Christina School District: State Test Comparative Performance and Trends

Presented at the September 20, 2016
Christina School Board Meeting

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Cross-Sectional
Smarter and DCAS
Performance Trends

(cross-sectional is the way that DE DOE typically reports and interprets state test data)
“Cross-sectional”???

In the present case, it is when you compare the “slice” of students you have enrolled/testing in one year to the “slice” you have the next year.

• In a school or district with stable enrollment from year to year (as well as within the school year), and at the statewide level, a cross-sectional comparison can be fairly accurate when looking at student growth trends.

• But in a school or district with higher levels of student mobility, cross-sectional comparisons from one year to the next can be problematic, since you are essentially comparing one group students in Y1 to a substantially different group in Y2.
In ELA, the district saw modest proficiency rate increases in grades 4, 5 and 7, but slight declines in grades 3, 6, and 8.

Gaps between the CSD’s ELA proficiency rates and statewide rates remain large, and are particularly pronounced in grades 7 and 8.
District-level Overall (combined-grade) ELA Achievement Level Distribution – Smarter Assessment, Spring 2016

COMBINED-GRADE SMARTER ELA (GR. 3-8) ACHIEVEMENT LEVEL DISTRIBUTION, SPRING 2016

<table>
<thead>
<tr>
<th>Achievement Level</th>
<th>Percent Proficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>AL 1</td>
<td>35.4%</td>
</tr>
<tr>
<td>AL 2</td>
<td>25.6%</td>
</tr>
<tr>
<td>AL 3</td>
<td>24.2%</td>
</tr>
<tr>
<td>AL 4</td>
<td>14.7%</td>
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</tbody>
</table>
In Math, the district saw a modest proficiency rate increase in grade 7 and a smaller increase in grade 4. Grades 3, 5, and 8 saw very slight decreases, while grade 6 performance was essentially unchanged from the previous year.

Gaps between the CSD’s Math proficiency rates and statewide rates remain large, especially in the middle grades.
District-level Overall (combined-grade) MATH Achievement Level Distribution – Smarter Assessment, Spring 2016
District-level SCIENCE Performance - DCAS Assessment

- In Science, the district continues to see declining proficiency rates in each of the three state-tested grades (5, 8, and 10).
- Gaps between the CSD’s Science proficiency rates and statewide rates remain large, especially in grades 8 and 10.

![CSD District-Level DCAS Science Proficiency Rates: Spring 2014 Thru Spring 2016](chart)

- **5th Grade:**
  - Spring 2014: 38.5%
  - Spring 2015: 34.3%
  - Spring 2016: 33.4%

- **8th Grade:**
  - Spring 2014: 31.1%
  - Spring 2015: 26.0%
  - Spring 2016: 21.8%

- **10th Grade:**
  - Spring 2014: 28.8%
  - Spring 2015: 23.0%
  - Spring 2016: 20.1%

**Two-yr Statewide Performance Trends and 2016 CSD-to-State Gaps**
- 14 pts.
- 27 pts.
- 23 pts.
District-level Overall (combined-grade) SCIENCE Achievement Level Distribution – DCAS, Spring 2016

COMBINED-GRADE DCAS SCIENCE (GR. 5, 8, & 10) ACHIEVEMENT LEVEL DISTRIBUTION, SPRING 2016

PERCENT PROFICIENT

ACHIEVEMENT LEVEL

- AL 1: 40.2%
- AL 2: 33.6%
- AL 3: 19.0%
- AL 4: 7.2%

Proficient
On the DCAS Social Studies assessment, the district saw comparable performance in grade 4 this past Spring 2016 to the previous year, though a proficiency rate of 48% is low by historical standards. Grade 7 students saw a modest decrease in Social Studies proficiency this past year.

Gaps between the CSD’s Soc. Studies proficiency rates and the statewide rates continue to be substantial, especially in grade 7.
District-level Overall (combined-grade) SOCIAL STUDIES Achievement Level Distribution – DCAS, Spring 2016

COMBINED-GRADE DCAS SOCIAL STUDIES (GR. 4, 7, & HS) ACHIEVEMENT LEVEL DISTRIBUTION, SPRING 2016

PROFICIENT

PERCENT PROFICIENT

50%

40%

30%

20%

10%

0%

AL 1

AL 2

AL 3

AL 4

41.6%

20.9%

25.7%

11.9%
However, in the Christina SD, high levels of student mobility tend to confound cross-sectional year-to-year comparisons.

So let’s take another look at ELA and Math proficiency rates just for the 2015-16 school year but this time consider just those students who we served across the entire spring-to-spring period.
Looking at the students who were served continuously by CSD schools from Spring 2015 through Spring 2016 (orange bars), comparing their performance to all the students who tested in CSD schools in Spring 2016 (green bars), it is clear that the students CSD served across the period saw slightly ELA higher proficiency rates at every grade level. The performance gaps between CSD’s more stable students and students statewide, however, are still considerable.

