38	10	3	0	46	11	-
<input checked="" type="checkbox"/> High Point Elementary	Fulton County	74	41	2	16	61	5	0	16	9	1
<input checked="" type="checkbox"/> Bethesda Elementary	Gwinnett County	75	41	11	20	59	3	0	7	8	1
<input checked="" type="checkbox"/> Beaver Ridge Elementary	Gwinnett County	79	47	7	25	59	5	0	5	8	2
<input checked="" type="checkbox"/> Norcross Elementary	Gwinnett County	80	50	8	20	63	3	0	5	10	2
<input checked="" type="checkbox"/> Green Acres Elementary	Cobb County	83	52	1	21	69	3	0	6	8	2
<input type="checkbox"/> Garden Hills Elementary	Atlanta City	84	48	4	10	72	3	0	11	9	2
<input type="checkbox"/> Hopkins Elementary	Gwinnett County	84	50	7	22	64	3	0	4	9	2
<input type="checkbox"/> Antioch Elementary	Whitfield County	76	37	0	1	62	5	0	32	6	3
<input type="checkbox"/> Dawnville Elementary	Whitfield County	77	40	0	2	55	4	0	39	8	3
<input type="checkbox"/> McEver Elementary	Hall County	83	40	3	2	71	1	0	24	13	3
<input type="checkbox"/> Charles Brant Chesney Elementary	Gwinnett County	69	44	15	23	50	3	0	10	9	4
<input type="checkbox"/> Minor Elementary	Gwinnett County	80	43	14	27	50	3	0	7	11	4
<input type="checkbox"/> House Elementary	Rockdale County	80	33	0	15	59	3	0	22	6	5
<input type="checkbox"/> LaBelle Elementary	Cobb County	86	52	2	17	71	2	0	7	17	6

Schools are listed in the order of their similarity to the selected school. Similarity is based on four factors:

1. Percentage of students eligible for Free and/or Reduced Lunch (FRL)
2. Percentage of students with Limited English Proficiency (LEP)
3. Highest ethnic/race percentage at the selected school
4. Second highest ethnic/race percentage at the selected school

The similarity index shows how closely a school compares with the selected school on these four factors, with 1 indicating the most similar schools.



Next, click on “Test Scores Comparisons” to see the test scores of all the schools. The same “View Scores by Group” disaggregation box is available. The list is sortable by clicking on “M/E” (Meets and Exceeds) to see the schools ranked by the highest percentage of students. Clicking on “DNM” (Did Not Meet) puts the lowest achieving at the top.

**2008 CRCT Test Scores Comparison
Mimosa Elementary, Fulton County
For All Students - 5th Grade**



[Print this Report](#)

View Scores by Group:

All

Select a Test:

CRCT- 5th Grade

Additional Pages in this Report:

- [Similar Schools Profiles](#)
- Target Schools by Subject: [Reading](#)
- [Lang Arts](#) [Math](#) [Soc Studies](#) [Science](#)

Click on a performance level to sort.

Rank	Sim Index	School	Reading		English/ Language Arts		Math		Social Studies		Science	
			M/E	DNM	M/E	DNM	M/E	DNM	M/E	DNM	M/E	DNM
	-	Mimosa Elementary	90	10	84	16	78	21	87	13	58	43
	-	Georgia	93	7	90	10	85	16	89	11	72	29

If you prefer a graph to looking at the numbers, click on a subject area below “Target schools by subject.”

**2008 CRCT Test Scores Comparison
Mimosa Elementary, Fulton County
For All Students - 5th Grade**



[Print this Report](#)

View Scores by Group:

All

Select a Test:

CRCT- 5th Grade

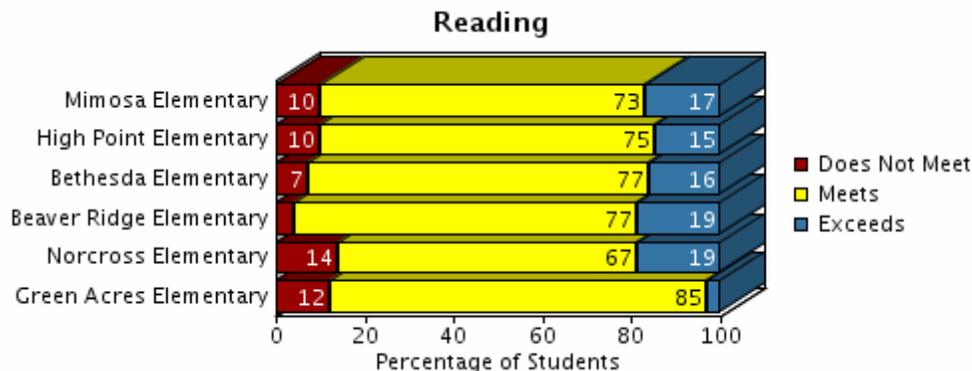
Additional Pages in this Report:

- [Similar Schools Profiles](#)
- Target Schools by Subject: [Reading](#)
- [Lang Arts](#) [Math](#) [Soc Studies](#) [Science](#)

Click on a performance level to sort.

