

Sound Basic Education for All: An Action Plan for North Carolina

North Carolina's Statewide Accountability System: How to Effectively Measure Progress Toward Meeting the *Leandro* Tenets

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Introduction: Meeting the Third *Leandro Tenet*

Under *Leandro*, North Carolina is required to establish a comprehensive set of measures for evaluating the state's progress toward providing every student with access to a sound basic education. Specifically, these measures must assess whether the state is:

1. *Providing the resources necessary to support effective instructional programs in each school so that the educational needs of all children, including at-risk children, to have the equal opportunity to obtain a "sound basic education" can be met. A "sound basic education" is defined as one that will provide the student at least sufficient:*
 - (a) *ability to read, write, and speak the English language;*
 - (b) *knowledge of fundamental mathematics and physical science to enable the student to function in a complex and rapidly changing society;*
 - (c) *fundamental knowledge of geography, history, and basic economic and political systems to enable the student to make informed choices with regard to issues that affect the student personally or affect the student's community, state, and nation;*
 - (d) *academic and vocational skills to enable the student to successfully engage in postsecondary education or vocational training; and*
 - (e) *academic and vocational skills to enable the student to compete on an equal basis with others in further formal education or gainful employment in contemporary society;*
2. *Providing a competent, well-trained teacher who can implement effective educational methods that provide differentiated, individualized instruction, assessment, and remediation to the students in that classroom; and*

3. *Ensuring each school is led by a well-trained, competent principal with the leadership skills and the ability to hire and retain competent, certified, and well-trained teachers who can implement an effective and cost-effective instructional program that meets the needs of at-risk children so that they can have the opportunity to obtain a sound basic education by achieving grade-level or above academic performance.*

In addition to identifying a set of indicators of progress, the state must establish a system for using data from the measures these indicators are based on to identify how to address districts and schools not providing a sound basic education, including actions that are necessary and programmatic initiatives that need to be implemented.

The requirements of the Supreme Court of North Carolina (the Court) provide North Carolina with an opening to call for a full set of indicators of students' opportunities to learn and students' access to a sound basic education. These types of research-based indicators include the following:

- » Access students have to an inclusive and supportive learning environment (e.g., using measures of school climate, chronic absenteeism, and suspension)
- » Access students have to a full array of college preparatory coursework (e.g., using a ratio that takes into account the number of students vs. the number of course sections, student completion of coursework, and students' earning of college credit) and high-quality career and technical education (CTE) coursework
- » Access students have to learning tools, such as computers
- » Percentage of fully qualified teachers
- » Percentage of inexperienced teachers
- » Percentage of National Board–certified teachers
- » Qualifications of principals

Although North Carolina's current accountability system under the federal Every Student Succeeds Act (ESSA) includes some indicators that could be used to measure progress toward *Leandro*, as a whole, the state's system does not provide the information necessary to meet the previously described requirements.

North Carolina's Current Accountability System

Under ESSA, for elementary and middle schools, North Carolina measures school performance based on: (1) English language arts/reading and mathematics test scores; (2) science test scores; (3) English learner progress; and (4) growth (measured by the Education Value-Added Assessment System [EVAAS], a value-added growth model that includes student performance on English language arts [ELA], mathematics, and science assessments, which results in a composite growth value). For high schools, North Carolina measures school performance based on: (1) ELA/reading and mathematics test scores; (2) growth (measured by the EVAAS); (3) performance on the

biology end-of-course assessment; (4) math course rigor (measured by the percent of students passing the North Carolina Math 3 course); (5) four-year graduation rate; (6) English learner progress; and (7) student performance on ACT and ACT Workkeys college and workforce readiness exams.¹

Although not currently used as measures of school performance, North Carolina states in its ESSA plan that it will consider incorporating into its accountability system such additional indicators as chronic absenteeism, school climate, and a college- and career-ready index. North Carolina also currently has a web-based platform that provides state, district, and school report cards and reports on additional indicators (some of these indicators are described in Tables 1 and 2 in a subsequent section).

Using the previously described performance measures, North Carolina designates schools as earning an A, B, C, D, or F based on the weight assigned to each measure. For elementary schools, 20% of the weight is based on student growth and 80% on performance on ELA/reading and mathematics test scores, science test scores, and English learner progress. For high schools, 20% of the weight is based on growth in the statewide ELA/reading and mathematics assessments and 80% on performance on ELA/reading and mathematics test scores, the four-year graduation rate, English learner progress, performance on the biology end-of-course assessment, math course rigor, and performance on the ACT and ACT Workkeys exams.²

Although this approach to accountability meets the federal requirements under ESSA, North Carolina's system falls significantly short in providing the information needed to determine whether each child has access to a sound basic education.

This paper describes how North Carolina can establish an accountability system that meets the *Leandro* requirements while complying with federal law, including:

1. The data North Carolina could collect and use to track progress toward providing all students with a sound basic education, including indicators of opportunities to learn and postsecondary education and vocational readiness;
2. How data from these indicators could be incorporated into a system of accountability, improvement, and reporting, including tracking of these indicators; and
3. How to use data from these indicators to set performance goals and identify the appropriate strategies, interventions, and use of resources.

(Note: Included within this series of reports is a companion report that focuses on North Carolina's assessment system.)

Prioritizing High-Leverage Equity Indicators in North Carolina's Accountability System

As previously described, North Carolina's accountability system is primarily based on measures of student performance on assessments. The system does not include a set of indicators of opportunities to learn that could be used to measure progress toward meeting the *Leandro* tenets. These include measures that can capture how students, including at-risk students, are experiencing learning — meaning the extent to which a positive, inclusive, supportive, and challenging learning environment is being provided. Information related to the resources provided to ensure that students have access to a sound basic education should also be incorporated into the system. This should also include access to well-trained and competent teachers and principals as explicitly required by the Court.

As the research reviewed in the next section of this report shows, data from these types of indicators can provide the state, districts, and schools with the information needed to determine which actions are required to ensure that all students have the opportunity for a sound basic education, including what actions are necessary and/or what programmatic initiatives should be implemented. Therefore, North Carolina's accountability system would benefit from:

1. Using a measure of the extended-year graduation rate in addition to the four-year rate as part of the state's graduation rate indicator (this could include the five-year rate, as data are already reported by the state);
2. Including an exclusionary discipline indicator measured at least by student suspension rates;
3. Including an indicator of school climate based on student surveys and other measures;

4. Including an indicator of chronic student absenteeism using the measure already reported at the state (the rate of chronic absenteeism is based on students missing at least 10% of the school year);
5. Including a teacher and leader quality indicator based on multiple measures, such as licensure and experience; and
6. Including a college- and career-ready indicator based on multiple measures such as access to and performance in advanced coursework.

It is important to mention that these types of research-based indicators and their measures are supported by North Carolina principals. In a recent survey of North Carolina principals conducted for this series of reports, respondents identified school climate and safety, access to fully certified teachers, and access to a college- and career-ready curriculum as important indicators of equal opportunity to a high-quality education.

The following describes the research supporting each of these indicators, how other states are using these indicators and the outcomes, and the status of these indicators and their measures in North Carolina, including which data North Carolina collects and for what purpose.

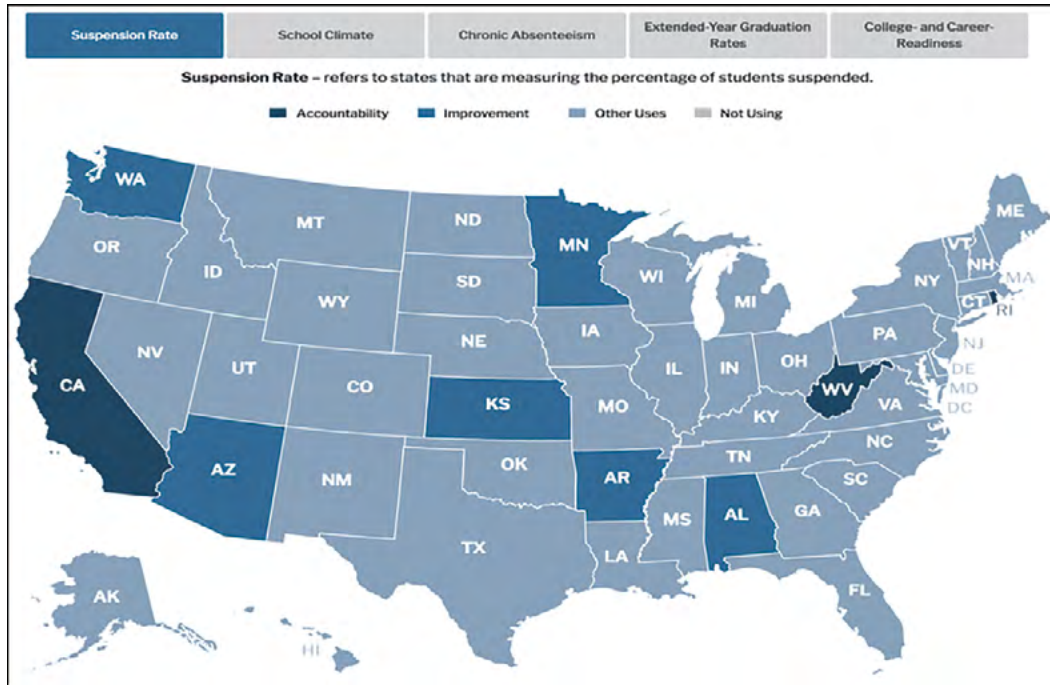
Including an Indicator of the Use of Exclusionary Discipline

Research shows that the overuse of suspensions and expulsions, particularly for students of color, has contributed significantly to dropout rates and the perpetuation of the “school-to-prison pipeline.”³ Students of color and those with disabilities are suspended at a rate that is disproportionate to that of their White and nondisabled peers for comparable behaviors.⁴ High rates of school exclusion have been encouraged by zero-tolerance policies, which assign explicit, predetermined punishments to specific violations of school rules, regardless of the situation or the context of the behavior.⁵ Research suggests that a relatively lower use of out-of-school suspensions, after controlling for race and poverty, correlates with higher test scores, not lower.⁶ Students who are removed from school lose instructional time, tend to have lower academic success, higher rates of grade retention, and lower graduation rates, and are more likely to become involved in the juvenile justice system.⁷

North Carolina does collect and report data on suspension rates; however, it is not a formal indicator in its accountability system under ESSA.⁸ North Carolina has an opportunity to use this data to inform school improvement efforts and measure progress toward meeting the tenets of *Leandro*.

Nine states are using a measure of student suspensions in their statewide accountability and improvement systems (see Figure 1).

Figure 1. States Using an Indicator of School Discipline in Their Accountability System



North Carolina could adopt a similar approach. For example, West Virginia measures disciplinary exclusions in its Pre-K–12 accountability system as the percentage of students at each school who receive zero out-of-school suspensions within a school year. The West Virginia Department of Education promotes nonexclusionary approaches to discipline, such as positive behavior programs, character education, peer mediation, conflict resolution, and prevention of harassment. West Virginia outlines recommendations to schools, such as responding to minor behavior violations with student conferences or changes in the student’s schedule rather than through the use of exclusionary practices.⁹ The state supports districts in using a tiered intervention approach that includes a comprehensive system of mental health services for students and provides training for educators in how to use both the state’s early warning system and a longitudinal data system that enables educators to sort and filter data based on academics, attendance, behavior, and other available data. As a result, educators are able to make timely and actionable subgroup-specific decisions that reduce disparities between student groups.¹⁰

Further, there are many examples of early success among states that have pursued these types of strategies prior to the passage of ESSA. For example, California prioritized improving school climate and reducing student suspensions as part of its new accountability plan in 2012 and carried them into the school improvement system under ESSA. It replaced zero-tolerance policies with legislation encouraging restorative practices, which help students understand the consequences of their actions and which enable them to make amends. It also developed standards for teachers and administrators fostering competencies in using such practices and teaching social-emotional skills.

