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An Analysis of Georgia's Current School-Accountability Measures



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in partnership with



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Accountability Measures Scorecard

The table below reviews *current* measures being used to assess Georgia’s students, grades K-12, and the effectiveness of public schools. Each indicator is rated on its assessment validity, or **how well the indicator measures what it is purporting to measure**, and the utility of such a measure in predicting future college and career readiness.

Green means a relatively high level of confidence in the validity and utility of an indicator. **Yellow** means there is a moderate level of validity and utility, but further research is needed to ensure reliability. **Red** means that extreme caution should be exercised when using an indicator; the validity and utility of the indicator have not been proven.

The tool is not intended to be an endorsement nor is it suggesting elimination of any specific indicator. The purpose is to inform an open dialogue to determine the best indicators for Georgia.

Grouping	Type	Indicator	Validity	Utility	Notes
College and Career Readiness Performance Index (CCRPI)	IA1. Post Readiness: Elementary and Middle School	IA1a. ACCESS for ELLs			Tests are analyzed annually for reliability and validity. English language proficiency, as measured by ACCESS for ELLs, is proven to affect student outcomes.
		IA1b. Disabled students served in general education settings			Hours spent in general education settings affect achievement outcomes for students with disabilities. Aggregating these data is useful in showing other variances that affect achievement.
		IA1c. Technical Skills Attainment Inventory			There are currently no valid measures of technical skills attainment, and inventories currently being used are not predictive of college and career readiness in most cases.
	IA2. Post Readiness: High School	IA2a. CTAE pathway completers & credentialed			Other variables may account for higher scores on assessments, indicating a lack of assessment validity. Pathway completion has not been thoroughly researched as predictive of career readiness.
		IA2b. Graduates not requiring remediation			Numbers are collected from colleges that report high school graduates who enroll in remediation. Students requiring remedial education are significantly less likely to be successful in postsecondary education.
		IA2c. Graduates earning credit for AP courses			Statistics reflect the number of high school graduates who complete AP courses, and completion is positively related to student success for at least the first two years of college, after which other factors become stronger predictors.
	IA3. Post Readiness: All Grades	IA3a. Chronic absenteeism			Absenteeism is recorded by the school and is correlated with academic failure, decreased test scores and decreased graduation rates.
		IA3b. Lexile performance			This indicator cannot be used independently to set performance standards; however, it is useful as a norm-referenced comparison measure.
	IB. Content Mastery Georgia Milestones Assessment System (Grades 3-12)	IB1. End-of-course achievement level descriptors (EOC)			EOCs appear to provide valid results and are comparable to national averages, but further research is needed. Converting the scores into a half-point performance index may weaken the ability to use this indicator effectively.
		IB2. End-of-grade achievement level descriptors (EOG)			EOGs appear to provide valid results and are comparable to national averages, but further research is needed. Converting the scores into a half-point performance index may weaken the ability to use this indicator effectively.
	IC. Graduation Rates	IC1. Elementary & middle school predictor			This indicator is not valid. The research does not support using EOC/EOG performance as the primary indicator for high school success.
		IC2. 4- and 5-year cohort high school graduation rates			Rates are calculated uniformly across the nation; however, a higher high school graduation rate does not necessarily mean that graduating students are fully prepared for college-level courses.
	II. Progress Score	IIA. Georgia Student Growth Model			When using student growth percentiles, other student characteristics cannot be controlled for, decreasing the validity of this measure. Comparison rates can also lower expectations for disadvantaged students, decreasing its predictive ability.
	III. Achievement Gap	IIIA. Growth in lowest 25% of achievers			This indicator can hide undesirable outcomes in subgroups, making it an inaccurate achievement measure. Findings are not predictive of future success but can be useful in policymaking.
IV. Challenge Points	IVA. Exceeding the Bar indicators			These indicators have validity and showcase successful practices in schools, but they do not necessarily predict college and career readiness.	
	IVB. ED/EL/SWD performance			This indicator is valid but should be refined to address disability type; it should not be factored into the index, as it is not predictive of all students.	

Introduction

The Better Standards for a Better Georgia coalition, through its members the Georgia Partnership for Excellence in Education and the Metro Atlanta Chamber, commissioned the Center for State and Local Finance at Georgia State University to examine Georgia’s current K-12 school accountability measures.

This report examines the College and Career Readiness Performance Index indicators in a traffic light scorecard format, which highlights the validity of each indicator as well as its utility in determining future career and college readiness. The report also includes explanations for the ratings included in the scorecard.

College and Career Readiness Performance Index

The College and Career Readiness Performance Index (CCRPI) is a tool used annually to measure how well Georgia’s schools, districts and the state are preparing students for the next educational level. According to the Georgia Department of Education, the CCRPI is “a comprehensive school improvement, accountability, and communication platform for all educational stakeholders that will promote college and career readiness for all Georgia public school students.”¹

The CCRPI is based on a 100-point scale, with an additional 10 possible bonus points. The index has four major components: achievement, progress, achievement gap and challenge points. The achievement section accounts for 50 points, which are awarded based on post-readiness measures, Georgia Milestones content mastery, and graduation measures. Post-readiness is broken into three sections in this report: post-elementary and middle school, post-high school and a third section that looks at absenteeism and Lexile performance in all grades. The progress area accounts for 40 points and is measured by the Georgia Student Growth Model, which is discussed later in this report. The achievement gap accounts for 10 points and reflects growth in the lowest 25 percent of student achievers. The final 10 points are referred to as challenge points and are awarded as bonuses to schools taking additional steps toward other achievement outcomes. These bonus points can also be awarded to schools with high concentrations of economically disadvantaged students, English as a second language (ESL) students, and students with disabilities.

