Options for Identification of Academic Achievement Distinctions Designations

Texas Education Code §39.203(c)(1) requires that distinction designations be awarded for academic achievement in reading/English language arts (ELA) and mathematics. To support academic achievement designation indicator development, agency staff conducted background and research activities. This document describes the activities staff undertook and the findings from that work. Approaches taken to identify indicators of high achievement in ELA and mathematics included reviewing the academic literature, other states' systems, and other award systems. For each approach, a summary of the findings is presented along with measures that were explored as possible indicators but discarded. Finally, a section listing potential measures that were not discarded is presented.

It is important to note that indicators for the ELA and mathematics academic distinction designations are not limited to the measures presented in this document. The background and research activities performed by staff are summarized and compiled within this document and can serve as a starting point for the discussions surrounding indicator development.

Review of the literature

Staff conducted a comprehensive review of the academic education literature for definitions and indicators of high achievement in ELA and mathematics. Sources for literature included ERIC, JSTOR, the Wiley online library, Google Scholar, and recognized academic journals. Keyword searches included achievement indicators, ELA indicators, mathematics indicators, achievement measurement, academic indicators, and measurement of growth or achievement.

Because of statutory parameters for the academic achievement distinction designations, the literature review focused on outcome measures, not process measures, and excluded indicators based on state assessments. Process measures, or measures focused on the behaviors, strategies, or actions undertaken to improve performance, are largely qualitative and incomplete without a measure of efficacy. In addition, it would be difficult to evaluate process measures in terms of implementation consistency across campuses and could require more agency resources than are available to evaluate and process in a timely manner for use in an accountability system. Although use of evidence-based best practices may demonstrate efforts by a campus to meet the educational needs of students, for the purposes of acknowledgment or distinction in academic achievement, the state has traditionally recognized high performance without prescribing the specific methods campuses use to achieve high performance or improvement.

These constraints severely limited the results to: measures already identified and used by Texas in the Gold Performance Acknowledgment system (e.g., SAT, ACT, Advanced Placement examination participation and performance), groups of measures not directly associated with ELA or mathematics such as progress toward higher education or early warning indicator systems for being at risk of dropping out (indicators included, for example, credits earned, class failures, attendance), and measures that used growth of student cohorts on state assessments in value-added models.

Examples of ideas related to high performance that were explored but ultimately rejected are described below:

1. Measures addressing *summer reading setback in economically disadvantaged students:* Research indicates the achievement of economically disadvantaged students slides back a few months

every summer. Research further shows that disadvantaged children have less access to books in the schools they attend and in their neighborhoods and homes. This restricted access is a primary source of differences in home reading activity by students from families of different economic means. Research has shown that providing easy access to self-selected books for summer reading limits summer reading setback. One strategy to address maintaining reading achievement levels is to provide books to children at the end of the school year for them to own and read over the summer. The indicator would measure the percentage of students who received books at the end of the school year. Although research has shown that there are significant effects on achievement of economically disadvantaged students who are provided with free books, compared to children who receive no books, this idea focuses on process and does not have a performance component.

2. Measures addressing *the participation and performance of students eligible for supplemental education services or tutoring in ELA and/or mathematics instruction:* There are strong indications in the research literature that school-based mentoring programs can have positive effects on the behavior and attitudes of students at risk of school failure. Studies show that participants in supplemental education services (SES) experience significant gains in reading and mathematics, as compared to nonparticipants. Although required by law under specified circumstances, provision of SES is process oriented. Moreover, student participation in SES is voluntary. Services are dependent on federal funding, and distribution and implementation of the funds across Title I schools is not consistent. In addition, the data currently collected on SES are not adequate for an indicator.

State Accountability Systems

Staff reviewed accountability systems in other states. Staff selected states that (a) were known or thought to have sophisticated accountability systems or (b) calculate graduation rates using the National Governors Association (NGA) Compact Graduation Rate, a cohort measure indicative of a more mature data collection system. Based on these criteria, 31 states were reviewed.

Staff searched the states' education department websites for information on their accountability systems and reviewed the states' AYP workbooks, which are available on the U.S. Department of Education website. Staff compiled information for each state system according to these questions: (1) What are some relevant indicators this state uses to measure excellence in the areas of ELA and mathematics?; (2) Is the level of program (elementary, middle, high) considered in these indicators?; (3) Are there categories for these indicators based on enrollment?; (4) What is the unit of measure for these indicators? (e.g., campus, district); (5) Are there indicators that include student subgroups?; and (6) Does this state have distinction designations or something similar?

Staff developed a list of indicators and arranged them by type. The indicators, by and large, fell into three categories: (1) measures of high performance on state assessments; (2) measures of growth in performance on state assessments; and/or (3) measures of high performance, or growth in participation and/or performance, on other examinations, such as AP/IB and SAT/ACT. Some states also use index systems, in which particular measures or ranges of examination scores are combined and sometimes weighted to form an overall picture of the performance of a student, campus, or district. However, the index systems typically combine reading/ELA and mathematics performance to get one score. Staff also found some indicators that were not designed to award achievement in reading/ELA or mathematics specifically (e.g., grade point average, placement in career-education programs, and graduation, attendance, and dropout rates), so those were excluded from further consideration.

Overall, the indicators staff found rely on performance on state assessments alone or largely overlap with indicators in the current or proposed base accountability and acknowledgment systems in Texas. Additionally, a number of states the group investigated used AYP measures only or did not include information about specific indicators at all on their education department websites. A small number of indicators the group found were considered promising because they showed evidence of a unique or innovative approach to measuring academic achievement in reading/ELA or mathematics and/or they were strongly correlated in the research literature with future academic success. These indicators were explored in greater depth.