Between 2011 and 2016, suspensions in California declined by 34% and expulsions dropped by 40%. Meanwhile, California schools became safer: According to federal school safety data, school-based firearms incidents — which were well above the national average in 2009–10 — declined by more than 50% and were far below the national average in 2015–16.¹¹ This is also true for rates of school-based fights, bullying incidents, and classroom disruptions. Graduation rates also improved substantially, from 74% for the class of 2010 to 83% for the class of 2017.¹²

Including an Indicator of School Climate

School climate is often thought of as “how a school feels,” that is, whether it feels safe and supportive for students, staff, and families. A positive school climate reflects a school’s “norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.”¹³ Social and emotional learning (SEL) supports a positive school climate. Explicit teaching of social and emotional competencies enables children and adults to “acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions.”¹⁴ The two are linked because as students and school personnel refine their social and emotional competence, school climate improves, just as the existence of a positive school climate creates the atmosphere within which SEL can take place.¹⁵

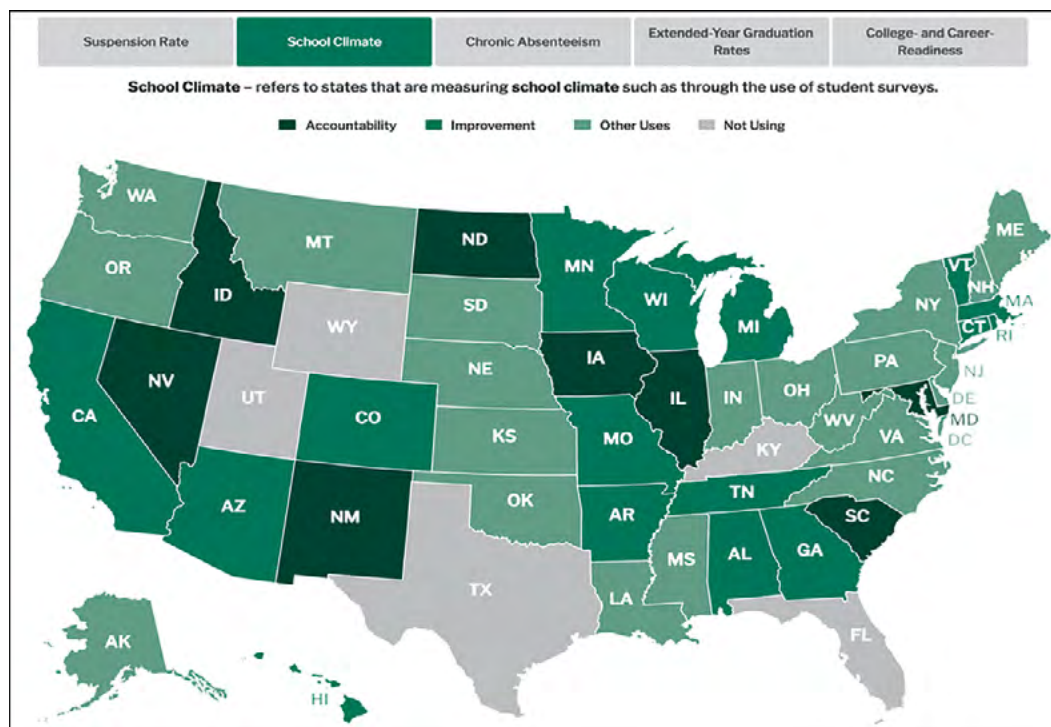
Providing a positive school climate also requires that staff learn social and emotional skills and their applications to a range of school practices, including school discipline and academic instruction that develop students’ abilities to collaborate, problem-solve, and become self-directed, resourceful, and resilient.¹⁶ Well-implemented SEL programs are associated with positive outcomes, ranging from significantly better test scores to improved social skills, attitudes, and behavior.¹⁷ A positive school climate is associated with higher student achievement and educational attainment for all groups of students. Researchers at the University of Missouri and the University of Virginia found that school climate can reduce suspension rates by 10%.¹⁸

North Carolina does not have an identified school climate indicator reported statewide. North Carolina does include supporting student social and emotional needs in its multitiered system of support that is available to interested schools in the state.¹⁹ The state’s ESSA plan stated that it is considering developing a school climate indicator for accountability and improvement purposes.²⁰ A school climate indicator could include measures of inclusive learning environments that meet the social, emotional, and academic needs of students.

Other states are taking greater advantage of the opportunities under ESSA to improve school climate and meet the SEL needs of students through the use of data.²¹ Eight states are using student surveys to measure school climate in their statewide accountability systems (see Figure 2). Six of these states are also using survey data to inform their school improvement efforts. Sixteen additional states describe how they will use strategies for improving school climate in schools identified for support and improvement or as part of a broader statewide effort. For example, 6 of those additional 16 states are providing technical assistance that includes evidence-based strategies for improving school climate, and 9 states are supporting a diagnostic/self-assessment process at the school level to identify areas of improvement as they relate to school climate. Eleven states, including North Carolina,

explicitly mention providing resources and support to schools to improve students' social and emotional learning. Five of these states are addressing student SEL as a part of their overall school improvement support efforts.

Figure 2. States Using an Indicator of School Climate in Their Accountability System



North Carolina could more closely follow the approach these states are taking to assess how students are experiencing school and provide intervention and support where needed. For example, Maryland is using school climate surveys of students as an accountability indicator in all grades and an educator survey to support school improvement. Both student and educator surveys will include items in the same four domains: relationships, safety, engagement, and environment. These domains include the following subtopics: cultural and linguistic competence, relationships, school participation, emotional safety, physical safety, bullying, substance abuse, emergency readiness, physical environment, instructional environment, physical health, mental health, and discipline.²² Further, the Maryland Department of Education will develop and implement a multitiered system of support that will include partnerships between schools and community members to further sustain conflict resolution programs, reduce and eliminate disproportionality in discipline, provide a Youth Mental Health First Aid curriculum for staff, and implement wraparound services.

Including an Indicator of Chronic Student Absenteeism

Chronic absenteeism — often defined as missing 10% or more of the school year — negatively impacts students' school performance, high school graduation rates, and students' overall success in adulthood. For example, after controlling for race or socioeconomic status, it has been shown that students who are chronically absent score

In its current form, North Carolina’s college and career readiness indicator does not include measures of access to advanced curriculum or predictors of success.³² As such, data from this indicator will not provide the Court with the information it needs to assess progress toward *Leandro*. In addition, accountability systems that measure access to a college- and career-ready curriculum and a well-rounded education are especially important to principals from low-poverty schools. In a survey of North Carolina principals administered for these reports, principals from low-poverty schools identified access to a college- and career-ready curriculum and to gifted and talented (G&T) programs (as well as to music and arts programs) as important indicators of equal opportunity to high-quality education.

North Carolina could look to other states that are including measures within this indicator that provide a more comprehensive and accurate set of data, such as opportunities for students to earn college credit and have access to rigorous coursework.

For example, South Carolina is measuring college- and career-readiness using two student success indicators — the College and Career Readiness indicator and the Prepared for Success indicator. The College and Career Readiness indicator is based on whether the student completes or earns one or more of the following nine metrics: (1) an Advanced Placement (AP) test with a 3 or higher; (2) an International Baccalaureate (IB) test with a 4 or better; (3) a composite score of 1020 or higher on the SAT; (4) a composite score of 20 or higher on the ACT; (5) at least six credit hours in dual-credit courses with a grade of C or higher; (6) a CTE work-based certification program with a state-recognized or nationally recognized industry credential; (7) a Silver, Gold, or Platinum National Career Readiness Certificate on Workkeys assessments; (8) a scaled score of 31 or higher on the Armed Services Vocational Aptitude Battery; or (9) a registered apprenticeship through a state-approved program. For transparency, graduation rates for each of the nine metrics are reported separately. The student success indicator is calculated by dividing the number of students who have met at least one of the nine metrics by the number of students in the grade 12 cohort.³³

South Carolina is also aiming to reduce the percentage of students who need to take remedial courses at the college level by 5% per year by analyzing and reporting the percentage of high school graduates enrolled as college freshmen in credit-bearing courses.³⁴ Moreover, the state developed the Profile of the South Carolina Graduate, which includes life, academic, and career skills — such as knowing how to learn, how to engage in collaboration and teamwork, how to think critically, and how to solve problems — that students should have before they graduate. South Carolina’s goal is to have, by 2035, 90% of its students graduate with these skills.

North Carolina could include similar measures in its college- and career-readiness indicator. Further, the state could establish a profile of a North Carolina graduate that is aligned with both ESSA and *Leandro* requirements and that serves as the foundation for its design of a statewide system of accountability and support.

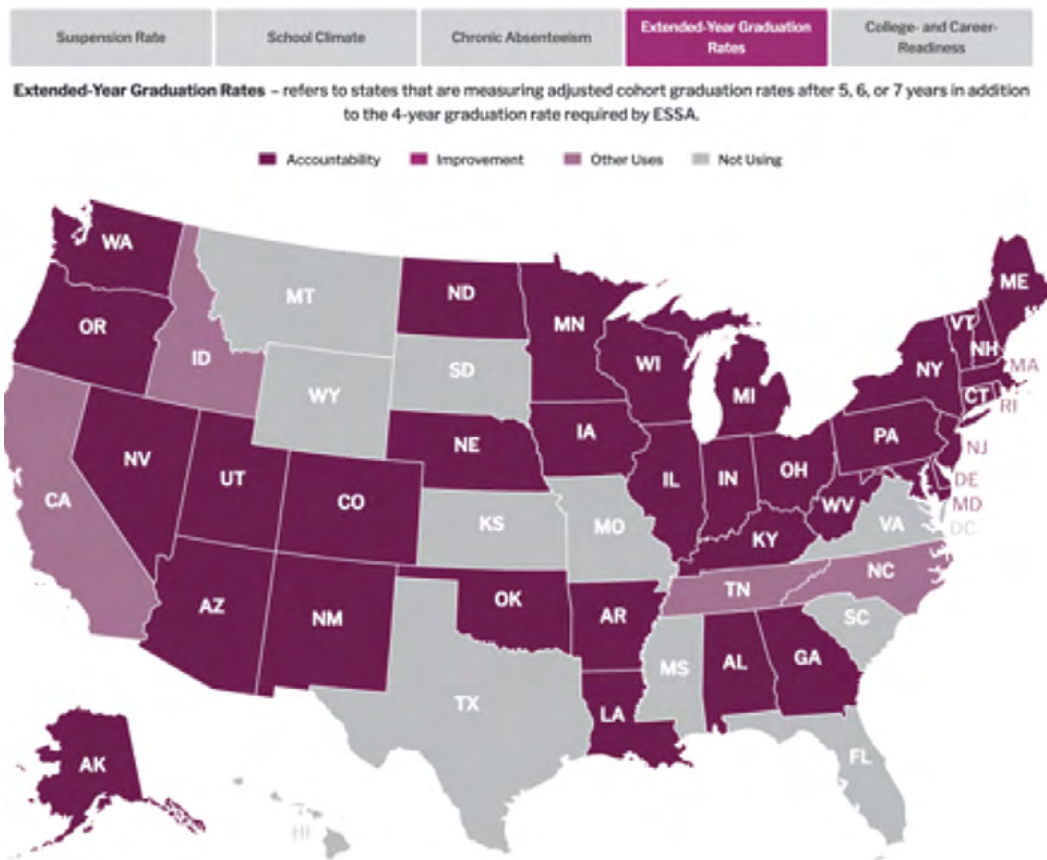
Including a Measure of the Extended-Year Graduation Rate

Under ESSA, all states are required to report on and incorporate into their accountability and improvement systems the four-year adjusted cohort graduation rate. ESSA allows states to include the use of an extended-year graduation rate. Data show that it can be extremely challenging for some students to graduate in four years. Reasons include incarceration, health issues, pregnancy, the need to work for subsistence, and missing credits. The latter is more commonly an issue for students with gaps in their education, students with special needs, and students who have immigrated with little prior education. Since students who are unable to graduate on time are often low-achieving, there is little incentive to keep them in school because when only a four-year graduation rate is used, such students depress both the achievement indicator and the graduation rate indicator.

North Carolina is not using an extended-year graduation rate for school identification purposes under ESSA. However, the state does collect data on and report a five-year rate, therefore the data is available.³⁵ Incorporating the use of an extended-year graduation rate into its accountability system recognizes and incentivizes school efforts to continue to work with the students — one in five — who do not graduate within four years. The data also provide the Court with a more accurate assessment of the number of students who are graduating from high school.

Thirty-five states are including extended-year graduation rates in their statewide accountability systems (see Figure 5), recognizing the efforts of schools that provide opportunities to support students who do not graduate in four years. Sixteen of these states are measuring a five-year graduation rate only, and 19 of these states use a six- or seven-year graduation rate (sometimes in addition to the four- or five-year rate).³⁶ States are also setting higher goals for the extended-year rate. For example, New Jersey tracks four- and five-year graduation rates with the statewide goal of having 95% of its students graduate within four years and 96% within five years by 2030, with the same long-term goal for every subgroup. It is important to note that as New Jersey set these new graduation goals, it also increased the rigor of its graduation requirements.