I. ACHIEVEMENT POINTS = 50 POINTS

A. Post-Readiness, 30 Percent = 15 points

1. Post-Elementary and Middle School Readiness

The following sections are the measures that Georgia includes in the achievement point section for elementary and middle schools. The measures discussed in this section are those that the CCRPI

¹ Georgia Department of Education. 2015. “College and Career Ready Performance Index.” Retrieved from www.gadoe.org/CCRPI/Pages/default.aspx.

includes to indicate whether students have achieved the standard proficiency rates and whether they have the skills to be successful in the next grade level.

a. ACCESS for English Language Learners

ACCESS for English language learners (ELLs) is a standards-based, criterion-referenced English language proficiency assessment used in grades K-12. It was developed by WIDA, named for the three states that created the organization: Wisconsin, Delaware and Arkansas. WIDA's mission is to "advance academic language development and academic achievement for children and youth who are culturally and linguistically diverse through high-quality standards, assessments, research, and professional learning for educators."² ACCESS for ELLs tests are administered in WIDA Consortium member states, including Georgia. They reliably and validly assess the English language development (ELD) of ELLs. These assessments are used "to place students appropriately into proficiency levels described by the ELD standards."⁴ WIDA issues an annual report that provides aggregated analyses of the technical quality of the test and all of its forms and cites its reliability from year to year.

Determining the relationship between English language proficiency (ELP) and student success is not as easy as determining the validity and reliability of the tests. Many researchers have concluded that tests measuring ELP are valid and reliable. However, they disagree on the extent to which ELP is a determinant of academic success. Studies point to the likelihood "that the lower the average English proficiency is, the greater a factor it is in students' success or lack of it."³ However, for a student with high ELP, other factors are more important in explaining his or her academic achievement.

Baker found that ACCESS for ELLs is reflective of ELP and can be used to help predict student performance on other reading and mathematics assessments. She found that students' overall academic achievement moderately increased as their scores on ACCESS for ELLs increased.⁴ However, the predictive validity of the test varied across subgroups. Students with disabilities were less likely to perform well on the assessments than students without disabilities. Students who had participated in English as a Second Language (ESL) courses were more likely to perform well than those who had not. There were not significant score variances when controlling for gender. This indicates that a student's proficiency on the ACCESS for ELLs assessment is partially predictive of his or her overall success as a student, and that English proficiency does affect a student's ability to perform well in classes other than just ELA.

² WIDA Consortium. 2015. *Annual Technical Report for ACCESS for ELLs English Language Proficiency Test, Series 302, 2013-2014 Administration* (Annual Technical Report No. 10, Volume 1-3). Washington, D.C.: Center for Applied Linguistics & CAL/WIDA Partnership Activities Psychometrics/Research Team.

³ Graham, J. G. 1987. "English Language Proficiency and the Prediction of Academic Success." *TESOL Quarterly* 21: 505-521. DOI: 10/2307/3586500.

⁴ Baker, Margaret E. D. (2011). *A Critical Examination of the Relationship between Student Performances on Assessments of English Language Proficiency and Academic Achievement*. (Doctoral Dissertation). Retrieved from Dissertations, Theses and Capstone Projects. (474).

b. Students with Disabilities Served in General Education Environments

The CCRPI considers the percentage of students with disabilities being served in a general education environment more than 80 percent of the school day. Cosier, Causton-Theoharis, and Theoharis looked at the relationship between hours in general education environments and achievement levels in reading and mathematics for students with learning disabilities. They defined “disability” using the federal guidelines laid out in the Individuals with Disabilities Education Act and also included students suspected of having a disability or those at risk for having one. They found “a strong positive relationship between the number of hours students spent in general education and achievement in mathematics and reading.” The authors found that for every hour spent in a general classroom setting, students performed 0.5 points higher in reading and 0.37 higher in math on 131-point achievement assessments.