1. The Virginia school accountability system includes a *Grade 3 reading indicator*. In the Virginia Index of Performance (VIP), a school's index score is calculated based on the proportion of students scoring at the Advanced, Proficient, and Basic levels on the state assessments, with each performance level weighted differently. A school with a high index score is eligible for an award, and bonus points are available for schools that meet some additional criteria. For elementary and middle schools, the bonus-point criteria include an annual increase in the passing rate on Grade 3 reading examinations and annual increases in the passing rates on Grades 5 and 8 reading and writing examinations to ensure students are still reading at grade level after Grade 3.

   There is considerable literature confirming the importance of Grade 3 reading. For example, in 2011, Donald J. Hernandez found that children who do not read proficiently by Grade 3 are four

times more likely to drop out of school than those who do read proficiently at Grade 3. Moreover, "for the worst readers, those who couldn't master even the basic skills by third grade, the rate is nearly six times greater" (p. 3). A 2010 University of Chicago study found "correlational evidence that students who were at and above grade level in third grade graduate and attend college at higher rates than their peers who were below grade level in third grade" (p. 1).

Because "third grade is an important pivot point in a child's education, the time when students shift from learning to read and begin reading to learn," ensuring that children are reading proficiently at Grade 3 is vital to their their later education (Hernandez, 2011, p. 4). This is especially true because "interventions for struggling readers after third grade are seldom as effective as those in the early years" (p. 4).

Staff considered several options based on the VIP model, but ultimately rejected them because of likely overlap with the proposed new Texas accountability system. The new system will include reading/ELA performance at different levels and look at growth and/or progress in reading/ELA.

2. Another indicator staff investigated was *the percentage of high school students completing and receiving credit for mathematics classes beyond Algebra II*. Research consistently indicates that students who complete higher-level mathematics courses in high school have a greater likelihood of postsecondary success. For example, Adelman (1999, 2006) found that the level of high school mathematics a student reaches is highly predictive of his or her likelihood of obtaining a bachelor's degree. Among students finishing high school with Algebra II, about 40 percent obtained bachelor's degrees. By comparison, approximately 80 percent of the students who completed calculus obtained bachelor's degrees.

   Again, various options for the indicator were considered and rejected because of likely overlap with the proposed new Texas accountability system. Most of the courses beyond Algebra II are considered advanced courses, and an advanced course/dual enrollment completion measure is presented as a potential indicator later in this document.

Other Education Award Systems

Staff looked at other organizations that award student performance in public schools to learn what indicators they use for academic achievement. Both Texas-based and national award programs were investigated. The Texas award programs were the Children At Risk School Rankings, the H-E-B Excellence in Education Awards, the Texas Business and Education Coalition (TBEC) Honor Roll Schools, and the Texas Higher Education Coordinating Board (THECB) Star Awards. The national award programs were Blue Ribbon Schools and the National Center for Educational Achievement's (NCEA) Higher Performing Schools.

Children At Risk School Rankings: This program ranks campuses based on selected variables at the elementary, middle, and high school levels. The variables include state assessment scores; graduation, attendance, and retention rates; class size; and participation and performance on AP/IB and SAT/ACT examinations. One adjustment variable is included for all campuses. According to the organization, "research has consistently shown that poverty is a predictor of whether or not a student will graduate and achieve post-secondary academic success. The percentage of students that are economically disadvantaged at each campus is thus included in the rankings analysis. Children At Risk assumes a school must put forth more effort to retain and support these students through primary and secondary education. For this reason, these schools are given credit for having this at-risk student population." To calculate the school rankings, Children At Risk first computes a standardized score, or z-score, for each of the measures, comparing a campus's performance against schools across the state. Children At Risk then applies predetermined weights to each measure and aggregates the weighted values to produce a composite score. A state rank is determined as the order in which campuses are listed when the weighted composite z-scores are sorted from highest to lowest. The variables in this award system were not considered viable for distinctions designations because they do not focus exclusively on academic achievement in reading/ELA or mathematics. They also overlap with measures in the new Texas accountability system.

H-E-B Excellence in Education: This program provides monetary awards to "... public school professionals whose leadership and dedication inspire a love of learning in students of all backgrounds and abilities." Awards are given to teachers, principals, and school districts. Nominations and applications are screened and scored by a team of professional readers. Regional finalists are then selected by a panel of judges comprised of educators, administrators, and community leaders. A statewide selection committee reviews the finalists and selects winners. The eligibility criteria for teachers are: passion and commitment to the teaching profession; innovation and creativity in the classroom; and professional growth and development. Nominated principals are judged according to the Texas Professional Standards for Principals, with special emphasis on: leadership and campus culture; instructional leadership and management; and communication and community relations. Nominated school districts are judged based on on-site campus visits and personal interviews with members of the school board, teachers, parents, principals, community leaders, superintendents, and student leaders. The award criteria were not considered viable for distinctions designations because they do not focus exclusively on academic achievement in reading/ELA or mathematics. In addition, they were considered impractical because of they are qualitative nature and require considerable resources to evaluate.