Figure 5. States Using an Extended-Year Graduation Rate in Their Accountability System



Several of the states incorporating these rates use them to identify gaps in graduation rates among subgroups and to have a more nuanced understanding of which students are graduating and after how many years. For example, Nebraska was an early adopter of measuring five- and six-year graduation rates. When using the extended-year rates instead of a four-year rate, the graduation gap between White students and students of color closed between 2 and 4 percentage points.³⁷ Michigan, which uses a six-year rate, saw a 9% increase in the six-year graduation rate for economically disadvantaged students compared with the four-year rate.³⁸ Although all states are committed to increasing the four-year graduation rate, the use of an extended-year graduation rate provides a more accurate assessment of how many students are completing high school, which schools are making progress, and which schools are still struggling to graduate all of their students.

Including an Indicator of Teacher and Leader Quality

As the Court recognized, teachers and principals in the state of North Carolina must be well trained and competent. Multiple studies using North Carolina data analyze the quality and effectiveness of teachers who enter through different pathways, as well as of those who are National Board–certified.³⁹ These studies underscore that teacher credentials and preparation impact student achievement. Furthermore, their findings are consistent with

the findings of a broader national body of research that teacher experience and qualifications matter to student achievement, especially to the achievement of students of color and those from low-income families.⁴⁰

At a minimum, teachers and leaders should satisfy North Carolina’s certification requirements, which should be aligned with the skills necessary to address the needs of a diverse group of students, especially the needs of at-risk students. Requirements might also include a teacher candidate performance assessment, such as the edTPA, whereby individuals have the opportunity to demonstrate and be measured on the skills and knowledge that all teachers need.

Currently, North Carolina reports on a range of teacher and principal qualification measures. In its reporting on teachers, the state includes the number and percentage of fully licensed teachers, of teachers with an emergency certification, of teachers with an advanced degree, of National Board–certified teachers, and of teachers teaching outside their areas of certification. It also includes teachers’ years of experience. In its reporting on principals, the state includes the number of years of experience and principal performance based on evaluations.

Research demonstrates links between the types of preparation experiences individuals receive and their ability to lead school effectively.⁴¹ In addition to the data the state already collects, North Carolina could consider monitoring principal-preparation programs for the presence and quality of evidence-based features, such as targeted recruitment and selection of expert teachers with leadership potential, student-centered instruction, formalized mentoring, support through cohorts, partnerships between districts, and well-designed clinical experiences.⁴² These data would further the state’s understanding regarding the extent to which it is preparing well-trained school leaders.

Using Measures of Growth to Assess School Performance

In addition to incorporating opportunity-to-learn indicators into an accountability system, growth, along with performance, is an effective and important measure of what the school is contributing to student learning. This provides information that can be used at the state and local levels to prioritize resources and supports for schools that are not providing components of a sound basic education and are not making any progress toward doing so. As described below, research demonstrates that due to the strong negative relationship between achievement and poverty at the school level, focusing primarily on achievement on certain indicators to evaluate a school's performance and a school's contribution to learning biases the evaluation system against schools that serve large percentages of economically disadvantaged students and rewards schools with wealthy populations.

Although it is important to measure achievement, a high-growth school's overall achievement level may remain relatively low since low-achieving students continually enter in lower grades and higher-achieving students graduate. Heavily weighting achievement fails to adequately recognize schools that are producing growth. High levels of growth over time lead to higher levels of achievement. Schools in North Carolina need time to increase achievement, and it is important to assess whether progress is being made using measures of growth, in addition to status on each indicator. As currently structured, school performance on almost all of North Carolina's indicators is based on status and not on growth in performance.

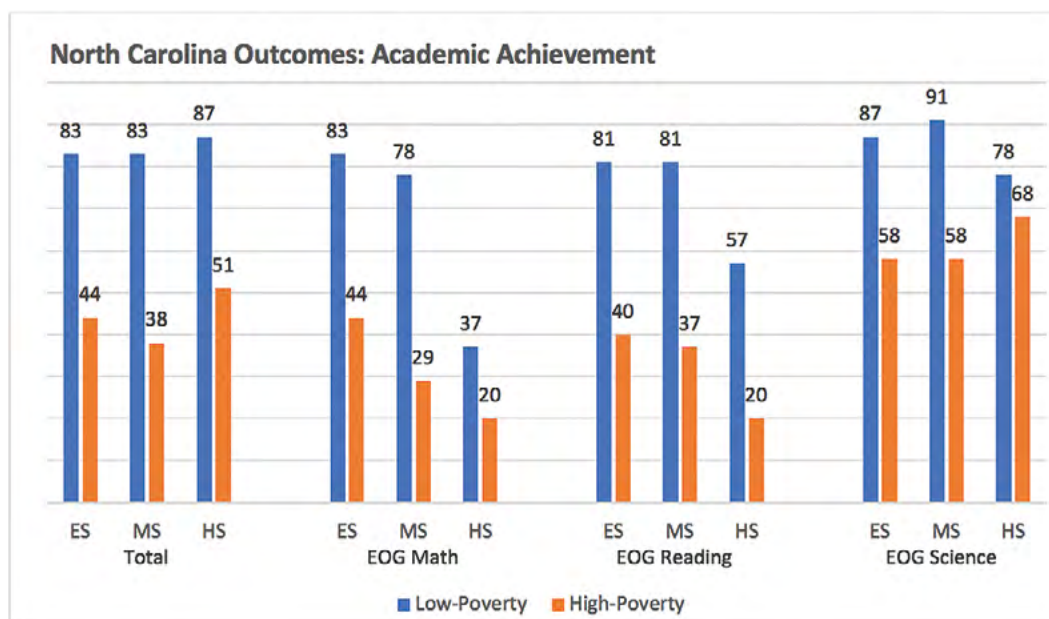
The Benefits of Focusing on Performance and Growth

Measuring, reporting, and using growth in performance on individual indicators in accountability and improvement systems is particularly useful for tracking gains and changes in equity gaps. Growth can describe whether the selected supports and interventions are working and where progress is being made. For example, focusing primarily on a percent-proficient measure fails to make distinctions among students or schools who are further away from or closer to cut points and among those who have made significant progress or have largely stagnated in their progress. Further, measures that rely solely on moving students across a threshold — for example, from “basic” to “proficient” — create the incentive to overdirect attention to students who have come to be called the “bubble kids” (students near the cut point) at the expense of others.⁴³

Research also shows that an overemphasis on proficiency tends to advantage higher-performing, higher-income, low-minority districts compared with lower-performing, lower-income, and high-minority districts. This advantage is due to the strong negative relationship between achievement and poverty at the school level. This relationship between poverty and school outcomes in North Carolina public schools is demonstrated by Figure 6: Math, Reading, and Science Proficiency in North Carolina in High-Poverty vs. Low-Poverty Schools and by Figure 7: Math, English, Biology, and ACT Proficiency and Graduation Rates in North Carolina in High-Poverty vs. Low-Poverty Schools.

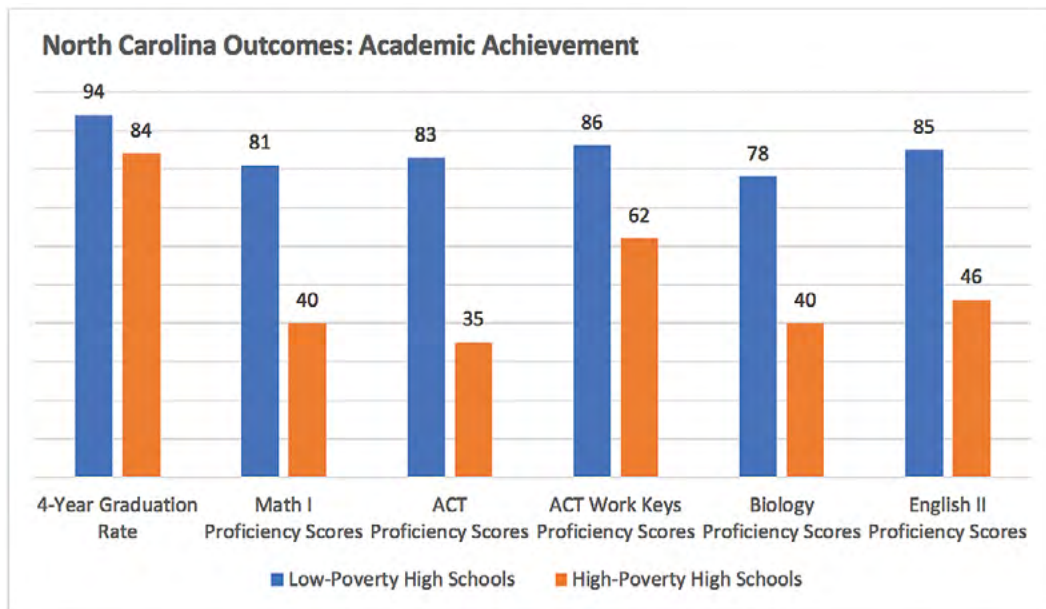
These figures show that, as stated above, focusing primarily on achievement to evaluate school performance biases the evaluation system against schools that serve large percentages of economically disadvantaged students from poverty and rewards schools with wealthy populations. Because status measures do not show what the school has contributed to student learning, growth measures should be a significant measure in evaluating schools.

Figure 6. Math, Reading, and Science Proficiency in North Carolina in High-Poverty vs. Low-Poverty Elementary Schools (ES), Middle Schools (MS), and High Schools (HS)



Source: Learning Policy Institute analysis of North Carolina Department of Public Instruction data.

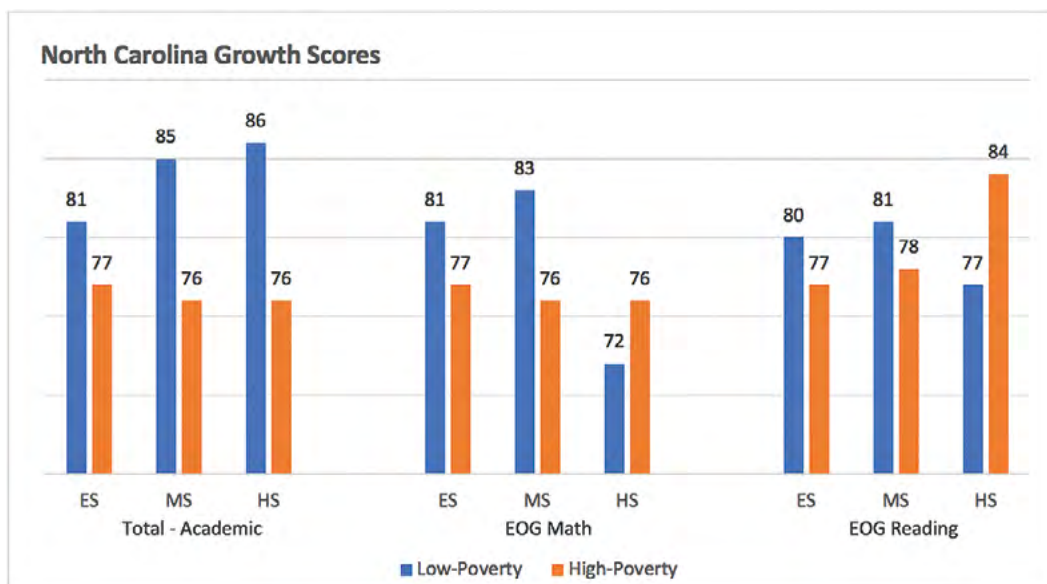
Figure 7. Math, English, Biology, and ACT Proficiency and Graduation Rates in North Carolina in High-Poverty vs. Low-Poverty Elementary Schools (ES), Middle Schools (MS), and High Schools (HS)



Although it is important to measure achievement, a high-growth school’s overall achievement level may remain relatively low, since low-achieving students continually enter in lower grades and higher-achieving students graduate. Heavily weighting achievement fails to adequately recognize schools that are producing growth. High levels of growth over time lead to higher levels of achievement.

Schools need time to increase achievement, and it is important to assess whether progress is being made using measures of growth in addition to status on each indicator. Examining growth data provides a very different picture of whether learning is occurring at a school, as demonstrated by Figure 8: Growth in Math and Reading Proficiency in North Carolina in High-Poverty vs. Low-Poverty Schools. These data show that, contrary to the picture painted using achievement data alone, high-poverty schools are making significant contributions to student learning, comparable to the contributions to student learning made by low-poverty schools.