Cosier et al. identified other variables that also affected student reading achievement: age, socioeconomic status and prior reading achievement. Socioeconomic status and prior achievement also accounted for variation on mathematics assessments. They concluded that these variables at the student and district levels should be included in theoretical and statistical models of student progress.⁵

In addition, Dessemontet and Bless found that the inclusion of intellectually disabled students in general education classrooms did not negatively affect the progress of pupils without disabilities.⁶ The study considered a student with a mild or moderate intellectual impairment who received 4.5 to 6.5 hours of support from a special education teacher each week.

c. Technical Skills Attainment Inventory

The Technical Skills Attainment Inventory was developed in response to the Perkins IV legislation, which “requires states to implement a valid and reliable assessment model linked directly to industry validated standards.”⁷ The indicator reflects the percentage of students that have completed grade-specific career awareness lessons in grades 1-5, two or more career-related assessments in grades 6-8, and an Individual Graduation Plan by the end of eighth grade. These inventories and assessments are focused in Georgia’s 17 Career Clusters, which include agriculture, architecture, the arts, A/V technology and so on. According to the National Research Center for Career and Technical Education, “states have widely accepted and validated measures of academic

⁵ Cosier, M., Causton-Theoharis, J., and Theoharis, G. 2013. “Does Access Matter? Time in General Education and Achievement for Students with Disabilities.” *Remedial and Special Education* 34(6): 323-332.

⁶ Dessemontet, R. S., and Bless, G. 2013. “The Impact of Including Children with Intellectual Disability in General Education Classrooms on the Academic Achievement of Their Low-, Average-, and High-Achieving Peers.” *Journal of Intellectual & Developmental Disability* 31(1): 23-30.

⁷ Georgia Department of Education. 2015. “Georgia’s Technical Skill Attainment Inventory 2016-2017.” Retrieved from www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Pages/CTAE-Georgia-Assessments.aspx.

achievement, [however] parallel measures for technical skill attainment do not exist.”⁸ In a review of the Perkins IV legislation, Klein et al. indicated that validity and reliability are problematic:

The legislation does not specify, however, how indicators should be defined and reported, nor does it specify standards for validity and reliability. As a result, Perkins IV does not fully address a core challenge for Perkins accountability: the flexibility afforded states in defining their own indicators may create challenges in aggregating data at the national level.⁹

Technical skills lessons and inventories are intended to link Career, Technical and Agricultural Education (CTAE) performance to academic assessments and high school graduation rates. The next section discusses CTAE courses. To date, no research provides evidence that CTAE course participation predicts college and career readiness.

2. Post-High School Readiness

The following sections are the measures that Georgia includes in the achievement point section for high schools. The measures are intended to indicate whether students have achieved the standard proficiency rates and whether they are prepared to enter a career path or to enroll in college.

a. Graduates Completing a CTAE Pathway and Those Receiving a Credential

This indicator is derived from the end-of-pathway assessment. It was developed in response to the Perkins IV legislation, Core Indicator 2S1, which mandates that states implement a measurement mechanism to ascertain the technical skill attainment level of students participating in career and technical education courses.¹⁰ Programs of study are offered in 17 Georgia Career Clusters, including agriculture, education and finance. The percentage of graduates completing a CTAE career pathway as well as those who actually earn an industry recognized credential based on standard performance levels are included in the readiness calculation.¹⁶

The credential, the National Career Readiness Certificate (NCRC), is available to pathway completers who have taken the ACT WorkKeys assessments.¹¹ These assessments, measuring a student’s career-ready skills, encompass reading for information and locating information as well as

⁸ Kotamraju, Pradeep. 2010. “Inventory of Technical Skills Assessments.” *National Research Center for Career and Technical Education*. Retrieved from www.nrccte.org/resources/studies/inventory-technical-skills-assessments.

⁹ Klein, S., Sheil, A. R., White, R., Staklis, S., Alfeld, C., Dailey, C. R., Charner, I., and Poliakoff, A. 2014, October. Evaluation of the Implementation of the Carl D. Perkins Career and Technical Education Act of 2006. *RTI International*. Retrieved from owl.english.purdue.edu/owl/resource/560/10/.

¹⁰ Wall, B., and Hanson, M. 2016, January. “Georgia End of Pathway Assessment (EOPA) State Guidance.” In *Curriculum, Instruction and Assessment*. Retrieved from www.gadoe.org/Curriculum-Instruction-and-Assessment/CTAE/Documents/Assessment-EOPA-State-Guidance.pdf.

¹¹ ACT Inc. 2016. *About WorkKeys*. Iowa City, IA: ACT Inc. Retrieved from www.act.org/content/act/en/products-and-services/workforce-solutions/act-workkeys/about-act-workkeys.html.

mathematics and other skills. The NCRC is “accepted by more than 10,000 employers nationwide as a reliable way to verify individuals’ work skills.”¹²

According to the American Institute for Research, “Research on high-quality Career and Technical Education (CTE) programs and pathways shows that these programs reduce dropout rates and encourage participation in postsecondary education.”¹³ However, only four studies were found that looked at CTAE programs. Only one of these studies found evidence that the variation in students’ scores on WorkKeys assessments could be attributed to CTAE course participation. Folds found that participating in pathways did not affect students’ scores on the mathematics and locating information assessments. However, pathway completion did have a significant effect on the reading for information assessment.¹⁴

b. Percentage of Graduates Entering the Technical College System of Georgia/the University System of Georgia Not Requiring Remedial Classes

This indicator is the percentage of Georgia high school graduates who enter the Technical College System of Georgia or the University System of Georgia without requiring learning support or remediation. To qualify as a graduate without learning support or remediation needs, the individual must not have either: taken remediation or learning support courses previously, or qualify by “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 [Advanced Placement] exams; or scoring 4 or higher on two or more IB [International Baccalaureate] exams.”¹⁵

Students who require remedial education in postsecondary education are less likely to be successful in college. Data used by the National Conference of State Legislatures has indicated that 28- 40 percent of first-time enrollment students require at least one remedial course. According to a U.S. Department of Education study, “58 percent of students who do not require remediation earn a bachelor’s degree, compared to only 17 percent of students enrolled in remedial reading and 27 percent of students enrolled in remedial math.”¹⁶

¹² ACT, Inc. National Career Readiness Certificate (NCRC). In *Workforce Solutions*. Retrieved from www.act.org/content/act/en/products-and-services/workforce-solutions/act-workkeys/about-act-workkeys.html.