TBEC Honor Roll Schools: This program identifies schools for recognition by analyzing TAKS performance data for every public school in Texas. An Honor Roll School must have high percentages of

students passing each TAKS test and all TAKS tests taken at the commended level for three consecutive years. The formula for determining the TBEC score for a given year is: percent commended all subjects-actual (PCAS) + percent commended reading (PCR) + percent commended mathematics (PCM) + percent commended writing (PCW) + percent commended science (PCS) / the number of subjects tested (NST) + 1. If a school tested only reading and mathematics, the formula would be: PCAS + PCR + PCM / 3 = TBEC score. This calculation is made for three consecutive years, with the last year's score counting twice. The formula for calculating the TBEC score across years is: year1 TBEC score + year2 TBEC score + 2 (year3 TBEC score) / 4 = TBEC score. The selection criteria also consider the school's demographics, number of subjects tested, and grade levels. The measure was not considered viable because it overlaps with measures in the new Texas accountability system.

THECB Star Award: This program recognizes public and independent institutions of higher education; public and private schools (PreK-12) and districts; and organizations, groups, and individuals for exceptional contributions toward one or more of the goals of *Closing the Gaps by 2015*, the Texas higher education plan adopted by the coordinating board in October 2000. The plan establishes four goals – to close the gaps in student participation, in student success, in academic excellence, and in research. Each year, nominations and subsequent applications for the award are accepted from eligible institutions across Texas. After an initial review by an internal staff committee, a group of finalists is recommended. External committees appointed by the chair of the coordinating board review the applications and documents of recommended finalists, make actual finalist determinations, and decide which of these will receive the award. To be eligible, schools or districts must: (a) have been focused on helping to meet the goals of *Closing the Gaps by 2015* (such as promoting a college-going culture) for at least two years; (b) demonstrate successful outcomes in areas of student participation, student success, academic excellence, or research that are attributable to the efforts of the school or district; and (c) clearly demonstrate improvement and excellence over time through the use of benchmarks and other comparison data that allow progress to be monitored and evaluated. The award criteria were considered impractical for distinction designations because specific measures were not defined, measures could vary across campuses, and they would require considerable resources to evaluate.

Blue Ribbon Schools: This program recognizes public and nonpublic elementary, middle, and high schools where students achieve at very high levels and/or where achievement gaps are narrowing. The program is part of a larger U. S. Department of Education effort to identify and disseminate knowledge about best school leadership and teaching practices. The program offers two awards: High Performing and Exemplary Improving. The High Performing award requires schools to have made AYP for the two years preceding the award. For one-third of all campuses nominated, at least 40 percent of campus enrollment must be identified as economically disadvantaged. After meeting those requirements, states select eligibility requirements based on performance on state assessments. Most states require performance on the assessments in the top 10 or 15 percent in the state. For the Exemplary Improving award, at least 40 percent of a school's enrollment must be economically disadvantaged, and the campus must show the greatest improvement in performance on state assessments over five years. These indicators were not considered viable because they overlap with measures in the new Texas accountability system.

NCEA Higher Performing Schools: This program identifies schools that meet one or both of the following criteria over the most recent three years: (1) students experience above-predicted growth in performance

on the state assessment based on a value-added analysis, or (2) an above-predicted percentage of continuously enrolled students scores at the highest level on the state assessment. Both measures identify schools that perform unusually well, given the student populations they serve. The model is run separately for each tested subject. Typically, the subjects include reading, mathematics, and science. In addition, the model controls for school demographics, including percentage of students who are eligible for free or reduced lunch. Two options for a campus distinction indicator based loosely on aspects of the NCEA model, as well as the Comparable Improvement indicator in the Gold Performance Acknowledgment system, were developed and are described below.

Potential indicators

This section provides a description of possible indicators derived from staff research and the former Gold Performance Acknowledgment system. Other than this general grouping of indicators, indicators are presented in no particular order. A table summarizing data availability for each indicator is found at the end of this section.

Indicator 1: Algebra by the end of eighth grade

Research basis: Research indicates that, of all pre-college curricula, the highest level of mathematics one studies has the strongest continuing influence on bachelor's degree completion. Algebra is the gatekeeper for student access to the upper-level high school courses in mathematics and science that are the drivers for high school graduation, college readiness, and college completion. Preparing all students for rigorous mathematics and science coursework in middle school and early in high school helps to close the achievement gap among different groups. Because the trajectory for taking advanced high school coursework is set prior to ninth grade, it is imperative that students begin their academic preparation for advanced mathematics and science coursework in middle school or earlier. The middle school years are when students decide which academic path they will take, so broad-based, rigorous middle school coursework in mathematics and science can be fundamental to future student performance over the long term. If we want to dramatically increase the proportion of students graduating from high school with high-level, globally competitive skills, then we must increase the number of students who achieve proficiency in algebra in their middle school or early high school years. This measure awards the campus(es) that prepares students to become proficient in Algebra I by the end of eighth grade. That is, it rewards the Grade 7 campus.

Measure definition: Percentage of Grade 7 students from the prior school year who earned Algebra I credit by the end of the current school year.

Advantages: 1) The measure encourages campuses to prepare students for algebra and to offer courses in algebra at earlier ages. 2) It acknowledges the cumulative, progressive nature of knowledge acquisition and awards successful preparatory efforts in the earlier grades. 3) TEC 39.203(d) allows recognition for end-of-course examinations taken below Grade 9.

Disadvantages: 1) In some cases, the campus offering the Algebra I and the campus receiving credit for this measure will be different. 2) Unprepared students may be forced into taking the course.

ELA or mathematics: Mathematics

Campus levels applicable: Middle school, junior high, K-8, K-12

Enrollment sizes: Campuses of any enrollment size can be considered for evaluation on this indicator.

