Academic Accountability

Understanding the Value-Added Model and the College and Career Ready Performance Index (CCRPI)

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Presentation Outline

- Value-Added Model/Student Growth Model
  - Goals and Challenges of Evaluation
  - Methods of Evaluation
  - Data Used
  - Interpretation of Results
- College and Career Ready Performance Index (CCRPI)

Goals and Challenges of the Evaluation

- Goal
  - Evaluate the performance of the state charter schools operating under the authority of the State Charter Schools Commission
- Challenge
  - Students and their families choose to attend a state charter rather than a locally authorized charter or a traditional public school.
  - State charter schools frequently serve students from multiple counties and have specialized missions.
  - Simple comparisons of average test scores may reflect ability/motivation/resources of students rather than the quality of the school they attend.

Value-Added Model (VAM)

–Statistical model that predicts what a student's test score would be based on his/her prior test scores and demographic characteristics

–Difference between the actual and predicted test score measures the contribution to student achievement

–The estimated school effect is essentially the difference between the actual and predicted test score for each student, averaged over all students in a school

- Reference point is the average school for a given grade range in the state, which is set to have an effect of zero
- Scores are "normalized" by grade and year in order to compare scores across grades and years

Data

- Student-level data from GA•AWARDS
  - Test Scores
    - End-of-grade scores for grades 3-8
    - End-of-course scores in high school
  - Student Demographics
    - Gender, age in grade, foreign-born indicator, race/ethnicity, ESOL enrollment, free/reduced-price lunch eligibility, gifted status, primary-language-not-English indicator, disability status (15 specific disability categories), number of schools attended in the current year, an indicator for students who changed schools from the prior year, number of disciplinary incidents in the prior year, and attendance in the prior year

Georgia's Student Growth Model

- Calculates a ranking of student's current test score relative to other students with the same prior-year score
- Yields a "student growth percentile" (SGP)
  - By definition, median SGP is 50
- GaDOE calculates this measure
- GaDOE uses mean SGP to evaluate teachers
- SGPs are used to create the Progress Score in the CCRPI
- The SCSC annual accountability report also includes mean SGPs.

Comparison of VAM and Student Growth Model

- The annual accountability report includes both results from the VAM and the Student Growth Model

- Both models compare each student's performance to a reference standard.
  - VAM: expected score of students with similar observable characteristics and prior scores
  - Student Growth Model: actual performance of students with same prior-year score (or history of scores)

Comparison of VAM and Student Growth Model

–VAM measures how much a student's score exceeds the expected score; the Student Growth Model uses rankings

–VAM provides a measure of uncertainty of the estimated school effects (standard error); the Student Growth Model does not

–Student Growth Model accounts for prior test scores but does not explicitly control for differences in student characteristics