¹³ Brand, B., Valent, A., and Browning, A. 2013, March. *How Career and Technical Education Can Help Students Be College and Career Ready: A Primer*. Retrieved from [www.air.org/sites/default/files/downloads/report/College Career Readiness Primer Brief.pdf](http://www.air.org/sites/default/files/downloads/report/College%20Career%20Readiness%20Primer%20Brief.pdf).

¹⁴ Folds, Lea D. 2013. *Work Readiness Characteristics of High School Seniors* (Unpublished doctoral dissertation). Athens, GA: University of Georgia.

¹⁵ Georgia Department of Education. 2016. *High School Calculation Guide for 2015 CCRPI*.

¹⁶ Bautsch, B. 2013, February. “Reforming Remedial Education.” In *Hot Topics in Higher Education*. Retrieved from www.ncsl.org/research/education/improving-college-completion-reforming-remedial.aspx.

c. Percentage of Graduates Earning High School Credit for Accelerated Enrollment

This indicator captures the percentage of graduates who earn high school credits for accelerated enrollment via ACCEL, the Dual HOPE Grant, Move On When Ready, Early College, Gateway to College, Advanced Placement (AP) courses, or International Baccalaureate courses.¹⁷

AP courses are highly regarded as indicators of success in postsecondary education. Swanson found a statistically significant correlation between enrollment in AP courses and collegiate success. Students who were enrolled in AP courses were more likely to enter postsecondary education, were more likely to persist through their second year of college and were more likely to earn a bachelor's degree when they entered college within seven months of completing high school.¹⁸ After the first two years of college, other factors are stronger predictors of completing a bachelor's degree, namely whether a student had earned 20 credits before his or her freshman year and whether a student had taken more than a one semester break through his or her sophomore year. A possible limitation of using AP course taking as an indicator of performance is that students who take AP courses may be more motivated than other students. They may have done better in college than other students even if they had not taken AP courses.

3. Post-School Readiness (All Grades K-12)

The following indicators are the measures that Georgia includes in the achievement point section for elementary, middle and high school. The measures discussed in this section are those that the CCRPI includes in order to indicate whether students have achieved the standard proficiency rates for the corresponding grade, and whether they have acquired all the skills necessary to proceed to the next level.

a. Chronic Absenteeism

Chronic absenteeism is the percent of students who are absent more than six days per school year; the type of absence (excused or unexcused) is not considered. According to the Child Trends Data Bank, attendance/absenteeism rates are related to student achievement, especially for children from lower socioeconomic backgrounds. Chronic absenteeism among students is highly correlated with academic failure, decreased graduation rates, increased substance abuse and criminal involvement. Beginning in kindergarten, students who regularly attend school are more likely than absent peers to score higher on tests.¹⁹

¹⁷ Woods, Richard. 2016, April 8. "High School Calculation Guide for 2015 CCRPI." Atlanta: Georgia Department of Education. Retrieved from www.gadoe.org/Curriculum-Instruction-and-Assessment/Accountability/Documents/Calculators%20and%20Calculator%20Guides/2015%20High%20School%20Calculation%20Guide%20for%202015%20CCRPI%204%208%2016.pdf.

¹⁸ Swanson, Joni L. 2008. *An Analysis of the Impact of High School Dual Enrollment Course Participation on Postsecondary Academic Success, Persistence and Degree Completion*. Paper presented at the meeting of the National Association for Gifted Children, Tampa, FL and the National Alliance of Concurrent Enrollment Partnerships, Kansas City, MO.

¹⁹ Child Trends Databank. 2015. *Student Absenteeism*. Retrieved from www.childtrends.org/?indicators=student-absenteeism.

b. Lexile Performance

The Lexile measure shows the level of reading proficiency of a typical student in each grade. Lexile performance is a valid indicator of reading proficiency. However, it is intended to be used as a comparative measure, looking at how students perform in reference to an average, and cannot be used to show how well students perform in other areas.²⁰

The Lexile measure was developed by MetaMetrics. It is an equal interval scale and can be used to measure growth. These scores are reported in ranges or “bands” on the Lexile scale. The Lexile bands report the interquartile range of scores for each grade, the scores at the 25th and 75th percentile of students in that grade.

This proficiency standard influences overall ELA standards by helping to determine appropriate reading materials and grading considerations. Lexile ranges are also used to evaluate student writing assessments, such as on an end-of-grade test. The expectation is that the complexity of a student’s writing should fall into the appropriate range of Lexile scores based on his or her grade level.