Figure 8. Growth in Math and Reading Proficiency in North Carolina in High-Poverty vs. Low-Poverty Elementary Schools (ES), Middle Schools (MS), and High Schools (HS)



There are a number of informative ways North Carolina could report and incorporate performance and growth within its accountability system and for the purposes of *Leandro*. This could include progress along the entire scale used to reflect scores, movement across score categories, or even a proficiency index. Reporting using scale scores can reveal, for example, that students moved, on average, from a score of 234 to 250 and that English learners moved from 208 to 240, a rate of improvement twice as great. All of these changes, however, might not have any effect on the percent-proficient measure or might affect it in ways that do not reflect the actual gains made.

Using growth in school performance in other indicators shares similar benefits. This type of information across indicators would provide the Court with a more accurate assessment of which schools are making progress toward meeting the *Leandro* tenets and variations in the extent of that progress. Efficient use of resources is a requirement under *Leandro*. Schools that are not providing components of a sound basic education and not making any progress toward doing so should be prioritized when decisions regarding the use of resources are being made. This type of information can assist in those efforts.

Using the Additional Data Needed to Track Progress Toward Providing All Students With a Sound Basic Education

Based on the tenets established by the Court, there are additional data North Carolina should collect, report, and analyze to track progress toward providing all students with a sound basic education. These data can be organized into two categories: (1) indicators of opportunities to learn and of access to a sound basic education and (2) outcome indicators measuring postsecondary education and vocational readiness. The following describes evidence-based options for these indicators, how they can be measured, and the current status of their use in North Carolina.

Indicators of Opportunities to Learn and of Access to a Sound Basic Education

Indicators of opportunities to learn and of access to a sound basic education can include measures of the extent to which students are learning in an inclusive environment that meets their social, emotional, and academic needs. This can include the extent to which there is access to a postsecondary education and vocational curriculum and whether they are taught and led by competent, well-trained teachers and principals. A school's performance on these measures impacts student performance (and overall school performance) on postsecondary education and vocational readiness indicators.

For example, lack of access to a meaningful, relevant curriculum affects student achievement, graduation rates, and postsecondary success.⁴⁴ A large body of research has shown that students have differential access to college preparatory curriculum and to high-quality career-technical programs that can lead to skilled employment in the modern economy.⁴⁵ For example, schools with high proportions of students of color are much less likely to

offer advanced courses, such as calculus and physics, and across schools, students of color are underrepresented in AP courses and G&T programs, the kinds of settings in which higher-order skills are most purposefully developed.⁴⁶ Research has also found that schools serving African American, Latinx, and Native American students are “bottom heavy” — that is, they offer fewer academic courses and fewer high-end career-technical options and more remedial and vocational courses training for low-status occupations.⁴⁷

In addition to curricular offerings, student access to a sound basic education is influenced by whether the conditions for learning exist. This includes a positive and inclusive school climate as previously described. Measures of student opportunities to learn can include measures of school climate, such as parent, student, and teacher surveys, discipline rates, chronic absenteeism, and other measures capturing the conditions under which students are learning.

By including data on access to a sound basic education and opportunities to learn, North Carolina can assess the achievement data within the context of more descriptive and meaningful data about equity in learning opportunities. When indicators capturing information on the success of these efforts are reported by race and ethnicity, economic disadvantage, and language and special education status, they illustrate where there are inequalities that should be addressed in order to fulfill the requirements of the *Leandro* decision.

Examples of these types of evidence-based indicators, how they can be measured, and whether North Carolina is collecting these data and for what purpose are described in Table 1: Indicators of Opportunities to Learn and of Access to a Sound Basic Education.

Table 1. Indicators of Opportunities to Learn and of Access to a Sound Basic Education

Indicator	Measures of Opportunity and Progress Toward Opportunity	Status of the Data Availability and Use in North Carolina
Access to Advanced or College-Preparatory Coursework	<ul style="list-style-type: none"> • Percent of students enrolled by course, including advanced courses • Student participation in and completion of AP/IB courses, dual enrollment, and early college programs • Student participation in and completion of high-quality CTE programs 	Collects data on student enrollment in, participation in, completion of, and performance in AP/IB courses, dual enrollment, and early college programs
Student Discipline	<ul style="list-style-type: none"> • Number of incidences of in-school and out-of-school suspensions, expulsions, and referrals to law enforcement • Length of these incidences • Number of students receiving multiple suspensions, expulsions, or referrals • Incident rates 	Reports on state and district report cards the rates of in-school and out-of-school suspensions, expulsions, school-related arrests, referrals to law enforcement, and incidences of school violence, including bullying and harassment

Indicator	Measures of Opportunity and Progress Toward Opportunity	Status of the Data Availability and Use in North Carolina
School Climate (in addition to student discipline and chronic absenteeism)	<ul style="list-style-type: none"> • Student surveys • Staff surveys • Parent surveys 	Is considering including a school climate indicator in its accountability system for federal purposes
Chronic Absenteeism	<ul style="list-style-type: none"> • Students missing 10% or more of the school year (which may exclude excused absences when being used for school identification purposes) 	Reports chronic absenteeism rates (including both excused and unexcused absences) and uses the data to determine whether support in this area is needed as part of its approach to overall school improvement; is considering including it for school identification purposes
Teacher Quality	<ul style="list-style-type: none"> • Number and percentage of fully licensed teachers, lateral-entry teachers, and teachers with an emergency certification • Percentage of teachers with advanced degrees • Percentage of teachers who are National Board certified • Percentage of teachers with fewer than three years of teaching experience • Percentage of teachers assigned outside their area(s) of certification • One-year teacher turnover rates • Percentage of teachers chronically absent (e.g., 10% or more of the school year) 	<p>Reports on state and district report cards in the aggregate and disaggregated by high-poverty compared with low-poverty schools the number and percentage of:</p> <ul style="list-style-type: none"> • Inexperienced teachers, principals, and other school leaders • Teachers teaching with emergency or provisional credentials • Teachers who are not teaching in the subject or field for which the teacher is certified or licensed • Distribution of National Board–certified teachers <p>At the school, district, and state level, reports on and makes available data on chronic teacher absenteeism and teacher turnover rates</p>
Principal Quality	<ul style="list-style-type: none"> • Years of principal experience • Principal performance on evaluation • Annual average principal turnover rate at the district level 	Makes data available at the school, district, and state level
Preschool Access	Number and percentage of students enrolled in preschool programs by type of program (e.g., Head Start, state or private preschool, family-based program)	Reports the number and percentage of students enrolled in preschool programs; select data available through NC Pre-K

Indicator	Measures of Opportunity and Progress Toward Opportunity	Status of the Data Availability and Use in North Carolina
Sufficient Resources and Funding Provided	<ul style="list-style-type: none"> • Availability of instructional materials, textbooks, and computers • Ratio of students to guidance counselors, social worker, nurses, and librarians • Dollars per pupil • Instructional dollars per pupil 	Reports on state and district report cards the per-pupil expenditures of federal, state, and local funds, including actual personnel expenditures and actual nonpersonnel expenditures of federal, state, and local funds, disaggregated by source of funds, for each local educational agency and each school in the state for the preceding fiscal year; North Carolina Teacher Working Conditions Survey provides data from teachers on access to instructional materials, computers, software, and other resources
Class Size	<ul style="list-style-type: none"> • Average class size at each grade level • Pupil-teacher ratio 	Reports average class size at the school, district, and state level

The inclusion of each of these indicators within North Carolina’s accountability system for either school identification, improvement, or reporting purposes can provide a comprehensive set of data to assess student opportunities to learn and student access to a sound basic education. As described in further detail below, research shows that improvement on these indicators results in improved academic outcomes for students and are predictors of student success.

A Deeper Look at Key Indicators of Opportunities to Learn and of Access to a Sound Basic Education

Access to Advanced and/or College Preparatory Coursework

In addition to measures of student performance in a college preparatory curriculum, including AP and IB courses, availability and completion of such coursework provide a more complete picture of student opportunity and access. According to a report by the Equity and Excellence Commission, inequities in educational opportunities are perpetuated through differentiated access to a high-quality curriculum that focuses on critical thinking skills and prepares students for college and careers.

A large body of research has shown that students have differentiated access to college preparatory curriculum and to high-quality career-technical programs that are aimed at skilled employment in the modern economy.⁴⁸ The U.S. Department of Education’s Office for Civil Rights reports, for example, that schools with high proportions of African American and Latinx students are much less likely to offer advanced courses like calculus and that, across schools, African American and Latinx students are underrepresented in AP courses and G&T programs—the kinds of settings in which higher-order skills are most purposefully developed.⁴⁹

A lack of access to these curricular opportunities, in part a result of the early sorting of children into different curriculum tracks, often prevents students from encountering and acquiring the knowledge and skills they need to succeed in subsequent grades.⁵⁰ Research shows that dropping out of school is more often than not the final stage in a cumulative process of increasing disengagement from school, the moment when students decide it offers them little of interest or utility.⁵¹ Lack of access to a meaningful, relevant curriculum disengages students from school and affects student achievement, graduation, and postsecondary success.

Student Discipline

Over the past several decades, researchers have noted that the overuse of suspensions and expulsions, particularly for students of color, has contributed significantly to dropout rates and the perpetuation of the “school-to-prison pipeline.”⁵² Further, students of color and those with disabilities are suspended at a rate that is disproportionate to that of their White and nondisabled peers for comparable behaviors.⁵³ High rates of school exclusion have been encouraged by zero-tolerance policies, which assign explicit, predetermined punishments to specific violations of school rules, regardless of the situation or the context of the behavior.⁵⁴

School Climate

As previously described, school climate is often thought of as “how a school feels,” that is, whether it feels safe and supportive for students, staff, and families. A positive school climate reflects a school’s “norms, goals, values, interpersonal relationships, teaching and learning practices, and organizational structures.”⁵⁵ Social and emotional learning supports a positive school climate. Explicit teaching of social and emotional competencies enables children and adults to “acquire and effectively apply the knowledge, attitudes, and skills necessary to understand and manage emotions, set and achieve positive goals, feel and show empathy for others, establish and maintain positive relationships, and make responsible decisions.”⁵⁶ School climate and SEL are linked because as students and school personnel refine their social and emotional competence, school climate improves, just as the existence of a positive school climate creates the atmosphere within which SEL can take place.⁵⁷

Chronic Absenteeism

Chronic absenteeism — often defined as missing 10% or more of the school year — negatively impacts students’ school performance, high school graduation rates, and students’ overall success in adulthood. For example, students who are chronically absent score lower on tests, on average, than students with better attendance, after controlling for race or socioeconomic status.⁵⁸ Chronic absenteeism in early grades has been found to predict students’ levels of success in later grades and the likelihood of dropping out of school. Students of color are disproportionately chronically absent compared with their White peers. Latinx students are 11% more likely to be chronically absent, African American students are 36% more likely, and Native American and Pacific Islander students are more than 65% more likely to miss significant school time.⁵⁹

Teacher and Leader Quality

As discussed in the accompanying teacher supply and demand report, teacher quality is influenced by preparation, certification, and experience. Multiple studies using North Carolina data analyze the quality and effectiveness of teachers who enter through different pathways, as well as those who are National Board certified.⁶⁰ These studies underscore that teacher credentials and preparation impact student achievement. Furthermore, North Carolina literature is consistent with the findings of a broader national body of research that teacher experience and qualifications matter to student achievement, especially to the achievement of students of color and those from low-income families.⁶¹

Teacher turnover also impacts student opportunities to learn and achievement. In particular, when turnover contributes to teacher shortages, schools often respond by hiring inexperienced or unqualified teachers, increasing class sizes, or cutting class offerings, all of which impact student learning.⁶² In addition, turnover impacts the achievement of all students in a school, not just those with a new teacher, by disrupting school stability, collegial relationships, collaboration, and the accumulation of institutional knowledge.⁶³ Research is clear that both teacher inexperience and turnover rate negatively impact student learning.⁶⁴

Further, the costs of teacher turnover are disproportionately borne by students in hard-to-staff schools, typically those serving primarily students of color and students in poverty, which are more likely to rely upon uncertified teachers who are often hired as a last resort when fully certified teachers are not available. In 2013–14, the quarter of schools enrolling the most students of color nationally had four times as many uncertified teachers as the quarter of schools enrolling the fewest students of color. Uncertified teachers were also more common in schools serving the most students eligible for free and reduced-price lunch than in those with the fewest.⁶⁵

In addition, teacher absenteeism can negatively impact student achievement.⁶⁶ Schools with persistently high rates of teacher absenteeism are much more likely to serve low-income students than high-income students.⁶⁷

Principals are the second most important school-level factor associated with student achievement — right after teachers.⁶⁸ As one study notes, “There are virtually no documented instances of troubled schools being turned around without intervention by a powerful leader.”⁶⁹ This conclusion has been bolstered in recent years by numerous studies that associate increased principal quality with gains in high school graduation rates⁷⁰ and student achievement.⁷¹ For example, one study found that a 34% improvement in principal quality was associated with increased student achievement, which was equivalent to more than four weeks of additional learning in reading and more than six weeks in mathematics.⁷²

Principal preparation contributes to their effectiveness. Several studies find improved leadership outcomes and student achievement outcomes due to principal preparation. For example, exemplary leadership preparation programs (i.e., those rated with high program and internship quality) are positively associated with what principals learned in their programs about organizational and instructional leadership.⁷³ This learning was positively associated with the frequency with which principals engaged in instructional leadership activity, which, in turn, was positively associated with school improvement and a positive school climate.