Alternative Method: Proficiency Benchmarks

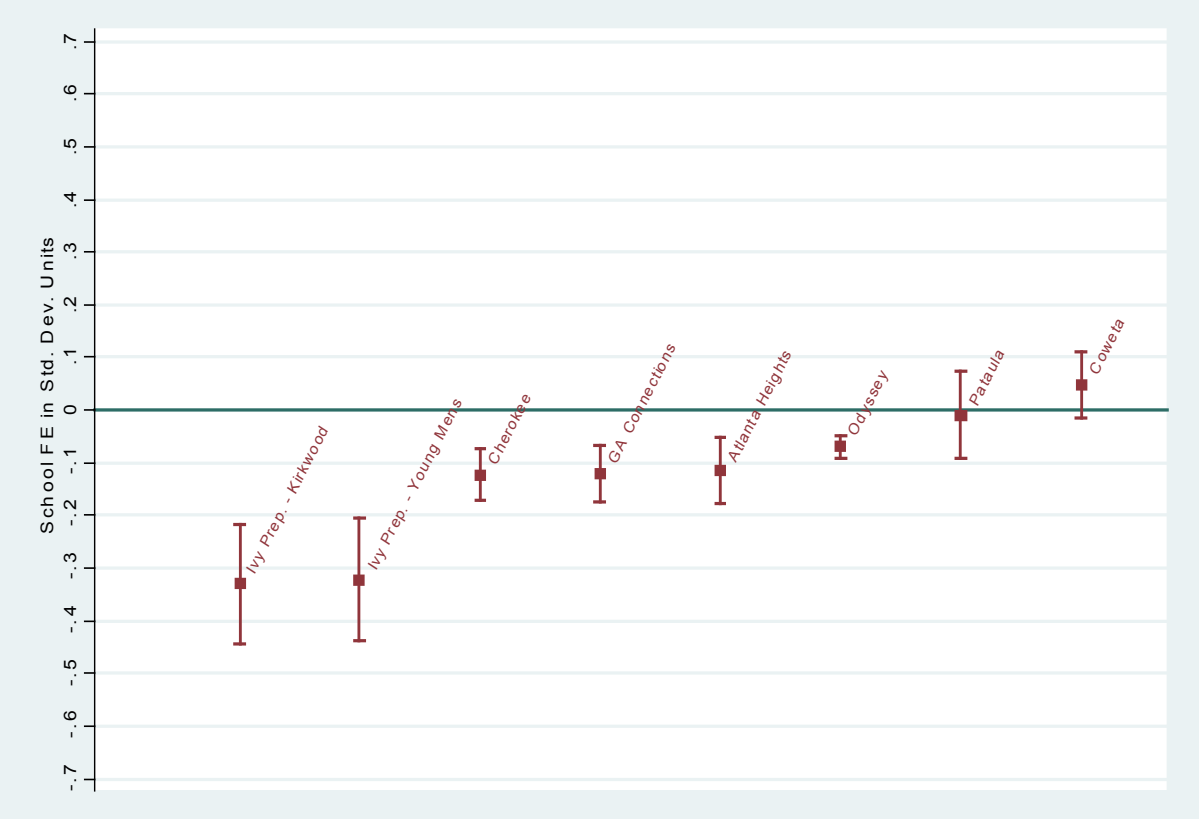
- Proportion of students whose test scores meet or exceed a pre-determined threshold
- Unlike VAM and Student Growth Model, yields an absolute measure of school performance
  - All schools could potentially improve from one year to the next
- Measures level of student achievement, not growth
  - May reflect both school performance and ability/motivation/resources of students
- As a result, the annual accountability report focuses on school performance estimates from VAM and student growth model.

Example of VAM Findings

Performance of State Charters Relative to All Schools in Georgia-Elementary Grades, 5-subject average

School Value-Added Estimate with 95% Confidence Intervals

(Mean Effect with all controls across all Georgia public schools= 0)



Example of VAM Findings

Summary by Grade Level and Subject

	Value-Added (Controls for Student Demographics and Prior Test Scores)				
Grade Level and Subject	School Effect	State Percentile (higher is better)	Statistically Different From State Average?	District Rank (lower is better)	Statistically Different From District Average?
Middle					
Reading	0.2748	99	Higher	1 of 24	Higher
ELA	0.2197	98	Higher	2 of 24	Higher
Math	-0.0113	49	No	14 of 24	No
Science	-0.0705	27	No	19 of 24	No
Social Studies	0.1128	77	Higher	5 of 24	Higher
All-Subject Average	0.1033	89	Higher	5 of 24	Higher
High					
9th Grade Lit.	0.3009	98	Higher	1 of 19	Higher
Coordinate Algebra	0.2485	92	Higher	6 of 18	No
Physical Science	-0.0105	50	No	12 of 19	No

Note: statistical significance based on a 95 percent confidence level.