Lexile scores are provided along with the results from end-of-course and end-of-grade exams. The scores show students, parents and teachers how well a student performed on an English language assessment compared to his or her peers in the same grade. The Georgia English language curricula and testing standards are set using the Lexile measures.

B. Content Mastery: Georgia Milestones Assessment System, 40 Percent = 20 points

The Georgia Milestones Assessment System is a “comprehensive summative assessment program spanning grades 3 through high school.”²¹ Content mastery is measured by the percentage of students who have achieved the proficiency levels as defined by the Georgia Standards for Excellence. Content mastery is assessed through the use of end-of-course and end-of-grade assessments.

1. End-of-Course Achievement Level Descriptors

The End-of-Course (EOC) tests appear to be valid indicators of whether or not a student achieved proficiency according to the Georgia Standards for Excellence for the corresponding course, but further evaluation is needed.

EOC tests are comprehensive summative assessments administered to middle and high school students enrolled in any of 10 courses specified by the State Board of Education, including ELA, mathematics, science and social studies. The EOC results include measures of a student’s mastery of the state-adopted content standards as well as the readiness determinant, which indicates how many

²⁰ MetaMetrics. 2016. “Performance Standards.” In *Lexile Measures and Grade Levels*. Retrieved from lexile.com/about-lexile/grade-equivalent/performance-standards/#Norm-Referenced/.

²¹ Georgia Department of Education. 2016. “Georgia Milestones Assessment System”. In *Assessment Research, Development and Administration*. Retrieved from www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/Georgia-Milestones-Assessment-System.aspx.

students have achieved a proficiency level high enough to qualify them to complete the current grade level, based on the percentage of students scoring at the Proficient or Distinguished Learner level. The results are then transformed into a 0.5-point index.²²

The EOC tests follow a general model that the Council of Chief State School Officers supports as having the potential to produce valid outcomes.²³ The assessment scores are a blend of criterion-referenced performance tests using cut scores for four proficiency groups, and norm-referenced performance tests using national percentiles.²⁴ The Educational Testing Service (ETS) noted that cut scores in assessments such as EOCs can be a valid measure, but the EOCs require ongoing evaluation and the willingness to adjust, add or eliminate the cutoffs as needed.²⁵ The use of TerraNova norm-referenced items provides a useful comparison because EOCs are not comparable to previous Georgia assessments such as the Criterion-Referenced Competency Tests (CRCT).

However, due to the relatively recent adoption of EOC tests in Georgia, beginning in the 2014-15 school year, future research will be necessary to ensure the reliability and accuracy of this indicator. Additionally, converting the EOC results into index scores weakens the effectiveness of this indicator. For example, imagine that two students are within one proficiency point of each other, but one is above the cut off for the standard and one is below. An index score would overemphasize the difference in the students' proficiency: Saying one student is proficient and another is not has a much greater impact than saying one student scored 79 percent and another scored 80 percent when the proficiency standard is set at 80 percent.

2. End-of-Grade Achievement Level Descriptors

End-of-Grade (EOG) tests appear to be valid indicators of whether or not a student has achieved proficiency according to the GSE for the corresponding grade level, but further evaluation is needed.

EOGs are summative tests administered at the end of grades 3-8 in ELA, mathematics, science and social studies. The EOG results include a student's mastery of the state-adopted content standards as well as the readiness determinant, which indicates how many students have achieved a proficiency level high enough to qualify them to complete the current grade level, based on the percentage of

²² Georgia Department of Education. 2016. "Georgia Milestones Assessment System: End-of-Course (EOC) Interpretive Guide for Score Reports for Spring and Summer 2016." Retrieved from www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Documents/Milestones/EOC-Resources/EOC_Score_Interpretation_Guide_2016.pdf.

²³ Domaleski, Christopher. 2011, February. "State End-of-Course Testing Programs: A Policy Brief." Council of Chief State School Officers. Retrieved from www.ccsso.org/Resources/Publications/State_End-of-Course_Testing_Programs_A_Policy_.html.

²⁴ Barge, John D. n.d. "Assessment Update: Georgia's Changing Assessment Landscape." Atlanta: Georgia Department of Education. Retrieved from docplayer.net/21616830-Assessment-update-georgia-s-changing-assessment-landscape-georgia-milestones-assessment-system-georgia-milestones.html.

²⁵ Zieky, Michael, and Perie, Marianna. 2008. *Cut Scores: A Manual for Setting Standards of Performance on Educational and Occupational Tests*. Educational Testing Service, 2008. Retrieved from www.ets.org/Media/Research/pdf/Cut_Scores_Primer.pdf.

students scoring at the Proficient or Distinguished Learner level. The results are then transformed into a 0.5-point index.²⁶

Similar to the EOC tests, the EOG tests follow a general model that the Council of Chief State School Officers supports as having the potential to produce valid outcomes.²⁷ For more information, see the EOC section. As with EOC assessments, the conversion of EOG results into index scores weakens the effectiveness of this indicator.