Indicator 2: Greater than expected student growth on the state assessment

Option A: Option A measures the effect of a campus on growth in student achievement on the state assessment in comparison to a group of campuses with similar demographic characteristics. The option provides a combined measure of campus effect for students with different years of attendance on the campus.

Research basis: Growth models conceptually align with student development and more accurately evaluate continuous learning than those that present single point-in-time or year-to-year comparisons (O'Malley, Murphy, McClarty, Murphy, and McBride, 2011, pp. 4-5). Moreover, there has been a national focus on growth-based data and accountability models that:

- incorporate available years of existing achievement data, instead of relying on only two years of data;
- align growth time frames with school grade configuration and district enrollment;
- make growth projections for all students, not just those below proficient; and
- hold schools accountable for the same subgroups as under the status model (pp. 6-7, 9-10).

Analysis of multiple years of data for student cohorts, both at specific campuses and at the campuses that make up their comparison groups, allows growth models to produce results that are more consistent with student development and better reflective of actual growth in student performance.

Value-added models "use student background characteristics and/or prior achievement and other data as statistical controls in order to isolate the specific effects of a particular school, program, or teacher on student academic progress" (Council of Chief State School Officers, 2008, p. 1). This approach to growth modeling goes beyond typical growth measures by evaluating the growth in performance for a student or campus beyond the expected level of improvement for students and campuses with similar characteristics. Use of campus comparison groups takes into account demographic variability and its potential effects on educational achievement and allows attention to be focused on a broader, more representative group of campuses.

Proposed methods and definitions for elementary campuses: As with Comparable Improvement, campuses are first grouped by type: elementary, middle/junior high, and elementary/secondary. For each campus in each group, a comparison group of campuses is constructed based on demographic similarity. Following is a description of the method and definitions for calculating growth in ELA/reading performance on an elementary campus. The method and definitions are the same as those for calculating growth in mathematics performance on an elementary campus.

For each elementary campus in the campus comparison group, students who took the Grade 5 assessment are grouped into three categories by longest period of attendance on the campus and availability of assessment results: (a) students who attended the campus in Grade 5 only; (b) students who attended the campus in Grades 4 and 5 and took the Grade 4 assessment on the campus; and (c) students who attended the campus in Grades 3, 4, and 5 and took the Grade 3 and Grade 4 assessments on the campus. A median one-year growth for the campus comparison group is calculated based on results for all students in the first category. A median two-year growth for the campus comparison group is calculated based on results for all students in the second and third categories. For the target campus in the campus comparison group, counts of students who exceeded the median one-year and two-year growths for the campus comparison group, respectively, are derived. The counts for the campus are summed, and the sum is divided by the total number of Grade 5 examinees on the campus who are included in the indicator. The result is the

percentage of Grade 5 examinees on the campus exceeding the median growths for the campus comparison group.

Proposed standards for elementary campuses: Options for a standard include the following.

a. Rank order the campuses in the comparison group based on percentage of Grade 5 examinees on each campus exceeding the median growths for the campus comparison group. The target campus is eligible for a distinction if it is in the top specified percentage of campuses in the comparison group.

b. The target campus is eligible for a distinction if it has a specified or higher percentage of students exceeding the median growths for the campus comparison group.

c. The target campus is eligible for a distinction if it meets both of the previous standards.

Proposed methods and definitions for middle/junior high campuses: Following is a description of the method and definitions for calculating growth in ELA/reading performance on a middle/junior high campus. The method and definitions are the same as those for calculating growth in mathematics performance on a middle/junior high campus.

For each middle/junior high campus in the campus comparison group, students who took the Grade 8 assessment are grouped into three categories by longest period of attendance on the campus and availability of assessment results: (a) students who attended the campus in Grade 8 only; (b) students who attended the campus in Grades 7 and 8 and took the Grade 7 assessment on the campus; and (c) students who attended the campus in Grades 6, 7, and 8 and took the Grade 6 and Grade 7 assessments on the campus. A median one-year growth for the campus comparison group is calculated based on results for all students in the first category. A median two-year growth for the campus comparison group is calculated based on results for all students in the second category. A median three-year growth for the campus comparison group is calculated based on results for all students in the third category for whom results for the Grade 5 assessment are available. For the target campus in the campus comparison group, counts of students who exceeded the median one-year, two-year, and three-year growths for the campus comparison group, respectively, are derived. The counts for the campus are summed, and the sum is divided by the total number of Grade 8 examinees on the campus who are included in the indicator. The result is the percentage of Grade 8 examinees on the campus exceeding the median growths for the campus comparison group.

Proposed standards for middle/junior high campuses: Options for a standard include the following.

a. Rank order the campuses in the comparison group based on percentage of Grade 8 examinees on each campus exceeding the median growths for the campus comparison group. The target campus is eligible for a distinction if it is in the top specified percentage of campuses in the comparison group.

b. The target campus is eligible for a distinction if it has a specified or higher percentage of students exceeding the median growths for the campus comparison group.

c. The target campus is eligible for a distinction if it meets both of the previous standards.

Proposed methods and definitions for elementary/secondary campuses: All elementary/secondary campuses include Grades 6-8, but not all include each of Grades 3-5. In 2011, there were 477 elementary/secondary campuses. Of these, 199, or approximately 42 percent, did not include each of Grades 3-5. The remaining 278, or approximately 58 percent, included Grades 3-8. The methods and definitions for middle/junior high schools would apply to any elementary/secondary campus that does not include each of Grades 3-5. Business rules would need to be developed for calculating the indicator for any elementary/secondary campus that includes Grades 3-8.