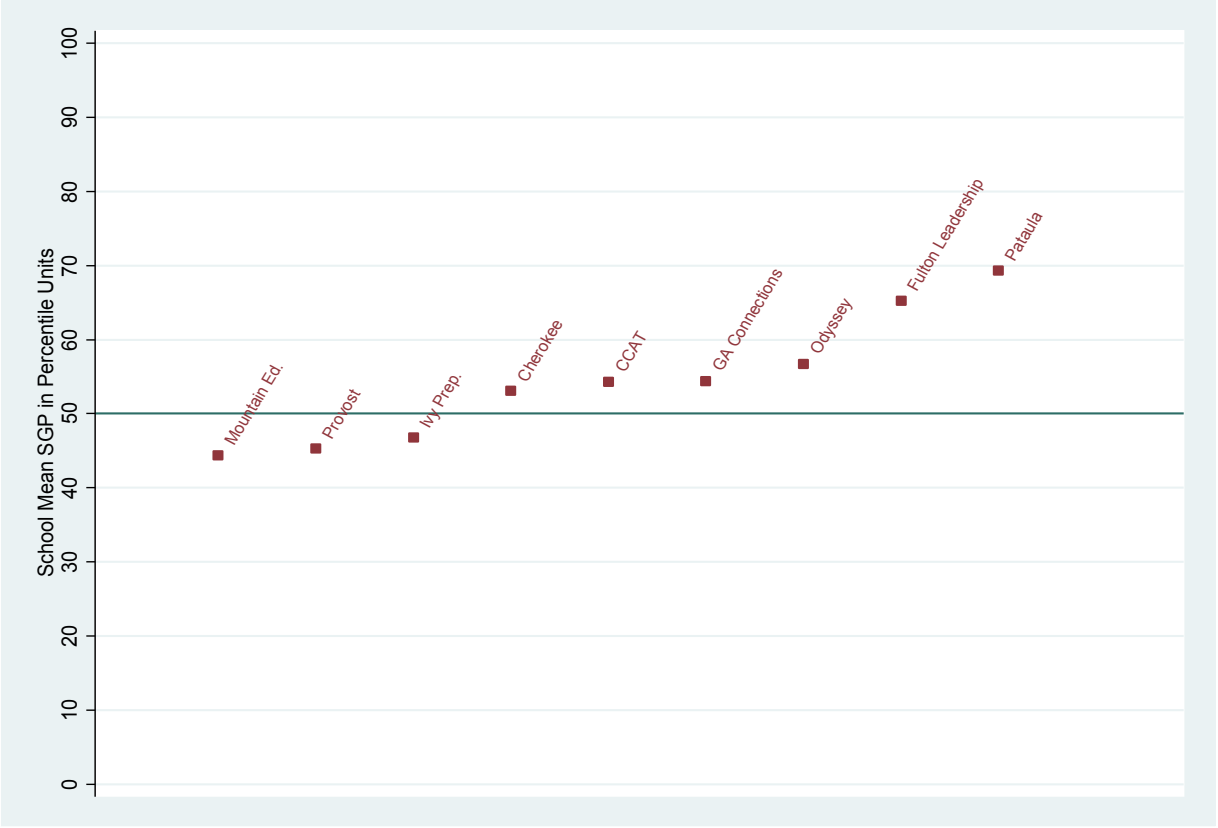
Example of SGP Findings

Performance of State Charters Relative to All Schools in Georgia-

9th Grade Literature

Mean Student Growth Percentile

(Median SGP across all Georgia public school students = 50)



Example of SGP Findings

Summary by Grade Level and Subject

	Student Growth Percentiles		
Grade Level and Subject	School Mean of Individual SGPs	State Percentile (higher is better)	District Rank (lower is better)
Elementary			
Reading	63	95	2 of 24
ELA	49	56	14 of 24
Math	44	33	16 of 24
Science	47	30	15 of 24
Social Studies	53	71	6 of 24
All-Subject Average	51	55	12 of 24
High			
9th Grade Lit.	65	99	1 of 19
Coordinate Algebra	52	59	11 of 18
Physical Science	48	52	10 of 19

Note: statistical significance based on a 95 percent confidence level.