*Stable CSD enrollees are defined as students who took the Smarter Math Assessment in a CSD school in both Spring 2015 and Spring 2016 and were enrolled in a single CSD school from Sept. 30 through June 15 of the 2015-16 school year.
Just as with ELA, students who were continuously served by CSD schools from Spring 2015 through Spring 2016 (orange bars) saw higher Math proficiency rates than those who were not with the District across the entire period. Again, statewide performance gaps remain.

*Stable CSD enrollees are defined as students who took the Smarter Math Assessment in a CSD school in both Spring 2015 and Spring 2016 and were enrolled in a single CSD school from Sept. 30 through June 15 of the 2015-16 school year.*
How Does Christina SD’s Spring 2016 ELA and Math Performance on the Smarter Assessment Differ by Student Subgroup?
As has been the case in past years, CSD’s students of Asian ethnic background tend to demonstrate the highest proficiency rates in both ELA and Math. In grades 3-5, 71% of CSD’s Asian students were proficient in ELA in Spring 2016. The District continues to see large performance gaps between White and Asian students and their African American and Latino peers. Large gaps are also evident based on family income, student gender, English proficiency (ELL), and for Special Ed. students.
Elementary Math performance patterns were fairly similar to ELA findings across most student subgroup comparisons, with substantial subgroup performance gaps evident in most areas. However, the gender gap on display in CSD’s ELA performance was not evident among elementary students in Math. Both males and females were just under 40% proficient.
Overall, Math proficiency rates at the middle level were lower than those seen at the elementary level. Middle-level subgroup performance gaps in ELA were similar to those evidenced in the elementary grades, with 61% of CSD’s Asian students demonstrating proficiency in ELA compared to just 22% of African Am. and 24% of Latino students.
Again, overall Math performance at the middle level was considerably poorer than that seen in the elementary grades. Meaningfully large proficiency gaps were evident across most student subgroups, again with the exception being student gender. Middle school proficiency rates for both males and females were 20%.
Spring 2016 DCAS Science test results showed similar performance gaps between student subgroups...
And in Social Studies ...
... but again, these performance gaps do not tell us much about the impact (growth) that CSD schools have had on their students.

- The following slides review Smarter ELA and Math spring-to-spring growth on the test scale. This is the most precise way to measure a school’s impact, short of more complicated statistical methods.
- Examining student-level growth allows us to better understand whether CSD students are growing comparably to students statewide, independent of where they are on any given end-year test.
- ... and measuring growth at the student level ensures that the confounding effects of itinerant students on district and school-level performance are largely removed.
As can be seen in the graph below, with the exception of 6th grade (and perhaps 7th grade), CSD students saw growth in ELA from Spring to Spring that was, on average, comparable to that seen statewide. Grades 6 and 9 in CSD schools have been identified in recent history as areas of particular challenge where our students are not making adequate gains.
In Math, CSD students’ scale growth from Spring 2015 to Spring 2016 was lower than statewide growth patterns in every grade but grade 8. Growth gaps were relatively small in grades 5 and 7. However, in grade 6, CSD students, on average, actually saw their Math scale scores decrease—i.e., evidence of instructional loss. This pattern was not seen statewide.
CSD’s students from low-income backgrounds saw growth in ELA that was comparable to that seen statewide in grades 4 and 5, but slightly less so in grades 6-8. Again, grade 6 appears to represent a particular challenge in our district.
CSD’s students from low-income backgrounds saw growth in Math that was less than the statewide patterns in all grades except grade 8, where CSD gains were greater than those seen statewide, and grade 5, where CSD growth was comparable to statewide gains. Sixth graders in CSD schools appeared to exhibit instructional losses, on average, across the period.
CSD’s Special Education students saw growth in ELA that was comparable to that seen statewide in most grades, with the exception of grade 6.
CSD’s Special Education students saw less growth in Math than Special Ed. students statewide in all but grade 7. In grade 6, CSD’s Special Ed. students, as well as Special Ed. students across the state, on average appeared to experience losses on the Smarter Math scale.
CSD’s English Language Learners (ELLs) saw growth in ELA that was substantially better than that seen statewide for ELLs in grades 4 and 5. Most ELL students are transitioned to regular educational programming by grade 6, and the smaller numbers of ELL students served in the secondary grades are often recent immigrants. As such, secondary grades are not included below.
CSD’s English Language Learners (ELLs) in grade 4 saw growth on the Math scale that was slightly less than the statewide pattern, while grade 5 ELLs showed substantially more growth than their statewide counterparts.
School-by-School Proficiency Rates in ELA and Math on the Smarter Assessment:

Spring 2015 vs. Spring 2016
(Cross-Sectional Approach)
Using the cross-sectional approach (last year’s students compared to this year’s students) ... 