EOG tests include a high-stakes writing portion that factors into a student's final course grade, helping to determine whether a student will pass that grade level.²⁸ Using Rasch analysis, Engelhard and Gordon examined the procedures for setting the performance standards on the Georgia High School Writing Test (GHSWT) and evaluated the rating qualities set by the judges who set the standards.²⁹ The procedure for setting standards allowed "judges to maintain their differing views of writing competence." Variable maps were created to illustrate these differences and were used to create a standard scale for scores. While there is still relatively little research on setting standards for writing assessments, applying the Rasch measurement theory as an evaluative measure of scoring on the GHSWT contributes to the validity of the writing assessments being used in Georgia's EOG tests.³⁰

C. Graduation Rate/Predictor, 30 Percent = 15 points

1. Elementary and Middle School Predictor for High School Graduation

The percentage of students in a school that score Proficient or Distinguished on Georgia Milestones EOGs or EOCs is not a valid predictor of the percentage of elementary and middle school students who will ultimately graduate high school. The research does not support using elementary and middle school EOC/EOG performance as the primary predictor of high school graduation rates for those students taking the test.

The CCRPI middle school predictor of high school graduation is the "percent of students' assessments scoring at Proficient or Distinguished Learner on Georgia Milestones EOGs or EOCs," benchmarked at 100 percent.³¹ The elementary school predictor of high school graduation is the same but uses only EOGs, also benchmarked at 100 percent.

²⁶ Georgia Department of Education. 2016. "Georgia Milestones Assessment System: End-of-Grade (EOG) Interpretive Guide for Score Reports for Spring and Summer 2016." Retrieved from www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Documents/Milestones/EOG-Resources/EOG_2016_Score_Interpretation_Guide.pdf.

²⁷ Domaleski, Christopher. 2011, February. "State End-of-Course Testing Programs: A Policy Brief." Council of Chief State School Officers. Retrieved from www.ccsso.org/Resources/Publications/State_End-of-Course_Testing_Programs_A_Policy_.html.

²⁸ Georgia Department of Education. 2015. "Georgia Milestones Assessment System." Retrieved from www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/Georgia-Milestones-Assessment-System.aspx.

²⁹ Rasch analysis is a way of evaluating the reliability of a test that compares the performance of students, and in this particular case, that the reported performance is independent of who grades the test.

³⁰ Engelhard, G., and Gordon, B. 2000. *Objective Measurement: Theory into Practice*. Stamford, CT: Ablex.

³¹ Georgia Department of Education. 2015, September. "2016 CCRPI Indicators." Retrieved from [www.gadoe.org/Curriculum-Instruction-and-Assessment/Accountability/Documents/Indicators and Targets/2016 Indicators.pdf](http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Accountability/Documents/Indicators%20and%20Targets/2016%20Indicators.pdf).

These predictors rely on EOC and EOG test scores, so the validity of these tests is pivotal. EOCs and EOGs utilize cut scores, which ETS stated can be a valid measure, but they require ongoing evaluation and the willingness to adjust the cutoffs as needed.³² Additionally, ETS noted that “it is impossible to prove that a cut score is correct.” Thus, there will always be a statistical probability that some students fall just above or below the Proficient mark on EOC/EOG tests, and the indicator will not necessarily predict their success in high school correctly.

Furthermore, elementary school predictors of future academic success involve numerous aspects of a child’s education, including social competence and absenteeism.³³ EOC assessments that test reading ability have shown potential to be a predictor of future academic proficiency achievement. But, the EOC assessments in mathematics, social studies and science are not supported as valid indicators a student’s ability to reach proficiency standards in the future.

Middle school EOGs/EOCs are a stronger predictor of high school graduation than the elementary school tests. In addition, attendance rates and language arts and mathematics scores on EOCs/EOGs are correlated with high school success. However, there is no known research that finds that passing EOC/EOG assessments, in courses other than ELA and mathematics at the middle school level, is a predictor of the student attaining the proficiency standards in high school or that the student will complete high school. Thus, there is not enough evidence to support using EOC/EOG performance as the only predictor of high school graduation.

2. High School Graduation Rates

Beginning in April 2012, Georgia began using a new method introduced by the U.S. Department of Education for calculating four-year adjusted cohort high school graduation rates that would allow for reliable comparisons among states.³⁴ This method sets uniform data collection standards when considering variables such as transfer students, seniors who complete coursework during the summer, and students who drop out and receive a GED.

Despite the new uniformity in calculating graduation rates, this indicator may not be a good predictor of college and career readiness. Although high school graduation rates are increasing across the country, the number of new college students needing remedial classes is at nearly 60 percent. Faced with remedial course work, many students decide not to attend college. Of those who choose to move forward, only one in five students who must take remedial classes passes into college-level courses.³⁵

³² Zieky, Michael, and Perie, Marianna. 2008. *Cut Scores: A Manual for Setting Standards of Performance on Educational and Occupational Test*. Educational Testing Service. Retrieved from www.ets.org/Media/Research/pdf/Cut_Scores_Primer.pdf.