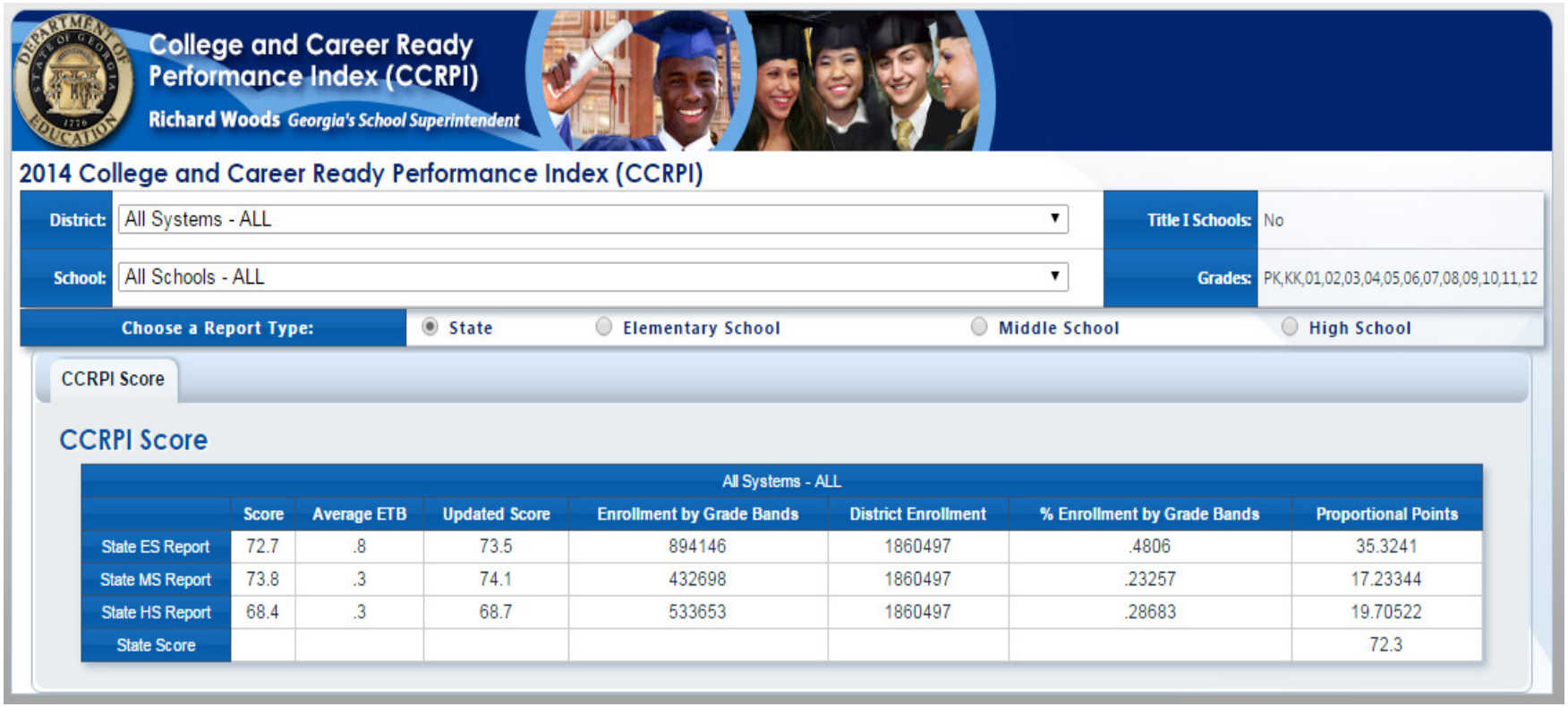
College and Career Ready Performance Index (CCRPI)

–Calculated by the Georgia Department of Education and approved by the State Board of Education

–Serves as the statewide accountability measure for public schools

–CCRPI website: http://www.gadoe.org/CCRPI/Pages/default.aspx

CCRPI Scores



All Systems - ALL

	Score	Average ETB	Updated Score	Enrollment by Grade Bands	District Enrollment	% Enrollment by Grade Bands	Proportional Points
State ES Report	72.7	.8	73.5	894146	1860497	.4806	35.3241
State MS Report	73.8	.3	74.1	432698	1860497	.23257	17.23344
State HS Report	68.4	.3	68.7	533653	1860497	.28683	19.70522
State Score							72.3

http://www.gadoe.org/CCRPI

College and Career Ready Performance Index (CCRPI)

Component	Points
Achievement	50
Progress	40
Achievement Gap	10
Challenge	10
Total	**110**

- Starting with 2015 scores, the weights of the CCRPI components have been revised.

-Increasing the contribution of Progress recognizes the work districts and schools are making toward the increased expectations associated with the Georgia Milestones Assessment System.