- 13 of 23 CSD elementary and middle schools (excludes Douglass Alt., Brennen, and all high schools; includes DSD) showed proficiency rate increases in ELA.

- 9 of 23 schools showed proficiency rate increases in Math.
Smarter ELA Performance by School, Spring 2015 vs. Spring 2016


Percent Proficient

- Spring 2016
- Spring 2015

[Bar chart showing percentage of proficiency by school for Spring 2015 and Spring 2016]

- Bancroft Elementary School: 10.7% (2015), 38.0% (2016)
- Bayard Middle School: 6.2% (2015), 3.2% (2016)
- Braden Elementary School: 34.0% (2015), 42.2% (2016)
- Brookside Elementary School for the Deaf: 13.3% (2015), 12.0% (2016)
- Ehrlich Elementary School: 14.2% (2015), 8.7% (2016)
- Gauger-Godby Middle School: 5.5% (2015), 41.2% (2016)
- Jones Elementary School: 17.7% (2015), 15.2% (2016)
- Keene Elementary School: 4.7% (2015), 4.7% (2016)
- Kirk Middle School: 6.1% (2015), 6.1% (2016)
- Leesburg Elementary School: 25.5% (2015), 25.5% (2016)
- Maclay Elementary School: 29.5% (2015), 31.3% (2016)
- Marshall Elementary School: 44.9% (2015), 31.5% (2016)
- McVey Elementary School: 19.1% (2015), 24.6% (2016)
- Oake Elementary School: 31.3% (2015), 22.8% (2016)
- Pulaski Elementary School: 25.2% (2015), 25.2% (2016)
- Shue-Medill Middle School: 11.1% (2015), 22.1% (2016)
- Smith Elementary School: 11.1% (2015), 24.6% (2016)
- Stubbs Elementary School: 25.2% (2015), 25.2% (2016)
- West Park Place Elementary: 7.2% (2015), 7.2% (2016)
- Wilson Elementary School: 9.3% (2015), 5.1% (2016)
School-by-School Impact in ELA and Math (Scale Score Gains):

Spring 2015 vs. Spring 2016
(Student Cohort Approach)
Using a cohort-based approach (each student compared to him or herself) from Spring 2015 to Spring 2016 ...

- All 23 CSD elementary and middle schools (excludes Douglass Alt., Brennen, and all high schools; includes DSD) showed average scale score increases in ELA.

- All but two schools showed average scale score increases in Math.
Smarter ELA Performance by School, Spring 2015 vs. Spring 2016

School-by-School ELA Growth on the Smarter Assessment Scale from Spring 2015 to Spring 2016 (grades 4-8 in Spring 2016)
Smarter MATH Performance by School, Spring 2015 vs. Spring 2016

School-by-School MATH Growth on the Smarter Assessment Scale from Spring 2015 to Spring 2016 (grades 4-8 in Spring 2016)
Results of the School Day SAT in 11th Grade
CSD’s 11th graders exhibited average SAT scale scores in Reading/Writing and Math that were lower than statewide averages.
Roughly one-third of CSD’s 11th grade students were measured as on-track to being college-ready in Reading/Writing, while only 17% were found to be college-ready in Math. These percentages were lower than those found statewide.
School Day SAT (11th grade) Mean Scale Scores by High School

SPRING 2016 DISTRICT-LEVEL "SCHOOL DAY" COMBINED-SUBJECT SAT SCALE SCORES (GRADE 11), BY HIGH SCHOOL

Note: DSD had too few testers to be included in this graph without risking student confidentiality.
School Day SAT (11th grade) “College-Readiness” by High School

**SPRING 2016 DISTRICT-LEVEL "SCHOOL DAY" SAT "COLLEGE-READY" RATES (GRADE 11), BY HIGH SCHOOL**

<table>
<thead>
<tr>
<th>High School</th>
<th>Reading/Writing</th>
<th>Math</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHRISTIANA HIGH SCHOOL</td>
<td>24%</td>
<td>14%</td>
</tr>
<tr>
<td>GLASGOW HIGH SCHOOL</td>
<td>33%</td>
<td>16%</td>
</tr>
<tr>
<td>NEWARK HIGH SCHOOL</td>
<td>48%</td>
<td>23%</td>
</tr>
<tr>
<td>SARAH PYLE ACADEMY</td>
<td>11%</td>
<td>2%</td>
</tr>
<tr>
<td>STATEWIDE</td>
<td>52%</td>
<td>31%</td>
</tr>
</tbody>
</table>

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Questions/Comments?