³³ College & Career Readiness & Success Center at American Institutes for Research. 2013, November. “Predictors of Postsecondary Success.” Retrieved from www.ccrscenter.org/sites/default/files/CCRS_Center_Predictors_of_Postsecondary_Success_final_0.pdf.

³⁴ Georgia Department of Education. 2012. “Four-Year Adjusted Cohort High School Graduation Rate Frequently Asked Questions.” Retrieved from www.gadoe.org.

³⁵ Ostashevsky, Luba. 2016, February 18. “Many Who Pass State High School Graduation Tests Show Up to College Unprepared.” *The Hechinger Report*. Retrieved from hechingerreport.org/many-who-pass-state-high-school-graduation-tests-show-up-to-college-unprepared/.

Thus, increasing the graduation rate may not indicate an improvement in learning, although a high school certificate is important for other reasons, such as employment.

The most recent distribution of the National Assessment of Educational Progress (NAEP) confirms the unpreparedness of high school graduates. In 2015, only 37 percent of students who took the test were prepared for college-level mathematics and reading. The gap between those proficient in these skills and not proficient is widening. The scores of the highest performing students have increased by 1 point in each subject, while the scores of the lowest performing students have dropped by 4 points in math and 6 points in reading since 2013. The decrease in proficiency scores across the United States could be due to historically low dropout rates, so that less prepared students are taking the NAEP.³⁶

II. PROGRESS POINTS = 40 POINTS

Points are awarded for the growth in student achievement.

A. Georgia Student Growth Model

The Georgia Student Growth Model (GSGM) has a higher proficiency requirement than the previous CRCT and previously used EOC tests. It uses a student growth percentile (SGP), which in turn uses a more advanced statistical technique (quantile regression) than a typical gain score to calculate students' academic growth.³⁷ The SGP made it possible to transition to Georgia Milestones without losing a year of growth data, because SGP is robust to scale transformations that occur with a change in assessment systems. The SGP shows a student's growth "relative to academically-similar students from across the state, not how well he or she attained proficiency on the assessment." Thus, it is independent of the proficiency cuts used by Georgia Milestones.

Ehlert, Koedel, Parsons, and Podgursky examined three approaches to measuring growth, including SGPs. They note that SGPs eschew "all controls for student covariates and schooling environments." They suggested that an alternative, i.e., value-added models, incorporates controls for other characteristics that "can be used to identify the causal effects of educational units," and thus are more accurate than SGPs in measuring growth.³⁸ A disadvantage to using a SGP is that peer comparisons could lower expectations for disadvantaged students, while showing a bias toward more advantaged schools.

³⁶ Camera, Lauren. 2016. "High School Seniors Aren't College-Ready." *U.S. News & World Report*. Retrieved from www.usnews.com/news/articles/2016-04-27/high-school-seniors-arent-college-ready-naep-data-show.

³⁷ Barge, John D. 2014. "Transitioning the Georgia Student Growth Model to the Georgia Milestones Assessment System." Georgia Department of Education. Retrieved from www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Documents/SGP_GM_FAQ.pdf.

³⁸ Ehlert, M., Koedel, C., Parsons, E., and Podgursky, M. 2016. "Selecting Growth Measures for Use in School Evaluation Systems: Should Proportionality Matter?" *SAGE Journals* 30(3): 465-500. DOI: 10.1177/0895904814557593.

III. ACHIEVEMENT GAP = 10 POINTS

A. Growth in Lowest 25 Percent of Achievers

The achievement gap metric measures “the gap between schools’ lowest-achieving students and the state average and the extent to which the lowest achieving students are making academic progress.”³⁹ The metric has two components: gap size (between the lowest performers and the state average) and gap progress (growth of the lowest 25 percent from year to year).

According to Hanushek, focusing on achievement can be useful despite its disadvantages. Achievement measures attempt to assess issues of quality and student learning, while taking into account learning that takes place outside of the classroom.⁴⁰ Unfortunately, the reliability and validity of achievement measures are often unknown, and these measures do not reflect an individual’s full range of learning.

Achievement gap measures can help in policy making by showing which schools are consistently performing below accepted values. However, disaggregating data by subgroup tends to be problematic for several reasons:⁴¹

- Subgroups samples are too small for precise estimates, so disaggregating growth data down to the school level can render it useless.
- Gaps based on proficiency rates become distorted over time. Scores are converted into a “yes/no” format for comparison purposes. This causes a loss of the substantive information required to make meaningful comparisons, and this information is further diluted over time.
- The size of the gap between groups within schools do not show much about actual performance. Subgroup similarities within a school do not indicate how one subgroup compares to that same subgroup in another school. Thus, one does not know if proficiency is comparable to an average, only that subgroups within one school are scoring similarly.
- Looking at trends in gaps can mask undesirable outcomes. The narrowing of the gap between high and low performers might look like a positive outcome when it is not. If high performers score lower, even though the gap between the groups narrows, this is not a positive outcome.

³⁹ Georgia Department of Education. 2016. “Achievement Gap Metric.” Retrieved from www.gadoe.org/Curriculum-Instruction-and-Assessment/Accountability/Documents/Reference Guides and Support Files/2015 AchievementGap021816.pdf.