Rank	Sim Index	School	Reading		English/ Language Arts		Math		Social Studies		Science	
			M/E	DNM	M/E	DNM	M/E	DNM	M/E	DNM	M/E	DNM
	-	Mimosa Elementary	90	10	84	16	78	21	87	13	58	43
	-	Georgia	93	7	90	10	85	16	89	11	72	29

The graph will include your school and the five most similar schools.





If you prefer to see a different school in the graph, click on “Similar Schools Profiles” to go back to the page with the demographics. Each school has a box to the left, and the top five are checked. Uncheck any you do not wish to include in your graph. Click on one of the checked boxes to uncheck it. Then click on the box beside the school you want to add to the graph. No more than five can be checked. At the top of the page, click the target school subject area you want to see graphed. The schools you selected will be shown.

Summarize the data. A CRCT Data Analysis Worksheet is provided to help put this information in perspective. Make copies of the sheet to analyze each subject area and subgroup. The similar school work area allows you to analyze all subgroups in one subject area at once. Completing the worksheet for all the students and doing a similar schools analysis for the subgroups will give you a good snapshot view of your school’s performance. A lot of information has been gathered, but it has to be summarized to serve its purpose.

- What percent of the students exceeded the standard in each subject?
- What was the change over the previous year?
- What percent of the students did not meet the standard in each subject?
- What was the change over the previous year?
- How many (number not percentage) students must be brought up to grade level?
- If there is a trend in the scores, is it positive or negative?
- Overall, what subjects are you most pleased with?
- What subjects cause you the most concern?
- What student group(s) is/are doing better than the grade as a whole?
- What group(s) is/are having more difficulty than the grade as a whole?
- How does your school rank within its similar schools?
- Is your school above or below the state average overall?
- Are the subgroups’ scores above or below the state average?
- Is your school above or below the system average overall?
- Are the subgroups’ scores above or below the system average?
- What might be causing the achievement gap?
- What further information do you need to determine what steps to take to increase student achievement? (See School Data list on page 5.26 and “Questions To Ask For Other Data” on page 2.16 for ideas.)
- What should the community know about your school’s performance? How will they be told? (See section 3 on Engaging Parents and the Community for ideas.)

Common issues. When analyzing test data, a few other points commonly come up. **SAT scores** have become the standard the public uses to rank states and high schools. When states are ranked according to the SAT, Georgia usually ranks in the bottom 5. The participation rate (70%+) is usually brought up as one explanation for the score. Georgia does have a high percentage of students taking the SAT. Yet Massachusetts and Connecticut have more than 10% more students taking the SAT and score more than 69 points higher. Delaware, Virginia and Maryland have about the same participation rate as Georgia, yet score significantly higher. The percentage of students awarded a diploma is also about the same as the percentage of students taking the SAT. Clearly, the participation rate is not the problem. The SAT is designed to measure how well prepared a student is for college. Our SAT scores reflect that too many of our students are not prepared for college. ACT scores are not as widely reported, but Georgia also ranks in the bottom 5 on that test.



Another issue that comes up in relation to test scores is **mobility** or transience – students who move during the school year. Principals can provide the number of students who have transferred in and out of the school. Any effect that has on test scores can only be estimated by comparing the AYP report and test scores on the “report card.” Test score reports show the results for all students who took the test no matter how long they were at the school. The Adequate Yearly Progress (AYP) report provides a way to balance that. The AYP report includes the scores only of those students who were present for the full academic year (fall student count through the spring testing date). The Reading and English Language Arts score is combined, so it would take some calculations to separate that. Math, however, can be used as a quick gauge of mobility and the effect on test scores. Compare the number of students included in the math AYP score (www.gadoe.org) to the number reported on the test score report for all grades included in AYP. Remember that AYP is calculated by school, system, or state not by grade level. Test scores, however, are reported by grade. A higher number tested than shown on the AYP report is the number of students who arrived after the fall count. If there is a significant difference in the number of students, what is the difference in the score?

Trend analysis of test scores can be affected by the implementation of a new curriculum and test. Consider the following state data for 2nd grade.