Principal preparation also positively impacts teacher satisfaction and effectiveness. One study finds that teachers whose principals had participated in one of the innovative leadership preparation programs under study were more likely to rate their principals' leadership practices highly and, through that, had higher job satisfaction and teacher collaboration ratings. Innovative preparation programs were those evaluated to have, among other features, pedagogical practices emphasizing active learning strategies, coherent and high-quality programs of study, and high internship quality. In addition, graduates of innovative, research-based principal preparation programs are more effective in developing high-quality teacher teams, resulting in greater student learning gains.⁷⁴ These findings "underscore the importance of investing in quality leadership preparation."⁷⁵

Turnover in school leadership can result in a decrease in student achievement. Studies in North Carolina,⁷⁶ Texas,⁷⁷ and multiple urban districts⁷⁸ have found a clear relationship between principal turnover and lower gains in student test scores across grade levels and subjects.⁷⁹ This relationship is stronger in schools serving large proportions of students of color⁸⁰ and high-poverty, low-achieving schools — the schools whose students most rely on education for their future success.⁸¹ There is also evidence that principal turnover results in higher teacher turnover,⁸² which, in turn, negatively impacts student achievement.⁸³ Principal turnover is also costly in terms of financial resources. One report estimates the cost to develop, hire, and onboard each principal is about \$75,000.⁸⁴ Further, high principal turnover rates can contribute to schools being led by less-experienced principals, who research shows are less effective than experienced principals.⁸⁵

Unfortunately, North Carolina's principals are not equitably distributed. One study found that across a range of quality measures — principal test scores, competitiveness of undergraduate university, experience — principals in high-poverty schools scored worse than their counterparts in more affluent schools.⁸⁶

Preschool Access

High-quality preschool gives children a strong start on the path that leads to college or a career. Research shows that all children benefit from high-quality preschool, with low-income children and English learners benefiting the most.⁸⁷ A substantial number of studies demonstrate the benefits of high-quality Pre-K programs.⁸⁸ These include long-term research on Perry Preschool, the Abecedarian Project, and the Chicago Child-Parent Centers, as well as ongoing studies of the preschool programs in Tulsa and Boston and of New Jersey's Abbott Preschool Program, among others. Economists also have shown the benefits of early education investments, which generate approximately \$7 for every dollar invested.⁸⁹ However, the potential of preschool can be realized only if programs are of high quality.

In addition to access to high-quality preschool, there are several measures that would support assessment of the state's progress toward meeting its responsibilities under *Leandro*. These include measuring the length of day, length of school year, Quality Rating and Improvement System (QRIS) rating, and access to developmental screenings. For each of these indicators, building a data system that allows the state to disaggregate and report data by county and by communities within counties by poverty level will be critical to assess whether all at-risk students have equitable access to Pre-K. Such a data system will identify any gaps or areas where high-quality Pre-K options are absent. In addition, turnover among early childhood staff is a concern because continuity of care is an important dimension of quality in early childhood education — one that helps to support the formation

of stable and sensitive relationships between children and the adults who care for them.⁹⁰ For this reason, gathering sufficient data to report turnover of early childhood education staff should also be considered alongside K–12 teacher and principal turnover measures.

Sufficient Resources: Integrated Student Supports

Providing sufficient resources includes providing integrated student supports (the impact of school funding on student achievement is discussed in greater detail in the accompanying report on school finance). Integrated student supports (ISSs) are a school-based approach to promoting students' academic success by developing or securing and coordinating supports that target academic and nonacademic barriers to achievement.⁹¹ The types of school-based supports vary depending on local needs, but often consist of medical care, dental services, mental health supports, tutoring, mentoring, resources for families, housing assistance, and nutrition programs.⁹² Research shows all students benefit from receiving these school-based interventions, but ISSs are particularly impactful for historically underserved students who often show improvements in attendance, behavior, social well-being, and academic achievement.⁹³

Further, one study designed to assess whether ISSs improved academic and nonacademic outcomes finds significant positive effects for students' progress in school, attendance, mathematics achievement, reading achievement, and overall grade point average.⁹⁴ More specifically, the study finds significant decreases in grade retention, dropout rates, and chronic absenteeism, along with significant increases in attendance rates and mathematics scores when integrated student supports are provided.⁹⁵

Class Size

Reducing class size can be an effective strategy for improving student outcomes under some circumstances. However, the effects appear to vary depending on the age and character of the students and the extent of class-size reduction pursued. And they assume that other variables, such as the quality of teachers and curriculum, remain constant. For example, a meta-analysis of 77 studies exploring the effects of class size found that smaller class sizes were associated with improved student achievement, with the greatest effects when certain smaller-class-size thresholds were reached. For example, reducing a class size of 40 students to a class of no more than 20 students or a class of 25 students to a class of 10 to 15 students produced the greatest gains in student achievement.⁹⁶

Similarly, the well-known experimental study of Tennessee's Project Student-Teacher Achievement Ratio found that reducing class sizes below certain threshold levels in kindergarten and first, second, and third grades improved student achievement, with benefits persisting through at least five years after being assigned a smaller class.⁹⁷ Classes of fewer than 18 students made greater gains in their achievement on standardized tests than students in regular-sized classes (22 to 25 students). The effect of being in a small class was nearly twice as large for students of color compared with their white peers. Test score gains were greatest for children in kindergarten and first grade, with persistent long-term effects on a variety of academic outcomes in middle and high school.⁹⁸ Studies of Wisconsin's statewide class-size-reduction experiment found that reducing student-teacher ratios in

kindergarten and first, second, and third grades to fewer than 15 students per teacher (compared with ratios of 21:1 and 25:1) was associated with improved student achievement. The largest benefits from smaller class sizes were experienced by African American students and students in urban districts with large proportions of low-income students.⁹⁹

In sum, positive results, especially for low-income students and students of color, have been found in the literature when class-size-reduction programs are well designed, meet a relatively low threshold of class size (in the vicinity of 15 to 18 students), and are implemented in the early grades.

Postsecondary Education and Vocational Readiness Indicators

Under *Leandro*, postsecondary education and vocational readiness indicators should measure whether students have gained the academic and vocational skills necessary to successfully engage in postsecondary education or vocational training and compete on an equal basis with others in further formal education or gainful employment in contemporary society. For example, these indicators could include measures of student academic performance and growth and high school graduation rates.

As required under ESSA, North Carolina's accountability system includes these measures. However, under *Leandro*, the definition of a sound basic education is more comprehensive than federal requirements for math and ELA proficiency, requiring additional measures to be incorporated.

Therefore, an accountability system that measures progress under *Leandro* needs to assess student success and growth across additional areas of content. These include science (which North Carolina includes in its accountability system under ESSA), history, geography, and the acquisition of skills that prepare them to succeed and compete on an equal basis with others in postsecondary education or vocational training.

In addition to performance and growth on annual assessments, research shows that other predictors of postsecondary success include student performance in AP, IB, dual enrollment, and early college programs and the completion of a CTE pathway. Further, because acquisition of these skills for some students may take longer than the standard number of years or be provided in different educational settings, the accountability system should be inclusive of these students, for example, by including extended-year graduation rates and alternative educational settings.

Examples of these types of evidence-based indicators, how they can be measured, and whether North Carolina is collecting these data and for what purpose are described in Table 2: Postsecondary Education and Vocational Readiness Indicators.

Table 2. Postsecondary Education and Vocational Readiness Indicators

Indicator	Options for Measures of Performance and Progress	Status of the Data Availability and Use in North Carolina
Academic Achievement	<ul style="list-style-type: none"> • Student performance on annual assessments including math, ELA, science, history, and geography • Student growth on annual assessments including math, ELA, science, history, and geography • Number and percentage of English learners achieving English language proficiency 	<p>Uses for federal accountability purposes:</p> <ul style="list-style-type: none"> • North Carolina math scores, math end-of-grade (EOG) scores, ELA/reading EOG scores • Growth (ELA/reading, math, and science) • Number/percentage of English learners achieving English language proficiency
High School Graduation	<ul style="list-style-type: none"> • Four-year adjusted cohort graduation rate • Five-, six-, and/or seven-year adjusted cohort graduation rate 	<p>Uses for federal accountability purposes:</p> <ul style="list-style-type: none"> • Four-year adjusted cohort graduation rate • Data reports on: • Five-year graduation rate
College and Career Readiness	<ul style="list-style-type: none"> • Student performance on the ACT/ SAT college entrance exam, AP and IB exams, and the ACT Workkeys assessment on career readiness • Students earning a seal of biliteracy • Students earning an advanced state diploma • Students earning postsecondary education credit • Students earning industry credentials/CTE program completion • Military acceptance and/or performance on military readiness exam 	<p>Uses for federal accountability purposes:</p> <ul style="list-style-type: none"> • Student performance on biology end-of-course exams • Advanced mathematics assessment • ACT college entrance exam • Students completing the ACT Workkeys assessments <p>Data reports on:</p> <ul style="list-style-type: none"> • Number and percentage of students still in high school who are enrolled in accelerated coursework, such as AP/IB courses and examinations, and who earn postsecondary credit through, for example, dual or concurrent enrollment programs • Results on the state academic assessments in reading and mathematics in grades 4 and 8 of the National Assessment of Educational Progress compared with the national average of such results • Where available, for each high school the percentage of graduates who enroll in programs of public postsecondary education in the state in the subsequent academic year and where available and to the extent practicable, the percentage of graduates who enroll in programs of private postsecondary education in the state or outside the state in that same year

Indicator	Options for Measures of Performance and Progress	Status of the Data Availability and Use in North Carolina
Students on Track to Graduate	<ul style="list-style-type: none"> • Credit accumulation • Grades • Attendance • Behavior 	Collects data on: <ul style="list-style-type: none"> • Credit accumulation • Course performance • Attendance • Discipline
Postsecondary Education and Workforce Outcomes	<ul style="list-style-type: none"> • Postsecondary enrollment, attendance, and completion rates • Workforce training program completion • Military enlistment 	Via the North Carolina SchoolWorks System , collects data that is available for five years on: <ul style="list-style-type: none"> • Postsecondary outcome, including enrollment, attendance, and completion rates • Workforce training program completion • Military enlistment

A Deeper Look at Key Postsecondary Education and Vocational Readiness Indicators

The following describes the research showing how these indicators can accurately measure postsecondary education and vocational readiness and progress at the school level toward meeting the *Leandro* tenets.

Academic Achievement

When fully aligned with the state’s challenging academic standards, state assessments can measure progress on academic achievement indicators, which contributes to our understanding of student readiness for postsecondary education and vocation. High-quality assessment systems should have the capacity to provide students with innovative and effective opportunities to demonstrate higher-order thinking skills and the full breadth and depth of the state’s challenging academic standards. Under ESSA, these assessments must also have the capacity to differentiate across all levels of student performance as well as by subgroups of students and provide the required, comparable determinations of grade-level performance and academic proficiency.¹⁰⁰

The assessments adopted by North Carolina to measure student achievement should be fully aligned with the state’s challenging academic standards in order to be an accurate measure of progress toward the requirements under *Leandro*. For example, an American Institutes for Research study finds that college entrance exams, such as the ACT and the SAT, in their current form lack sufficient test questions to differentiate among low-performing students. According to the study, one state implementing the ACT was unable to provide accurate data for 87% of the state’s English learners, 71% of the state’s students with disabilities, and 31% of the state’s economically disadvantaged students.¹⁰¹ Further, according to a report by the Human Resources Research Organization, when comparing the ACT with the Partnership for Assessment of Readiness for College and Career and Smarter

Balanced assessments, the ACT consistently scored lower in the areas of math and ELA/literacy content and depth when evaluated against the common core state standards.¹⁰²

One example of a high-quality high school assessment that allows for meaningful differentiation of student performance and broader coverage of the standards is the graduation portfolio approach used by some states and several networks of schools. For example, the New York Performance Standards Consortium (the Consortium) developed and implemented a student-focused performance assessment system in 28 member schools throughout New York City and New York state.¹⁰³ Using common rubrics and moderated scoring, the performance assessment is aligned to the state’s learning standards and requires students to demonstrate content knowledge, critical thinking, and performance skills related to literary analysis and writing; mathematical modeling, calculation, and problem solving; research, analysis, and expository writing; scientific investigation; uses of technology; and public speaking.