Proposed standards for elementary/secondary campuses: For elementary/secondary campuses that do not include each of Grades 3-5, the options for a standard would be the same as those for middle/junior high campuses. For elementary/secondary campuses that include Grades 3-8, the options for a standard would depend on the business rules developed for calculating the indicator.

Advantages: 1) The indicator builds on the value-added, growth approach used for Comparable Improvement. 2) Including growth for students with multiple years of attendance on the same campus is better reflective of overall campus effect and emphasizes the importance of consistency of effect across grades and over time. 3) Growth for students with multiple years of attendance on the same campus may help point to potential problem areas with specific grades. 4) Calculating median, rather than mean, growth mitigates the effects of outlying and skewed data. 5) Explicitly calculating median growth for a campus comparison group provides a contextual reference point or expectation against which target campuses can be compared. The data lend themselves more readily to graphical representation, which may make the indicator easier to understand.

Disadvantages: 1) The indicator is somewhat complex and involves matching student records for up to four years. 2) Students who do not fit specified attendance patterns are excluded from the indicator. In addition, any student who tested in Grades 6, 7, and 8 on the same middle/junior high school campus is excluded if Grade 5 results for the student cannot be found. 3) The indicator for middle/junior high schools is not perfectly consistent with the indicator for elementary schools. Three-year growth is calculated for students who attended the same middle/junior high school campus in Grades 6, 7, and 8 if their Grade 5 results are available. Three-year growth cannot be calculated for students who attended the same elementary campus in Grades 3, 4, and 5 because students are not assessed in Grade 2. Also, students who attended the same elementary campus for three consecutive years are treated the same as students who attended the same elementary campus for two consecutive years, in terms of growth. 4) The indicator may appear to assign the same value, in terms of campus effect, to one-, two-, and three-year growth. 5) Based on availability of STAAR data, the elementary school indicator could not be fully implemented and reported until 2014. The middle/junior high school indicator could not be fully implemented and reported until 2015. In both cases, the indicator could be phased in, beginning with two years of STAAR data in 2013.

Option B: As with Option A, Option B measures the effect of a campus on growth in student achievement on the state assessment in comparison to groups of campuses with similar demographic characteristics. Option B, however, takes a different approach to approximating a cohort, in that it involves campus effect over multiple years.

Research basis: A number of state accountability systems and other education award systems include indicators with standards requiring sustained achievement at a high level over multiple years.

Measure definition: Option B uses the existing Comparable Improvement methodology to determine a target campus's ranking within its 40-member campus comparison group.

Proposed standards: A campus is eligible for a distinction if it ranks in the top quartile of its campus comparison group for the three most recent years.

Advantages: 1) The indicator builds on the value-added, growth approach used for Comparable Improvement and takes advantage of existing resources (e.g., programming, methodology). 2) Evaluating academic growth on a campus for multiple years is better reflective of overall campus effect and emphasizes the importance of consistency of effect over time, both on students who attend the campus for multiple years and students who are new to the campus. 3) The standard for the indicator is more rigorous than current standard for Comparable Improvement. 4) The indicator excludes only students for whom prior-year assessment results are not available. 5) The indicator does not involve matching student records for more than two years.

Disadvantages: 1) Calculating mean, rather than median, growth does not mitigate the effects of outlying or skewed data. 2) Because growth is not calculated for the campus comparison group, the indicator does not provide an explicit contextual reference point or expectation against which target campuses can be compared. As a result, the data do not lend themselves readily to graphical representation, which may make the indicator harder to understand. 3) Based on availability of STAAR data, the indicator could not be fully implemented and reported until 2015.

Indicator 3: Participation and performance on the ELA and mathematics sections of the Grade 8 (ReadiStep, EXPLORE) and Grade 10 (PSAT, PLAN) college readiness assessments

Measure definition: The ReadiStep and EXPLORE assessments measure academic progress toward college readiness at the eighth and ninth grade levels. Specifically, the ReadiStep assessment measures academic progress at Grade 8, and EXPLORE measures progress at Grades 8 and 9. The PSAT and PLAN assessments measure college readiness at Grades 10 and 11, the PSAT is offered to students in Grades 10 and 11, and PLAN is offered to students in Grade 10.

Similar to the SAT, the College Board's ReadiStep and PSAT consist of three sections each: critical reading, mathematics, and writing. Student performance on the ReadiStep is reported as a scaled score that ranges from 2 to 8 in .1 point increments, and performance on the PSAT is reported as a scaled score that ranges from 20 to 80 in 1 point increments. Similar to the ACT, the EXPLORE and PLAN assessments, administered by ACT, Inc., consist of four sections each: English, mathematics, reading, and science. Performance on the EXPLORE is reported as a scaled score that ranges from 1 to 25 in 1 point increments, and performance on PLAN is reported as a scaled score that ranges from 1 to 32 in 1 point increments. Both the College Board and ACT, Inc., have identified sets of skills that examinees know or need to work on dependent upon where their ReadiStep, EXPLORE, PSAT, or PLAN scaled scores fall within sets of score bands.

The College Board's Skills Insight tool categorizes the ReadiStep critical reading, mathematics, and writing scaled scores within six 1-point score bands and PSAT scores within six 10-point score bands, and provides the academic skills that may be expected of examinees who received scores within each of the bands. Similarly, ACT, Inc., categorizes the EXPLORE English, reading, and mathematics scaled

scores within four score ranges: 13-15, 16-19, 20-23, and 24-25 and the PLAN scores within six score ranges: 1-12, 13-15, 16-19, 20-23, 24-27, and 28-32. In addition, they provide sets of skills that may be expected of examinees who received scores within each of the bands. This direct association of academic skills to ReadiStep, PSAT, EXPLORE, and PLAN scores provides a concrete method for understanding levels of academic preparation for college as measured by national assessments that evaluate the knowledge and skills students develop while in high school.