CCRPI: Achievement Points
Elementary and Middle Schools

- Content Mastery:
  - The percentage of full academic year (FAY) students who are in each performance level for each Georgia Milestones subject
    - Performance levels
      - Beginning Learner
      - Developing Learner
      - Proficient Learner
      - Distinguished Learner
    - End-of-Grade Georgia Milestones subjects
      - English
      - Math
      - Social Studies
      - Science
  - For CCRPI purposes, each beginning learner counts as 0 students, each developing learner counts as 0.5 student, each proficient learner counts as 1 student, and each distinguished learner counts as 1.5 students.

CCRPI: Achievement Points
Elementary and Middle Schools

- Post Elementary/Middle School Readiness:
  - Performance of English Language Learners
  - Percentage of Students with Disability who are served in general education environments more than 80% of the school day
  - Percentage of FAY 3rd, 5th, 8th graders reading on grade level
  - Percentage of students completing career awareness lessons (elementary) or career-related inventories and an Individual Graduation Plan (middle)
  - Student attendance
- Predictor for High School Graduation
  - Percentage of FAY students scoring as proficient or distinguished learners on Georgia Milestones assessments

CCRPI: Achievement Points
High Schools

- Content Mastery:
  - The percentage of full academic year (FAY) students who are in each performance level for each Georgia Milestones subject
  - For CCRPI purposes, each beginning learner counts as 0 students, each developing learner counts as 0.5 student, each proficient learner counts as 1 student, and each distinguished learner counts as 1.5 students.

CCRPI: Achievement Points
High Schools

- Post High School Readiness:
  - Percent of graduates entering TCSG/USG not requiring remediation or learning support courses; or scoring program ready on the Compass; or scoring at least 22 out of 36 on the composite ACT; or scoring at least 1550 out of 2400 on the combined SAT; or scoring 3 or higher on two or more AP exams; or scoring 4 or higher on two or more IB exams
  - Percent of graduates earning high school credit(s) for accelerated enrollment via ACCEL, Dual HOPE Grant, Move On When Ready, Early College, Gateway to College, Advanced Placement courses, or International Baccalaureate courses
  - Percent of FAY students achieving a Lexile measure greater than or equal to 1275 on the American Literature assessment
  - Percent of FAY students scoring as proficient or distinguished learners on Georgia Milestones assessments
  - Student attendance

CCRPI: Achievement Points
High Schools

- Graduation Rate
  - Four-Year Cohort Graduation Rate
  - Five-Year Extended Cohort Graduation Rate

CCRPI: Progress Points

– Based on Student Growth Percentiles (SGP) for FAY students for Georgia Milestones

–SGPs describe a student's growth relative to his/ her academic peers-other students with similar prior achievement (i.e., those with similar history of scores).

–A growth percentile is generated for each student which describes his or her "rank" on current achievement relative to other students with similar score histories.

– A growth percentile can range from 1 to 99. Lower percentiles indicate lower academic growth and higher percentiles indicate higher academic growth.

–For more information, visit GaDOE's website: https://www.gadoe.org/School-Improvement/Teacher-and-Leader-Effectiveness/Pages/Student-Growth-Percentiles.aspx

CCRPI: Achievement Gap and Challenge Points

- Achievement Gap
  - Based upon the schools' achievement gap size and change in that gap. The gap is measured between the schools' bottom 25% of students and the state average
- Challenge Points
  - Exceeding the Bar (ETB) Points
    - Seven to ten items worth 0.5 points each that focus on innovative practices and career-related outcomes. Only the top 5% in each category qualify with the exception of the 0.5 points awarded for innovative practices.
  - ED/EL/SWD Performance Points
    - Based upon subgroup performance of economically disadvantaged (ED), students with disabilities (SWD), and English Language Learners (ELL) student performance relative to state targets. Possible points are proportional to the percentage of students a school has in each subgroup.

Notes about CCRPI Calculation

–If a school is missing one of these components, the CCRPI is calculated based on the components that are available.

–CCRPI Grade Clusters

- –Elementary: Grades K-5
- –Middle: Grades 6-8
- –High: Grades 9-12

–For schools that span "grade clusters," the school's overall score is based on FAY enrollment.

Questions?

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