New York’s set of assessments provides “evidence that students are receiving a broad range of academic and social skills”¹⁰⁴ needed for success in college and careers. Students participating in the Consortium have higher graduation rates than other New York City high school students, across subgroups, and better postsecondary education outcomes than both the state rate and the national rate.¹⁰⁵ Student achievement is a valid and reliable measure under *Leandro* when the state assessment system is fully aligned with the state’s challenging academic standards and provides students the opportunity to demonstrate the knowledge and skills required by the Court.

High School Graduation Rates

North Carolina’s high school graduation requirements are aligned with the skills identified by the Court (see Appendix A: North Carolina’s High School Graduation Requirements). Therefore, student attainment of a standard North Carolina high school diploma is an effective measure of whether the requirements under *Leandro* are being met. The federal government requires the reporting and use of the percentage of high school students who obtain a regular high school diploma in four years. As previously discussed, although the four-year adjusted cohort graduation rate provides a much-needed common measure of graduation, when used in an accountability system, it removes incentives and recognition for schools to keep working with struggling youth to help them graduate in five or six years.

For a variety of reasons, it is extremely challenging for some students to obtain a regular diploma and graduate in four years. Those reasons may include everything from incarceration to health issues to pregnancy to employment necessary for subsistence. And those who have gaps in their education, who have special needs, or who have immigrated with little prior education may be missing credits. One in five students does not graduate within four years (with much higher proportions in high-need communities), and the use of extended-year graduation recognizes and incentivizes the efforts of schools that continue to work with students who need additional time to earn a high school diploma.¹⁰⁶

College and Career Readiness

Research demonstrates that taking college preparatory coursework in high school correlates with several indicators of college readiness, from college enrollment¹⁰⁷ and grades¹⁰⁸ to persistence and completion.¹⁰⁹ Similar research shows that students enrolled in career academies (which blend academic preparation with well-designed experiential learning in occupational fields) graduate from high school¹¹⁰ and enroll in community college at higher rates,¹¹¹ are more prepared for college coursework,¹¹² and experience higher wages and greater employment stability.¹¹³ The importance of access in addition to performance in these courses is discussed in greater detail later in this paper.

On Track to Graduate

Research shows that students who complete the ninth grade on track to graduate within four years are almost four times more likely to graduate from high school than those who are not on track.¹¹⁴ Further, a “student’s on-track status is more predictive of high school graduation than their race/ethnicity, level of poverty, or test scores.” At a minimum, this indicator would be based on a measure of whether a student has (1) enough credits to move to the 10th grade and (2) earned no more than one F in a core course per semester. This indicator could also include measures of suspension and chronic absenteeism, which can interfere with a student staying on track to graduate and are, as previously described, predictive of dropping out of high school. Although this indicator would be reported annually under state accountability and improvement systems, more frequent access at the school level to data from this indicator can support early and timely intervention during a critical transition time for students.

Effectively Using Indicators to Monitor Whether Students Are Receiving a Sound Basic Education

How North Carolina uses the previously described indicators is as important as *which* indicators North Carolina selects. Under ESSA, North Carolina “weights” performance on a limited number of indicators and rolls up performance into a single summative rating (A, B, C, D, or F). Unfortunately, this approach to describing and reporting school success obscures performance on individual indicators, focusing attention on the summative rating, but not on the individual components and whether they are improving.

North Carolina is not federally required to use this approach to measure and report on school progress. There is no requirement under ESSA that states produce a single summative rating on which to rank all of the schools in order to identify the lowest-performing 5% of schools or adopt an index or grading system. Therefore, North Carolina has an opportunity to modify its current approach and instead use an approach that can identify the lowest-performing 5% of schools and measure school progress toward meeting the tenets of *Leandro* for providing a sound basic education.

The Limitations of a Single Summative Rating Approach to Evaluating School Performance and Progress

Just as parents want and need report cards that show how their children are learning in different subjects — reading, math, science, social studies — as well as how they are attending and behaving in the classroom, under *Leandro*, North Carolina needs reporting systems that allow the state to identify how students are doing in

particular areas so that useful interventions can be designed for and targeted to those who need them. This requires a set of indicators that are individually reported, not a single summative rating.

In addition, use of a single summative score can undermine subgroup accountability. When multiple indicators are aggregated together to yield a summative score, student subgroup performance can be hidden, making it difficult to identify and understand how improvement efforts should be focused. For example, in one state that produces a single summative A–F letter grade, the average proficiency rate for African American students in schools that received an A rating was only 58%.¹¹⁵ In another state that uses a single summative rating, 183 high schools received the highest rating within the state accountability system while having at least one subgroup with a graduation rate below 70%.¹¹⁶

Important factors and data related to school performance can be overlooked when they are buried underneath a single summative score — meaning that schools identified for improvement may not have a clear understanding of where and how they should focus their attention. This can result in students’ and schools’ needs being unidentified and unaddressed. For example, an analysis of schools within California’s CORE districts¹¹⁷ found the following:

- » Of the schools in the bottom 5% of all schools on the measure of academic performance, only 40% are identified as Comprehensive Support and Improvement schools using the summative measure.
- » Of the 14% of schools that are in the bottom 5% on any single indicator, 71% are not identified as being in the bottom 5% of all schools on the summative index.

The analysis concludes that “by aggregating across measures that represent very different dimensions of performance, the summative score may not identify schools that are low on one measure if they are even average on another. Depending upon the state’s accountability system, the use of a single summative score for the purpose of school identification could prevent schools with low performance on one or more academic indicators from getting the support and resources they need.”¹¹⁸

The importance of the approach North Carolina takes in using the system’s indicators to identify whether schools are making progress toward *Leandro* should not be underestimated. Different approaches will identify different schools, even when using the same set of indicators. Although summative ratings can be simple to create and understand, they could fail to identify schools with acute levels of low performance on particular indicators that get masked when rolled into a single rating. Decision rules, in contrast, can more systematically set minimum performance thresholds that a state deems acceptable or can ensure that certain prioritized indicators are always taken into account.

Alternatives to a Single Summative Approach

There are a number of approaches that North Carolina could consider that have been adopted by states moving away from the use of a single summative score because they found it masked areas of needed improvement. California, Colorado, Iowa, Kentucky, New Hampshire, Oregon, Pennsylvania, South Carolina, Vermont, Virginia,


and West Virginia are implementing new accountability systems focused on better information for school identification, intervention, and improvement.¹¹⁹

Several of these states have previously used a single measure, such as an index or a grading scheme similar to North Carolina and found that it impeded useful approaches to identifying schools in need of assistance and supporting continuous improvement across all schools. Their experience was that large amounts of resources and attention were directed to the single summative score at the expense of many other factors that impact teaching and learning. Schools may become complacent in making progress if they ranked above an arbitrary cut point, rather than paying attention to continuously improving performance on every indicator and for subgroups of students. Important factors and data were forgotten because they were buried underneath the score, and schools identified for improvement often did not have a clear understanding of where and how they should focus their attention. In many cases, this resulted in students' and schools' needs being unidentified and unaddressed.

For example, Vermont used a comparison of the data shown in Figure 9: School Averages Using a Single Summative Score Approach in Vermont and Figure 10: School Averages Using an Aggregate Approach in Vermont to determine that the use of a single summative score for schools would result in more low-performing schools being overlooked than would the use of an alternative approach (aggregating the number of struggling areas). The data show that using a single summative score would identify Frakes Secondary School as being in the bottom 5% (Figure 9), but it would miss the even lower graduation rates at Madson and Solina high schools, the lower mathematics performance at Darwish Secondary School, and the lower reading performance at Lindsay High School. The low performance by these schools on different indicators would be revealed using an approach that shows school performance across multiple measures (Figure 10).

Figure 9. School Averages Using a Single Summative Score Approach in Vermont

**Type of Aggregation-
Index- Average with Weights**



School	Reading/ELA	Math	Science	Grad. Rate	PLP	Climate	Staff Satisfaction	Return on Investment	Average
Jones High School	58	65	61	98	72	64	76	15	63.6
Smith Academy High	35	37	36	76	79	56	39	29	48.4
Frakes Secondary School	24	29	31	59	21	75	35	26	37.5
Madson High School	86	80	85	43	54	96	80	82	75.8
Darwish Secondary High School	32	25	35	72	70	57	58	56	50.6
Icenogle High School	86	84	79	84	61	25	72	78	71.1
Palmquist Secondary School	95	89	82	94	35	68	92	89	80.5
Solina High School	31	26	36	35	63	95	47	16	43.6
Spencer Community School	65	63	70	61	49	64	63	73	63.5
Lindsay High School	23	27	25	57	67	43	50	64	44.5

Source: CCSSO Conference, Ryan Reyna and Andrew Rice presenters 6/8/16






Figure 10. School Averages Using an Aggregate Approach in Vermont

**Type of Aggregation-
Index- Counts of Struggling Areas**



School	Reading/ELA	Math	Science	Grad. Rate	PLP	Climate	Staff Satisfaction	Return on Investment	Counts
Jones High School	58	65	61	98	72	64	76	15	1
Smith Academy High	35	37	36	76	79	56	39	29	0
Frakes Secondary School	24	29	31	59	21	75	35	26	2
Madson High School	86	80	85	43	54	96	80	82	0
Darwish Secondary High School	32	25	35	72	70	57	58	56	1
Icenogle High School	86	84	79	84	61	25	72	78	1
Palmquist Secondary School	95	89	82	94	35	68	92	89	0
Solina High School	31	26	36	35	63	95	47	16	1
Spencer Community School	65	63	70	61	49	64	63	73	0
Lindsay High School	23	27	25	57	67	43	50	64	2

Source: CCSSO Conference, Ryan Reyna and Andrew Rice presenters 6/8/16



Vermont’s aggregate approach can be used to identify for support the neediest schools in each indicator area (e.g., those that are the lowest performing and are not improving). These determinations of need can also focus on particular subgroups that are not improving within a given area.

This type of approach would enable North Carolina to identify schools that are low performing and are not improving (or that have large, persistent equity gaps) and to provide focused intensive assistance to those schools to help them improve in that area. For example, North Carolina could identify and work with a group of schools that are not making sufficient progress in supporting English language proficiency gains by organizing research about what works, examples of local schools that have strongly improved and can be visited and studied, curriculum materials and program models that can be adopted, professional development for educators, and coaches who work directly in the schools. Just as targeted interventions can be organized for students who are struggling in a particular area, so also can interventions be organized to support networks of schools that share a common need. The same thing could be done with schools that are struggling with math performance, for example, or graduation rates or high suspension rates, whether overall or for specific groups of students. Research has demonstrated the power of targeted interventions for networks of schools that share similar needs, and states should be supported in these efforts.¹²⁰

Based on other state models and the underlying research, there are a number of decision rules North Carolina could use to evaluate progress and identify schools for support under *Leandro* and ESSA. These rules could be designed to do the following:

- » Make sure all indicators count in the system while also meeting the requirements of ESSA regarding the weight of academic indicators
- » Include progress, along with performance
- » Avoid overlooking schools by masking subgroup performance or performance on individual indicators
- » Be transparent in terms of performance overall, performance on individual indicators, and performance by subgroups of students

Examples for how North Carolina can use decision rules to identify schools under *Leandro* and meet the requirements under ESSA are described in Appendix B: Decision-Rule Options for North Carolina.

Using Data to Inform and Meet School Improvement Goals

The data that North Carolina collects can be used for different purposes, including for school identification, to inform school improvement, and to report to the public. To meet the *Leandro* requirements, North Carolina should use these data to assess progress toward compliance with each component across all schools and to inform the efforts that need to be taken where compliance is not happening. North Carolina could look toward California's approach to school improvement and use of data as a model.