2008 CRCT Test Scores Analysis Georgia For All Students - 2nd Grade

View Scores by Group:

All

Select a Test:

CRCT- 2nd Grade

Subject	2008	2007	2006	2005	2004
Reading					
Exceeds Standard	39%	48%	39%	53%	50%
Meets Standard	53%	43%	50%	34%	35%
Does Not Meet	8%	9%	11%	13%	14%
Number Tested	128,174	124,508	120,760	116,999	113,364
# Does Not Meet	10,254	11,206	13,284	15,210	15,871
English/Lang Arts					
Exceeds Standard	26%	21%	19%	40%	34%
Meets Standard	58%	63%	64%	49%	52%
Does Not Meet	16%	16%	16%	11%	13%
Number Tested	128,158	124,440	120,722	116,941	113,329
# Does Not Meet	20,505	19,910	19,316	12,864	14,733
Math					
Exceeds Standard	22%	21%	33%	34%	32%
Meets Standard	63%	60%	55%	54%	55%
Does Not Meet	15%	19%	13%	12%	13%
Number Tested	128,311	124,712	121,161	116,917	113,293
# Does Not Meet	19,247	23,695	15,751	14,030	14,728



There were significant changes in the years highlighted for each subject. During this time, the first CRCT was administered using the new Georgia Performance Standards curriculum. Many times, test scores will dip during the first administration of a new test. However, a comparison of the trend data can still provide insight into other issues that might have contributed to the decline. Is more staff development needed to help teachers implement the new curriculum? Do teachers have access to lesson plans, classroom materials and common assessments to support the new curriculum? Do certain subgroups seem to have more difficulty with the new standards? A chart is provided later in this chapter that details the phase-in testing plan for the GPS assessments.

If you are provided an analysis instead of doing it, look at the information objectively.

- Do the numbers make sense?
- If comparisons are made, are they fair and sensible?
- Is trend information included?
- Were conclusions drawn for you?
- Does anyone involved in reaching the conclusion have a stake in it?
- Have you been given enough information to answer the summary analysis questions?

Finally, keep in mind that data analysis is the beginning of the process not the end. When looking at any data consider whether it is an indicator or a conclusion. Analyzing test results in the context of other factors can lead to important conclusions about ways to improve student learning, classroom instruction, and the school environment. Fast judgments based on test scores alone result in superficial responses to real educational issues. The type of analysis detailed above leads you to data-based questions that can impact student achievement.

“Not everything that counts can be counted and not everything that can be counted counts.” Einstein



Questions to Guide Test Data Analysis

Criterion-Referenced Competency Test (CRCT)

1. What percentage of students fall into the Does Not Meet category?
2. Do any subgroups of students perform significantly below (10 points or more) other subgroups of students?
3. Are there significant differences (10 points or more) in the percentages of students who fall into the Meets and Exceeds category?
4. Are there significant differences in results between grade levels within content areas?
5. Are there significant differences in results between classes within a grade level?
6. Do the current results show significant improvement or gain from the previous year's results?
7. Do the current results show significant improvement or gain over a period of years?
8. How are similar schools performing?

Norm-Referenced Test (ITBS, Stanford 9)

1. What percentage of students fall below the 50th percentile?
2. What percentage of students fall at or below the 25th percentile?
3. Do any subgroups of students perform significantly below (10 points or more) other subgroups of students?
4. Are there significant differences in results between grade levels within content areas?
5. Are there significant differences in results between classes within a grade level?
6. Do the current results show significant improvement or gain from the previous year's results?
7. Do the current results show significant improvement or gain over a period of years?
8. How are similar schools performing?

Eighth Grade Writing Assessment

1. How many students are Not on Target, On Target, and Exceeding the Target?
2. Does any one sub-category of students perform significantly lower than the other subgroups?
3. Do the current results show significant improvement or gain from the previous year's results?
4. Do the current results show significant improvement or gain over a period of years?
5. How did similar schools perform?

Georgia High School Graduation Tests

1. What percentage of students pass the high school graduation test in each subject area?
2. Do students in one subgroup perform significantly lower than other subgroups?
3. What percentage of students have to take the test more than once to pass?
4. Are there significant scoring differences between subject areas?
5. Do the scoring differences persist over time?
6. What percentage of students do not receive a diploma in their program of study as a result of the test?



Questions To Ask For Other Data

Teaching Staff

1. What percentage of teachers hold master's degrees or higher?
2. What percentage of teachers have been teaching 3 or more years?
3. What percentage of teachers teach out of field one or more class periods per day?
4. What percentage of teachers have attended staff development on curriculum, instruction, assessment, or classroom management in the last year?
5. What is the average number of days per year teachers are absent?
6. How many classes by subject area were substitutes needed in the past year?

Discipline

1. What is the average number of students absent per day?
2. What is the average number of tardies each day?
3. How many student discipline referrals were made?
4. Were a significantly high number of discipline referrals made by the same teacher(s)?
5. How many students were placed in in-school suspension?
6. How many students received out-of-school suspension?
7. How many students were expelled from school?

Students

1. What is the dropout rate?
2. What is the graduation rate?
3. How many students transferred out of the school in the last year?
4. How many students transferred in during the last year?
5. Is one population of students growing faster than the others? If so, will this change require any changes in the school organization or curriculum?
6. How many students are retained in each grade?
7. Are there discrepancies in the number of students promoted versus low test results?
8. What percentage of students do not pass high school courses?