Using these tools, distinction may be provided to campuses that have large proportions of students participating in these college preparation and readiness assessments and exhibiting high levels of academic skill. Specifically, a middle school ELA distinction may be provided to schools with high proportions of Grade 8 students participating in the ReadiStep or EXPLORE examinations and with high proportions of examinees receiving scores within the top three or four score bands on the ReadiStep critical reading and writing sections or the EXPLORE English and reading. Similarly, a middle school mathematics distinction may be provided to schools with high proportions of Grade 8 students participating in the ReadiStep or EXPLORE examinations and with high proportions of examinees receiving scores within the top three or four score bands on the mathematics sections.

Schools with high proportions of Grade 10 or 11 students participating in the PSAT or PLAN examinations and with high proportions of examinees receiving scores within the top three or four score bands on the PSAT critical reading and writing sections or the PLAN English and reading sections could be eligible for distinction in ELA. Similarly, schools with high proportions of Grade 10 or 11 students participating in the PSAT or PLAN examinations and with high proportions of examinees receiving scores within the top three or four score bands on the mathematics sections could be eligible for mathematics distinction.

ELA or mathematics: ELA and mathematics

Campus levels applicable: Middle school, junior high, high school, K-8, K-12

Enrollment sizes: Campuses of any enrollment size can be considered for evaluation on this indicator.

Indicator 4: Participation or performance in University Interscholastic League (UIL) contests in English language arts (ELA) and mathematics

Background Information: The UIL is a voluntary membership organization whose stated purpose is to organize and supervise contests that assist in preparing students for citizenship. It aims to provide healthy, character-building, educational activities carried out under rules providing for good sportsmanship and fair play for all participants. The UIL provides information and service to schools and administers contests in 70 activities for approximately 2.2 million participants across the state each year. UIL member schools are divided into five conferences according to enrollment size. Conferences, in order of decreasing enrollment size, are 5A, 4A, 3A, 2A and 1A. The league operates as part of the University of Texas under the auspices of the Office of the Vice President for Diversity and Community Engagement. The UIL is governed by state law established by the state legislature, the policies of the University of Texas at Austin, and the constitution and contest rules developed by UIL member schools.

The UIL sanctions tournaments in athletics, academics, and music at the district, regional, and state levels. For tournament purposes, the campuses that make up a given UIL conference are divided into four

geographic regions, each of which is divided into geographic districts. For high schools, there are 22 academic contests categorized into eight subject areas. There are three contests under the subject category of ELA: literary criticism, ready writing, and spelling and vocabulary. There are also three contests under the subject category of mathematics: calculator, mathematics, and number sense. For elementary/middle/ junior high school students, the UIL program known as A+ Academics offers 19 academic contests at the district level only that, although they cover a variety of topics, are not explicitly categorized into subject areas. Examples of ELA-related contests include: A+ creative writing, A+ editorial writing, A+ ready writing, and A+ spelling. Examples of mathematics-related contests include: A+ calculator applications, A+ mathematics, and A+ number sense.

To participate in UIL tournaments, high school campuses must be paid members of the league (elementary, middle and junior high schools receive membership in the league through the paid memberships of their parent high schools). In addition, campuses and students must meet specified eligibility criteria to participate. "A student who receives, at the end of any grading period (after the first six weeks of the school year), a grade below 70 in any class (other than an identified class eligible for exemption) or a student with disabilities who fails to meet the standards in the Individual Education Plan (IEP) may not participate in extracurricular activities for three school weeks. An ineligible student may practice or rehearse, however. The student regains eligibility after the seven calendar day waiting period has ended following a grading period or the three school week evaluation period when the principal and teachers determine that he or she has earned a passing grade (70 or above) in all classes, other than those that are exempted."

At a district meet, participating campuses in a given conference district may enter three or four contestants, depending on the contest, in any given academic contest. Campuses are eligible to win individual and team awards in the separate contests, as well as an overall district academic championship award and/or an overall district spring meet sweepstakes award (the latter combines the results of the academic contests with the results of specified athletic contests). Generally, points are awarded to each school for individuals placing first through sixth and for teams placing first or second, plus additional points for certain academic contests. As mentioned previously, tournaments for elementary/middle/ junior high school students are held at the district level only. At the high school level, competition advances in most cases from district to region to state. Generally, the top three individual winners in each contest and, in contests with team competition, the top team, advance. Overall academic championship awards are also given at the regional and state levels using the same point system.

Research basis: Many studies indicate that student participation in extracurricular activities has a positive effect on student engagement and academic achievement. For example, the College Board (2005) found that participation in extracurricular activities in high school is linked to higher SAT scores.

Advantages: 1) The indicator takes advantage of an existing system. 2) The UIL asserts that their academic contests "... have been correlated to the Texas Essential Knowledge and Skills, the Advanced Placement Program, and the International Baccalaureate Diploma Program." 3) The UIL accounts for differences in enrollment size by establishing conferences. 4) The indicator could be used at the elementary, middle/junior high, and high school levels.