⁴⁰ Hanushek, Eric. 2010. “How Well Do We Understand Achievement Gaps?” *Hanushek Report*. Retrieved from [hanushek.stanford.edu/sites/default/files/publications/Hanushek%202010%20Focus%2027\(2\).pdf](http://hanushek.stanford.edu/sites/default/files/publications/Hanushek%202010%20Focus%2027(2).pdf).

⁴¹ Di Carlo, Matthew. 2014, November 17. “Rethinking The Use of Simple Achievement Gap Measures in School Accountability Systems.” *Shanker Blog*. Retrieved from www.shankerinstitute.org/blog/rethinking-use-simple-achievement-gap-measures-school-accountability-systems.

IV. CHALLENGE POINTS = 10 POINTS⁴²

A. Exceeding the Bar Indicators (All Grades K-12)

Exceeding the Bar is a bonus point system that is used along with CCRPI. Adjusted for high schools, middle schools, and elementary schools, Exceeding the Bar provides a maximum of 0.5 additional index points for each of a number of supplemental, high-performance indicators. For example, schools can receive additional points if 100 percent of their teachers use the Statewide Longitudinal Data System.⁴³

The Exceeding the Bar indicators are valid because they simply acknowledge high-performing schools in selected areas. However, further evaluation is needed to determine how they should best be included within the CCRPI calculation. Related research into incentives for AP testing has revealed mixed results. Policies designed to increase AP testing rely mostly on monetary incentives, and Exceeding the Bar limits its benefit to index points.^{44,45} Future research should examine whether schools receive Exceeding the Bar points by sacrificing support in other areas.

B. ED/EL/SWD Performance

In addition to the challenge points earned from Exceeding the Bar Indicators, this indicator offers challenge points that are added into the CCRPI score for the school. The ED/EL/SWD points encourage the improved performance of selected student subpopulations: the economically disadvantages (ED), English learners (EL), and students with disabilities (SWD).⁴⁶ These subpopulations “may require different types of instruction and levels of support for them to succeed,” and this indicator rewards academic progress of these groups.⁴⁷ The index awards points in this category by the proportion of these subgroups. For example, a school with 60 percent of students in ED/EL/SWD categories can gain up to 6 points (60 percent of 10 points) if targets are met. The index utilizes flag counts of performance measures corresponding to the proficiency scores of different subgroups to mark ED/EL/SWD performance, with 27 possible flags for high schools and 12 flags for elementary and middle schools.

⁴² Through Exceeding the Bar and the ED/EL/SWD performance, schools can earn up to 10 bonus points that are added to their CCRPI score.

⁴³ The Statewide Longitudinal Data System (SLDS) is designed to help districts, schools, and teachers make informed, data-driven decisions to improve student learning. It provides districts, schools, and teachers with access to historical data, including assessments, attendance, enrollment, courses, and grades.

⁴⁴ Jeong, Dong Wook. 2009, December. “Student Participation and Performance on Advanced Placement Exams: Do State-Sponsored Incentives Make a Difference?” *Educational Evaluation and Policy Analysis*. DOI: 10.3102/0162373709342466 10.

⁴⁵ Jackson, Clement. 2007. *A Little Now for a Lot Later: A Look at a Texas Advanced Placement Incentive Program*. Ithaca, NY: Cornell University ILR School. Retrieved from digitalcommons.ilr.cornell.edu/cgi/viewcontent.cgi?article=1070&context=workingpapers.

⁴⁶ Woods, Richard. 2016, June 30. “2016 CCRPI Series Session 2.” Georgia Department of Education. Retrieved from [www.gadoe.org/Curriculum-Instruction-and-Assessment/Accountability/Documents/Webinars and Presentations_FY16/FY16 CCRPI Session 2_FINAL_06.30.16.pdf](http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Accountability/Documents/Webinars%20and%20Presentations_FY16/FY16%20CCRPI%20Session%20FINAL_06.30.16.pdf).

⁴⁷ Georgia Department of Education. “An Overview of the College and Career Ready Performance Index (CCRPI).” Retrieved from [www.gadoe.org/Curriculum-Instruction-and-Assessment/Accountability/Documents/ Reference Guides and Support Files/CCRPI Overview 051716.pdf](http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Accountability/Documents/Reference%20Guides%20and%20Support%20Files/CCRPI%20Overview%20051716.pdf).

This indicator is valid in that it captures the proportion of ED/EL/SWD students in a school. Schools with high proportions of such subgroups likely face greater achievement challenges than those with lower proportions. However, this indicator does not consider the proportion of each type of subgroup or the severity of disabilities, which can drastically affect a school's ability to meet performance goals and receive ED/EL/SWD challenge points.⁴⁸ This indicator is valid but should be refined to address disability type.

⁴⁸ Baker, Eva L., Barton, Paul E., Darling-Hammond, Linda, et al. 2010, August 29. "Problems with the Use of Student Test Scores to Evaluate Teachers" (EPI Briefing Paper #278). Economic Policy Institute. Retrieved from www.epi.org/files/page/-/pdf/bp278.pdf.

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