Under California's Local Control Funding Formula (LCFF) approach to school improvement, the state has established multiple measures of student and school success, eight priorities in all: student achievement, student engagement, school climate, parental involvement, access to basic services, implementation of state standards, access to a broad course of study, and other student outcomes.¹²¹ Similar to North Carolina, California uses a data dashboard. California's dashboard is the central tool by which districts and their stakeholders understand how schools and districts are doing across these eight priority areas. A key feature of California's dashboard is the reporting of both status and change to determine performance on state indicators, creating incentives for districts and schools to focus on achieving significant growth — including across subgroups — as well as high overall performance. California's School Dashboard is used as part of the state's accountability system as well as for purposes of federal accountability under ESSA.¹²²

These measures are also used in every community throughout the state to guide planning and budget decisions and to assess school progress and improvement efforts. To support districts in making these planning and budget decisions, all districts are required to complete the state-provided Local Control and Accountability Plan (LCAP) every three years. This planning document requires districts to articulate their three-year policy goals and accompanying budget allocations across the eight priority areas.¹²³ LCAPs are updated annually in response to data on how students are progressing across the eight priorities. Charter schools and county offices also complete LCAPs.

By both statute and expectations, the LCAP serves a variety of purposes and audiences. It is a tool for engaging parents, students, community members, and others in developing district plans and budgets. It is also a mechanism for holding districts accountable in several areas: incorporating stakeholder feedback into their plans;

articulating goals, challenges, and actions across all state priorities and students (including significant student subgroups); and using supplemental and concentration grants to increase and improve services for English learners, for students from low-income families, and for foster youth.¹²⁴

County offices of education are responsible for approving district LCAPs and for supporting districts in their implementation. Districts are, in turn, placed in charge of monitoring and supporting schools. This marks a significant change from the older system that placed the onus for boosting scores primarily on schools, despite the fact that they had unequal resources and supports to do so.

California provides three levels of support for districts to implement their LCAP goals. Level 1 provides resources and tools, available to all districts. Level 2 provides individually designed assistance to address identified performance issues, including significant disparities in performance among student groups. The state may require more intensive interventions — Level 3 support — for districts with persistent performance issues and a lack of improvement over a specified time period.¹²⁵

Another strategic, but less visible impact comes as a result of the increased spending flexibility afforded districts through the LCFF. This type of increased flexibility can also positively impact student achievement.¹²⁶ A study on the impact of the LCCF found that a \$1,000 increase from the state in a district's per-pupil revenue for grades 10 through 12 leads to a 5.3 percentage-point increase in high school graduation rates, on average, among all students. There are also benefits for educators. Researchers have documented increased collaboration between district finance staff and their colleagues in the program and education services departments.¹²⁷ For example, superintendents report a rethinking of budget priorities and "greater alignment among district goals, strategies, and resource allocation decisions."¹²⁸ Integration of budget and strategic planning processes is one of the best practices identified in the October 2017 Continuous Improvement Brief from Policy Analysis for California Education, which highlights the innovative practices of three unified school districts.¹²⁹

North Carolina could follow a similar approach by establishing a set of high-priority areas aligned with the requirements under *Leandro*. The state could develop a local accountability plan that would serve as a tool to guide goal setting and planning at the local level. These plans would be available at the state level to determine the level of state support that should be provided. Further, districts would update these plans to identify areas of progress and challenge and to describe efforts that will be taken to address the areas of challenge. Examples of evidence-based interventions and supports North Carolina schools could consider are discussed in the Recommendations section.

Conclusion

North Carolina has an opportunity under *Leandro* to serve as a model to the nation for how to set high expectations for students and design an educational system that meets those expectations. The Court's decision recognizes the dignity and potential in each North Carolinian student and early learner and expects every school to reflect the same recognition. Each school in North Carolina is in a different place in meeting the *Leandro* tenets. The state needs to design and implement an accountability system that can accurately assess school status, progress, and areas of need and provide the information needed to target the appropriate resources and supports. North Carolina is in a strong position to do so based on the data the state already collects. The state can build on these data, incorporate additional measures of progress, and adopt new approaches to using these data to meet the requirements under *Leandro* — ensuring each school is making meaningful progress toward providing a sound basic education.

Recommendations

1. Amend the current accountability system, including the information provided by the North Carolina Dashboard, in ways that include measures describing progress toward providing all students with access to a sound basic education, a number of which North Carolina currently collects data on or is considering using. These include:
 - Student opportunities to learn, such as:
 - o Tracking student access to competent and well-trained teachers and leaders, including tracking teacher qualifications
 - o Measuring youths' access to college- and career-readiness courses of study in an effort to open up evidence-based pathways to future success that help youth reach their potential and encouraging schools to offer these opportunities to all youth
 - o Tracking suspension and expulsion rates while removing zero-tolerance discipline policies that have proven ineffective in improving youth performance, replacing them with restorative justice practices
 - o Including measures of school climate, which is associated with youth achievement and educational attainment, for all groups of youth, with special attention to those who are most vulnerable
 - o Including chronic absenteeism as an accountability indicator under ESSA and creating approaches to intervene early and support attendance where needed to increase learning time
 - Student outcomes, such as:
 - o Including an extended-year graduation rate (e.g., five, six, or seven years) as an accountability indicator under ESSA, as well as a four-year rate, to encourage high schools to work with and bring back young people who, for a variety of reasons, could not graduate in four years
 - o Measuring youths' completion of college- and career-readiness courses of study in an effort to open up evidence-based pathways to future success that help youth reach their potential and encouraging schools to offer these opportunities to all youth
 - o Measuring and reporting on student performance below or above the proficient level (e.g., in an achievement index)

2. Include in the North Carolina Dashboard state, district, and school performance and growth (including overall and by student subgroup) on a comprehensive set of measures that would indicate progress toward meeting the *Leandro* tenets (and is inclusive of the reporting requirements under ESSA), including:
- Performance and growth on indicators of postsecondary education and vocational readiness, including:
 - o Achievement, measured by:
 - » Student performance on annual assessments, including math, ELA, science, history, and geography
 - » Student growth on annual assessments, including math, ELA, science, history, and geography
 - » The number and percentage of English learners achieving English language proficiency
 - o Graduation rates, measured by:
 - » Four-year adjusted cohort graduation rate
 - » Five-, six-, and/or seven-year adjusted cohort graduation rate
 - o College and career readiness, measured by:
 - » Student performance on the ACT/SAT college entrance exam, AP exams, IB exams, and the ACT Workkeys assessment on career readiness
 - » Students earning a seal of biliteracy
 - » Students earning an advanced state diploma
 - » Students earning postsecondary education credit
 - » Students earning industry credentials/CTE program completion
 - o Military acceptance and/or performance on a military readiness exam
 - o Students on track to graduate based on credit accumulation, grades, attendance, and behavior
 - o Long-term student outcomes, measured by:
 - » Postsecondary enrollment, attendance, and completion rates
 - » Workforce training program completion
 - » Military enlistment
 - Performance and growth on indicators of opportunities to learn and access to a sound basic education, including:
 - o Opportunities to learn, measured by:
 - » Percent of students enrolled by course, including advanced courses
 - » Student participation in, completion of, and performance in AP/IB courses, dual enrollment, and early college programs

- » Programs offered at school (e.g., Advancement Via Individual Determination, debate)
- o In-school and out-of-school suspensions, expulsions, and referrals to law enforcement, as measured by:
 - » Number of incidences
 - » Length of incidences
 - » Number of students receiving multiple suspensions, expulsions, and referrals
- o School climate (in addition to discipline and absenteeism data), as measured by:
 - » Student surveys
 - » Staff surveys
 - » Parent surveys
- o Chronic absenteeism, as measured by students missing 10% or more of the school year
- o Teacher qualifications, as measured by:
 - » Number and percentage of fully licensed teachers, lateral-entry teachers, and teachers with an emergency certification
 - » % of teachers with advanced degrees
 - » % of National Board–certified teachers
 - » % of teachers with fewer than three years of teaching experience
 - » % of teachers assigned outside their area(s) of certification
 - » One-year teacher turnover rates
 - » % of teachers chronically absent (10% or more of the school year)
- o Principal qualifications, as measured by:
 - » Years of principal experience
 - » Principal performance on evaluation
 - » Annual average principal turnover rate at the district level
- o Preschool access, as measured by the number and percentage of students enrolled in preschool programs
- o Funding for early childhood programs, as measured by the per-pupil expenditures using federal, state, and local funds
- o Funding/resources, as measured by:
 - » Financial supports, including federal, state, and local contributions
 - » Ratio of students to guidance counselors, social workers, and librarians
 - » Average class size

3. To measure progress toward meeting the requirements of *Leandro*, structure North Carolina’s accountability system to reward school growth in performance on an indicator, in addition to status on other indicators.
4. Under ESSA and *Leandro*, use a process for identifying schools for support and improvement that uses a set of decision rules to meet the law’s requirements. Depending on how it is constructed, a decision-rule approach can encourage greater attention to the full dashboard of measures, offer more transparency about how school performance factors into identification, and support interventions that are more strategic than those informed only by a single rating, ranking, or grade. Although summative scores determined by an index can be simple to create and understand, they could fail to identify schools or subgroups of students with acute levels of low performance on particular indicators that get masked when rolled into a single rating.
5. Use data from the accountability system at the state, district, and school levels to guide planning and budget decisions and to assess school progress and improvement efforts. To support districts in making these planning and budget decisions, all districts should complete a state-provided accountability plan that requires districts to articulate their three-year policy goals and accompanying budget allocations across the *Leandro* tenets. These plans should be updated annually in response to data on how schools are progressing in meeting the requirements under *Leandro*. All public schools in the state, including alternative schools, should be required to complete the accountability plan.
6. Use the data provided in the North Carolina Dashboard to identify the appropriate evidence-based interventions and supports. A large body of educational research has explored practices that are effective (and ineffective) for improving student outcomes. This research can empower state and local policymakers to adopt proven educational interventions that best address the unique context of their local education system. These may include:
 - High-quality professional development
 - Community schools and wraparound services
 - High school redesign
 - Class-size reduction

Appendix A: North Carolina's High School Graduation Requirements

High School Graduation Requirements

Every high school student must meet state course and credit requirements in addition to any local requirements in order to graduate from high school. To view the state course and credit requirements, look below for the section that matches when a student entered ninth grade for the first time.

Refer to State Board of Education policy <http://sbepolicy.dpi.state.nc.us> for a list of AP/IB, Dual enrollment and other courses that may satisfy certain requirements per State Board of Education Policy.

School counselors are available to answer any questions you may have about what is needed to reach the goal of high school graduation.

For Ninth Graders Entering in 2012-13 and Later Two Courses of Study Leading to One Diploma

CONTENT AREA	FUTURE-READY CORE Course of Study Requirements	FUTURE-READY OCCUPATIONAL Course of Study Requirements
English	4 Credits I, II, III, IV or a designated combination of 4 courses	4 Credits English I*, II*, III*, IV*
Mathematics	4 Credits Math I, II, III 4th Math Course to be aligned with the student's post high school plans <i>A student, in some circumstances, may have an alternative math course sequence as outlined under State Board of Education policy or due to the transition in standards. Please see your school counselor for more details.</i>	3 Credits Introduction to Mathematics Math I* Financial Management
Science	3 Credits A physical science course, Biology, Earth/Environmental Science	2 Credits Applied Science Biology*
Social Studies	4 Credits American History: The Founding Principles, Civics and Economics, World History, American History I: American History II OR AP US History**, IB History of the Americas**, additional social studies course**	2 Credits American History I* American History II*
World Languages	Not required for high school graduation. A two-credit minimum is required for admission to a university in the UNC system.	Not required
Health and Physical Education	1 Credit Health/Physical Education	1 Credit Health/Physical Education

**For Ninth Graders Entering in
2011-12
Two Courses of Study Leading to One Diploma**

CONTENT AREA	FUTURE-READY CORE Course of Study Requirements	FUTURE-READY OCCUPATIONAL Course of Study Requirements
English	4 Credits I, II, III, IV <i>Effective with the 10th Grade class of 2011-12 English I, II, III, IV or a designated combination of 4 courses</i>	4 Credits English I*, II*, III, IV
Mathematics	4 Credits (Algebra I, Geometry, Algebra II) OR (Integrated Math I, II, III) 4th Math Course to be aligned with the student's post high school plans <i>A student, in rare instances, may be able to take an alternative math course sequence as outlined under State Board of Education policy. Please see your school counselor for more details.</i>	3 Credits Introduction to Mathematics Algebra I* or Math I Financial Management
Science	3 Credits A physical science course, Biology, Environmental Science	2 Credits Applied Science Biology*
Social Studies	3 Credits Civics and Economics, US History, World History	2 Credits American History I American History II

World Languages

Not required for high school graduation. A two-credit minimum is required for admission to a university in the UNC system.