Disadvantages: 1) Because campus membership and participation in UIL are voluntary, some campuses would be excluded from the indicator. 2) Because student participation in UIL activities is voluntary, a

campus's participants represent a self-selected population that may not be reflective of the campus population as a whole. 3) There are potential barriers to campus and student participation. For example, financial considerations include campus membership dues, contest entry fees, coach stipends, and costs associated with travel, books, practice tests/materials, calculators, and hosting events. Often, extracurricular activities are among the first to be cut during difficult budget times. Also, some students have outside obligations that prevent them from participating in extracurricular activities. 4) TEA does not currently collect data on UIL participation. 5) Because of UIL restrictions on the number of students a campus may enter in any single contest, the indicator might present issues with small numbers. 6) The indicator could be perceived as focusing more on process than outcome. 7) The academic eligibility criteria for student participation in UIL activities may not be sufficiently rigorous for participation alone to serve as an indicator of achievement. 8) The rigor of UIL contests is independent of TEA.

Remaining Questions: 1) Would the indicator include participation or performance in other extracurricular academic programs (e.g., MATHCOUNTS, Academic Decathlon)? 2) If so, how would the indicator account for variable contest rigor and academic eligibility criteria for student participation across programs?

ELA or mathematics: ELA and mathematics

Campus levels applicable: Middle school, junior high, high school, K-8, K-12

Enrollment sizes: Campuses of any enrollment size can be considered for evaluation on this indicator.

Indicator 5: Percentage of students who enroll and begin instruction at an institution of higher education in the school year following high school graduation

Measure description: TEC §39.301(c)(11) requires the agency to report the percentage of students who enroll and begin instruction at an institution of higher education in the school year following high school graduation.

Advantages: 1) Enrollment at an institution of higher education moves beyond theoretical, predictive measures of achievement and provides a practical, real-world measure of college-readiness. 2) To the extent that one of the goals of Texas public schools is to prepare students for college, this may provide a measure of the success of that goal. 3) Student enrollment in college is an intuitive, easy-to-understand measure of college readiness.

Disadvantages: 1) There are challenges associated with tracking students from secondary education in Texas public schools through college because associating records from K-12 to higher education data is based on the social security number. Not all students use a social security number. 2) Students who attend private institutions or out-of-state colleges, for example, currently could not be included in the measure. 3) The measure does not account for issues related to access to postsecondary education, such as economic status, cultural traditions, and practical obligations (e.g., work, taking care of family members). 4) The measure is not directly tied to reading or mathematics performance.

ELA or mathematics: Not directly associated with either ELA or mathematics

Campus levels applicable: high school, K-12

Enrollment sizes: Campuses of any enrollment size can be considered for evaluation on this indicator.

Indicator 6: Remedial course participation in postsecondary education

Measure description: TEC §39.301(c)(12) requires the agency to report the percentage of students who successfully complete the first year of instruction at an institution of higher education without needing a developmental education course.

Advantages: 1) The Texas Higher Education Coordinating Board has approved assessment instruments (Texas Higher Education Assessment, offered by National Evaluation Systems; ASSET and COMPASS, offered by ACT, Inc.; and ACCUPLACER, offered by the College Board) to evaluate student readiness for freshman-level academic coursework. 2) Participation in remedial coursework moves beyond theoretical, predictive measures of achievement and provides a practical, real-world measure of college-readiness. 3) Participation in remedial coursework is an intuitive, easy-to-understand measure of college readiness.

Disadvantages: 1) There are challenges associated with tracking students from secondary education in Texas public schools through college because associating records from K-12 to higher education data is based on the social security number. Not all students use a social security number. 2) Students who attend private institutions or out-of-state colleges, for example, currently could not be included in the measure. 3) The measure does not account for issues related to access to postsecondary education, such as economic status, cultural traditions, and practical obligations (e.g., work, taking care of family members). 4) Standards for needing remedial education vary by institution.

ELA or mathematics: ELA and mathematics

Campus levels applicable: high school, K-12

Enrollment sizes: Campuses of any enrollment size can be considered for evaluation on this indicator.

The following indicators are based on measures from the Gold Performance Acknowledgments system.

Indicator 7: Participation and performance on the ELA and mathematics portions of the SAT or ACT

Measure description: The SAT and ACT are college readiness assessments that measure knowledge and skills that students develop while in high school. The SAT consists of three sections: critical reading, mathematics, and writing, and the ACT consists of five sections: English, mathematics, reading, science, and an optional writing section. Student performance on the SAT is reported as a scaled score that ranges from 200 to 800 in 10 point increments. Performance on the English, mathematics, reading, and science sections of the ACT is reported as a scaled score that ranges from 1 to 36 in 1 point increments. Performance on the writing section of the ACT is reported on a scale of 2 to 12.

Both the College Board and ACT, Inc., have identified sets of skills that examinees know or need to work on dependent upon where their SAT or ACT scaled scores fall within a set of score bands. The College Board's Skills Insight tool categorizes the critical reading, mathematics, and writing scaled scores within six 100-point score bands and provides the academic skills that may be expected of examinees who received scores within each of the bands. Similarly, ACT, Inc., categorizes the English, reading, and

mathematics scaled scores within seven score ranges: 1-12, 13-15, 16-19, 20-23, 24-27, 28-32, and 33-36, and the writing subscore within six score ranges: 2, 3-4, 5-6, 7-8, 9-10, and 11-12. In addition, they provide descriptions of sets of skills that may be expected of examinees who received scores within each of the bands. This direct association of academic skills to SAT and ACT scores provides a concrete method for understanding levels of academic preparation for college as measured by national assessments that evaluate the knowledge and skills students develop while in high school.