Parental Involvement

1. What is the average number of parent complaints and what is the nature of the complaints?
2. How many parents volunteer in the school?
3. How many parents are involved in the parent organization of your school?
4. How often does the school communicate with the parents?
5. On what topics does the school communicate with parents?
6. Are parent-teacher conferences held on a regular basis?
7. What is the level of participation in parent-teacher conferences?

Root Cause

1. Is the state-approved curriculum being taught?
2. Are there enough appropriate resources for teaching?
3. Would professional development enhance teaching and learning?
4. Is there a scheduling issue that impedes the teaching and learning?
5. Is there an expectation that all students can and will learn in the school?
6. Is there an underlying reason for poor performance not directly related to what happens in the classroom?



Testing Terms and Concepts

Mean

Is the arithmetic average of a set of scores and is figured by adding all of the numbers then dividing by the actual number of items.

Example:

Set of numbers: 16, 22, 24, 24, 27, 28, 29, 30
 Add numbers: $16+22+24+24+27+28+29+30/8=25$
 Mean=25

Median

Is the middle score in a set of ranked scores. It is the score that divides a group of scores into two equal parts and is known as the 50th percentile.

Example 1:

Set of Numbers: 16, 22, 24, 24, 27, 28, 29, 30
 Median is between: 24 and 27
 Average to find mean: $24+27/2=25.5$
 Median=25.5 16, 22, 24, 24, 25.5, 27, 28, 29, 30

Example 2:

Set of Numbers: 22, 25, 27, 30, 36, 38, 42, 46, 52
 Median 22, 25, 27, 30, 36, 38, 42, 46, 52

Standard deviation

Represents how far the scores are from mean value (average).

- Reads + or – [the value]
- If the standard deviation is plus or minus 4, scores 4 points above or 4 points below fall within the standard deviation and are not significant in terms of reporting scores.

Example:

If the score is 62% with a standard deviation of + or – 4, scores within a range of 58%-66% fall within the standard deviation. If a school's score increases from 62% to 66% and the standard deviation is 4, the increase is not significant in terms of gain.

Raw score

Is the number of test items answered correctly by the student that is used to convert to various derived scores. Raw scores must always be interpreted in relation to other information.

Scaled score

Is a mathematical transformation of a raw score to equal units on a continuous scale. For example, raw scores are converted to scaled scores that are then converted to percentile scores. Scaled scores are useful when comparing test results from year to year.

**Percentile score**

Is an indication of a student's rank in comparison with all students in the norm who took the test. The norm group is selected to represent specified characteristics. Students in the norm group and data from testing this group constitute the norm with which others may be compared. Most national samples of achievement norms are composed of representative students from diverse geographic regions, ethnic groups, and socioeconomic levels. In addition, samples are taken from large and small schools located in rural, suburban, and inner-city locations.

Percentile Scores:

- Range from a low of 1 to a high of 99
- Are reported as a percentage
- Stands for the percentage of students who obtained scores equal to or less than a given scores

Example:

If a student earns a percentile score of 65%, the student performed equal to or better than 65 percent of the students in the norm group.

Grade equivalent

Represents the typical performance of students tested in a given month of the school year and is reported in decimals ranging from K.0 (first month of kindergarten) to 12.9 (ninth month of grade 12).

Example:

A fourth grade student takes a mathematics test designed for fourth graders and earns a grade equivalent of 6.6. This means that the student's score is about the same as what the typical score of sixth graders would have been if they had taken the fourth grade test in the sixth month of school. It does not mean that the student has mastered the sixth grade curriculum.



Replace with Example CRCT Data Analysis Worksheet



Replace with CRCT Data Analysis Worksheet



Replace with Georgia Assessment Program table



Georgia Performance Standards

Testing Phase-In Chart

Testing Year	Test	Grades
2006	CRCT English/Language Arts	K-8
	CRCT Math	6
	CRCT Science	6, 7
	EOCT 9 th Grade Literature	9
	EOCT American Lit	10-11
	EOCT Physical Science	
	EOCT Biology	
	Graduation Test (GHS GT) – Language Arts, Science	
2007	CRCT Math	K-2, 7
	CRCT Science	3-5
2008	CRCT Math	3-5, 8
	CRCT Science	K-2, 8
	CRCT Social Studies	6-8
	EOCT US History	
	EOCT Economics	
	Graduation Test (GHS GT) – Social Studies	
2009	CRCT Social Studies	K-5
	EOCT Math I (replaces Algebra)	9-12
	EOCT Math II (replaces Geometry)	9-12
2010	Graduation Test (GHS GT) – Social Studies	
2011	Graduation Test (GHS GT) - Math	