Not required

High School Graduation Requirements

Every high school student must meet state course and credit requirements in addition to any local requirements in order to graduate from high school. To view the state course and credit requirements, look below for the section that matches when a student entered ninth grade for the first time.

Refer to State Board of Education policy <http://sbepolicy.dpi.state.nc.us> for a list of AP/IB, Dual enrollment and other courses that may satisfy certain requirements per State Board of Education Policy.

School counselors are available to answer any questions you may have about what is needed to reach the goal of high school graduation.

**For Ninth Graders Entering in
2012-13 and Later
Two Courses of Study Leading to One Diploma**

CONTENT AREA	FUTURE-READY CORE Course of Study Requirements	FUTURE-READY OCCUPATIONAL Course of Study Requirements
English	4 Credits I, II, III, IV or a designated combination of 4 courses	4 Credits English I*, II*, III*, IV*
Mathematics	4 Credits Math I, II, III 4th Math Course to be aligned with the student's post high school plans <i>A student, in some circumstances, may have an alternative math course sequence as outlined under State Board of Education policy or due to the transition in standards. Please see your school counselor for more details.</i>	3 Credits Introduction to Mathematics Math I* Financial Management
Science	3 Credits A physical science course, Biology, Earth/Environmental Science	2 Credits Applied Science Biology*
Social Studies	4 Credits American History: The Founding Principles, Civics and Economics, World History, American History I: American History II OR AP US History**, IB History of the Americas**, additional social studies course**	2 Credits American History I* American History II*
World Languages	Not required for high school graduation. A two-credit minimum is required for admission to a university in the UNC system.	Not required
Health and Physical Education	1 Credit Health/Physical Education	1 Credit Health/Physical Education

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CONTENT AREA	FUTURE-READY CORE Course of Study Requirements	FUTURE-READY OCCUPATIONAL Course of Study Requirements
Electives or other requirements**	<p>8 Credits required</p> <p>2 elective credits of any combination from either:</p> <ul style="list-style-type: none"> - Career and Technical Education (CTE) - Arts Education - World Languages <p>4 elective credits strongly recommended (four course concentration) from one of the following:</p> <ul style="list-style-type: none"> - Career and Technical Education (CTE)*** - JROTC - Arts Education (e.g. dance, music, theater arts, visual arts) - Any other subject area (e.g. social studies, science, mathematics, English) 	<p>8 Credits</p> <p>Occupational Preparation: Preparation I, II, III, IV****</p> <p>Elective credits</p> <p>Additional requirements:</p> <ul style="list-style-type: none"> - Completion of IEP Objectives - Career Portfolio
Career/Technical		4 Credits Career/Technical Education electives
Arts Education (Dance, Music, Theatre Arts, Visual Arts)		Recommended: at least one credit in an arts discipline and/or requirement by local decision
Total	21 Credits plus any local requirements	22 Credits plus any local requirements

* OCS Pathway courses aligned with Future Ready Core courses in English I, English II, Algebra I/Integrated Math I, and Biology.

** Examples of electives include Arts Education, JROTC and other courses that are of interest to the student.

*** For additional information on CTE courses that meet requirements for selected Courses of Study, refer to the CTE Clusters chart located at: <http://www.ncpublicschools.org/docs/cte/publications/careerclusters.pdf>

**** Completion of 300 hours of school-based training, 240 hours of community-based training, and 360 hours of paid employment.

Appendix B: Decision-Rule Options for North Carolina

There are many ways that decision rules can be used to identify schools in need of support. This section describes four options:

1. **Identify schools with the lowest performance on the greatest number of indicators.** If academic indicators outnumber nonacademic indicators, they will automatically have greater weight.
2. **Identify schools with the greatest number of low-performing indicators, but give certain academic indicators greater weight.** This may be necessary if there are many nonacademic indicators to ensure that academic indicators carry greater weight.
3. **Identify schools that have the lowest performance on any indicator** and support those schools to improve in that domain.
4. **Consider each indicator in a progressive selection process.**

Examples of Decision Rules

To illustrate these decision rules, we have constructed examples based on North Carolina's current system for high schools, which has chosen the following indicators for its accountability and improvement system:

1. English language arts (ELA) as measured by achievement (Level 3 and above) on the North Carolina end-of-course tests for English II
2. Mathematics as measured by achievement (Level 3 and above) on the North Carolina end-of-course tests for NC HS Math
3. Graduation rate as measured by the four-year adjusted cohort graduation rate
4. English learner progress as measured by gains in the WIDA ACCESS for ELLs 2.0™, with an English language proficiency exit goal of 4.8 and a minimum of 4.0 on the reading and writing subtests

5. For high schools, growth as measured by performance on the North Carolina end-of-course test for English II and NC HS Math
6. School Quality or Student Success (SQSS) for high schools as measured by performance on the biology end-of-course assessment; by math course rigor (the percentage of students in the school passing the NC Math 3 course); the percentage of students meeting the University of North Carolina minimum admission requirement of a composite ACT score of 17; and the percentage of career and technical education concentrators who achieve a silver or higher designation on the ACT Workkeys

Under ESSA, Indicators 1 through 5 on this list must be afforded substantial weight individually and, in the aggregate, much greater weight than is afforded to Indicator 6. In North Carolina, Indicators 1 through 4 and 6 comprise 80% of the total weight, with Indicator 5 receiving the remaining 20%.

Option 1: Identify schools with the lowest performance on the greatest number of indicators.

One of the simplest ways to use decision rules is to look at schools' performance level on all applicable indicators, with ELA and mathematics achievement as separate indicators. The state would initially identify those with the greatest number of low ratings, for example, a "1" out of 4 possible levels, among the academic indicators.

This method weights all indicators equally. In the example given in Table 1: Identification by Counting the Number of Areas of Low Performance, academic indicators comprise five of the nine indicators and are thus more heavily weighted. Note that this option will give greater weight to academics only if the state has more academic than SQSS indicators.

The example in Table B1 shows a set of five high schools, each receiving a rating on a scale of 1 to 4, based on performance and growth on that indicator. School B would be identified as a Comprehensive Support and Improvement (CSI) school first since it has the greatest number of "1" indicators. If the state were to identify more schools (e.g., because it had not yet identified 5% of all schools), School C would be identified next.

Table B1. Identification by Counting the Number of Areas of Low Performance

Indicator	Academic Indicators					SQSS Indicators				Number of "1" Indicators
	ELA	Math	Growth on ELA and Math	Graduation Rate	English Learner Progress	Biology End-of-Course Test	ACT	ACT Workkeys	Math Course Rigor	
School A	1	2	2	3	1	3	2	3	3	2
School B	1	1	1	2	1	2	1	2	1	6
School C	2	1	1	2	1	1	1	2	2	5
School D	3	4	3	4	2	3	4	2	4	0
School E	3	3	3	3	4	3	3	3	4	0

Option 2: Identify schools with the greatest number of low-performing indicators, but give certain academic indicators greater weight.

Another option, similar to Option 1, is to look at performance levels on all applicable indicators, but weight certain indicators more or less than others (see Table B2: Identification by Counting the Number of Areas of Low Performance (Indicators Weighted)). Each “1,” the lowest score possible, would earn a school a point, and if an indicator has a weight of 2, it would count as an additional “1.” This option can ensure much greater weight for academic indicators.

In the example below, Schools A and B each earned a “1” on two different indicators. However, since ELA is weighted more heavily, School A receives 2 points, and School B receives 1 point. School A would thus be identified for intervention first.

Table B2. Identification by Counting the Number of Areas of Low Performance (Indicators Weighted)

Indicator (Weight)	ELA (2)	Math (2)	Growth on ELA and Math (2)	Graduation Rate (2)	English Learner Progress (2)	Biology End-of-Course Test (1)	ACT (1)	ACT Workkeys (1)	Math Course Rigor (1)	Number of Weighted “1” Indicators
School A	1*	2	2	2	3	2	2	2	3	2
School B	2	3	2	2	2	1	2	3	2	1

**This score is counted twice because the indicator has a weight of 2.*

Option 3: Identify schools with very low performance on any indicator for support and intervention.

States could identify schools that are low performing and not improving (or that have large, persistent equity gaps) on any single indicator and provide focused intensive assistance to those schools to help them improve in that area. The state might identify the neediest schools in each indicator area for intensive intervention. The total number of schools assisted might be designed to equal 5% or might exceed that number, depending on where the bar is set, but each could receive help for the specific areas of need. Across the set of indicators, some schools will be low performing in several areas and could receive more comprehensive services and supports.

For example, North Carolina could identify the bottom 3% of schools on each indicator and require that they participate in school improvement strategies to address each area of low and nonimproving performance while also allowing other schools to voluntarily engage in those improvement supports if they are doing better than the lowest-performing schools, but still not well. As an illustration, North Carolina could identify and work with a group of schools that are not making sufficient progress in supporting English language proficiency gains by organizing research about what works, examples of local schools that have strongly improved and can be visited and studied, curriculum materials and program models that can be adopted, professional development

for educators, and coaches who work directly in the schools. The same thing could be done with schools that are struggling in mathematics performance, for example, or graduation rates or high suspension rates, overall or for specific groups of students.

Option 4: Consider each indicator in a progressive selection process.

The final option uses an elementary school as an example and is based on the following indicators: ELA and mathematics performance and growth, English learner gains, and Education Value-Added Assessment System (EVAAS) performance, a value-added growth model that North Carolina uses as its SQSS indicator for elementary and middle schools. This option would establish an initial pool of schools eligible for identification by counting the number that received the lowest possible score, a “1” (low performing and/or nonimproving), on certain indicators. If not enough schools were identified in that initial pool, schools that received a “1” on other indicators would then be considered for identification. In the sample approach to a set of decision rules in Figure B1: Considering Each Indicator in a Progressive Selection Process, the state would proceed as follows:

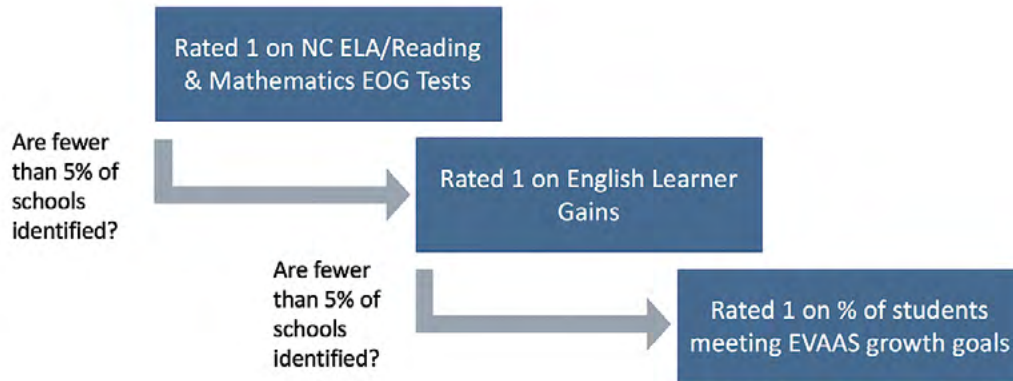
- » Identify schools that received two “1s” on North Carolina ELA/reading and mathematics end-of-grade tests. If too few schools (e.g., less than 5%) are identified, then:
 - Schools receiving a “1” on English learner proficiency gains are identified. If still too few schools are identified, then:
 - o Schools receiving a “1” on the growth measure are identified.

The process of identifying low-performing and nonimproving schools continues in that manner.

Using a progressive selection process may result in some indicators not contributing to CSI identification in a given year if 5% of schools are identified before these indicators come into play. Thus, this option is potentially less desirable if a state wants to ensure that all of the indicators count in the identification process each year.

Another way to use progressive decision rules would be to use counts of indicators after the first stage or two. So, for example, after selecting all schools rated a “1” on ELA and mathematics, one might choose, in order, additional schools that have three “1s” on the other three indicators; those that have two “1s”; and those that have one “1.”

Figure B1. Considering Each Indicator in a Progressive Selection Process



Each of these approaches to school identification is available to North Carolina for the purposes of *Leandro* and ESSA and would provide a more accurate picture of which schools need support and in which areas. This would enable North Carolina to more efficiently and effectively target resources based on school performance in individual indicators of progress toward the *Leandro* tenets.

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