Using these tools, campuses that have large proportions of high school students participating in these college readiness assessments and exhibiting high levels of academic skill can be recognized. For example, schools with high proportions of students participating in the SAT, the ACT, or both examinations, and with high proportions of examinees receiving scores within the top three or four score bands on the SAT critical reading and writing sections or the ACT English, reading, or writing sections could be recognized for high achievement in English language arts. Similarly, schools with high proportions of students participating in the SAT, the ACT, or both examinations, and with high proportions of examinees receiving scores within the top three or four score bands on the SAT or ACT mathematics sections could be recognized for high achievement in mathematics.

ELA or mathematics: ELA and mathematics

Campus levels applicable: high school

Enrollment sizes: Campuses of any enrollment size can be considered for evaluation on this indicator.

Indicator 8: Participation and performance of students taking AP or IB ELA or mathematics courses and examinations

Measure description for ELA: The College Board offers two Advanced Placement (AP) courses and examinations in English: English Language and Composition, and English Literature and Composition. The English Language and Composition course teaches techniques that enable students to become skilled "readers of prose written in a variety of rhetorical contexts" and "skilled writers who compose for a variety of purposes." The English Literature and Composition course emphasizes careful reading and critical analysis of imaginative literature. Both courses are intended to be full-year courses and are typically taken by high school juniors and seniors. Specifically, in Texas, the English Language and Composition course is typically taken by juniors in lieu of English III and the English Literature and Composition course is typically taken by seniors in lieu of English IV.

The standardized examinations associated with the two courses are offered every year in May. The scores that students receive for each examination range from 1 to 5. Scores in the 3 to 5 range are considered equivalent to passing grades in the comparable college courses and subsequently may be equivalent to one year of college English credit, depending on the policy of the admitting university. Using course completion data in PEIMS and results of the two AP English examinations, campuses could be recognized for having large proportions of high school students participating in these courses and examinations and large proportions of examinees exhibiting high levels of academic skill as measured by the examinations.

Similarly, the International Baccalaureate Diploma Program in Texas offers two courses and examinations in English: English III and English IV. Students who complete IB English III may also take

the AP English Language and Composition examination. Students who complete IB English IV may also take the AP English Literature and Composition examination. The IB standardized examination associated with the two courses is offered at the end of an examinee's senior year. The scores that students receive for the IB English examination range from 1 to 7. Scores in the 4 to 7 range are considered equivalent to passing grades in the comparable college courses and subsequently may be equivalent to college English credit, depending on the policy of the admitting university. Using course completion data in PEIMS and results of the two IB English examinations, campuses could be recognized for having large proportions of examinees exhibiting high levels of academic skill as measured by the examinations.

Measure description for mathematics: The College Board offers three AP courses and examinations in mathematics: Calculus AB, Calculus BC, and Statistics. Both of the AP calculus courses are intended to be full year courses and both courses cover differential and integral calculus. The Calculus BC course, while covering the same topics as the Calculus AB course, goes into greater detail and at greater speed than the AB course. In addition, the Calculus BC course extends beyond the AB course by covering polynomial approximations and series. Topics covered in the AP statistics course include data exploration, study design and conduct, probability, and inferential statistics.

The standardized examinations associated with the three courses are offered every year in May. The scores that students receive for each examination range from 1 to 5. Scores in the 3 to 5 range are considered equivalent to passing grades in the comparable college courses. Passing scores on the Calculus AB and statistics examinations may be equivalent to one-half of a year of college credit, depending on the policy of the admitting university. Passing scores on the Calculus BC examination may be equivalent to one full year of college credit, depending on the policy of the admitting university. Using course completion data in PEIMS and results of the AP calculus and statistics examinations, campuses could be recognized for having large proportions of high school students participating in these courses and examinations and large proportions of examinees exhibiting high levels of academic skill as measured by the examinations.

The International Baccalaureate Diploma Program in Texas offers several courses and examinations in mathematics. Topics covered in the courses include pre-calculus, calculus, trigonometry, probability, and statistics. Students who complete the IB standard level calculus course may also take the AP Calculus AB examination. Students who complete the IB higher level calculus course may also take the AP Calculus AB or BC examinations. The IB standardized examinations associated with the IB mathematics courses are offered at the end of each student's senior year. The scores that students receive for each examination range from 1 to 7. Scores in the 4 to 7 range are considered equivalent to passing grades in the comparable college courses and subsequently may be equivalent to college credit, depending on the policy of the admitting university. Using course completion data in PEIMS and results of the IB mathematics examinations, campuses could be recognized for having large proportions of examinees exhibiting high levels of academic skill as measured by the examinations.

ELA or mathematics: ELA and mathematics

Campus levels applicable: high school

Enrollment sizes: Campuses of any enrollment size can be considered for evaluation on this indicator.

Indicator 9: Percentage of students completing and receiving credit for at least one ELA or mathematics advanced or dual enrollment course

Measure description: This measure is based on the count of students who completed and received credit for at least one ELA or mathematics advanced course or dual enrollment course in Grades 9-12. When considering this indicator, note that the agency does not receive comprehensive information on dual enrollment course completion. For example, many students complete dual enrollment courses during a summer session, and courses completed during the summer are not collected by the agency. Expansion of the current course completion data collection to include these data would improve the accuracy of this measure.

English language arts courses		Mathematics courses	
A3220100	English Language and Composition	A3100101	Calculus AB
A3220200	English Literature and Composition	A3100102	Calculus BC
A3220300	International English Language	A3100200	AP Statistics
I3220300	English III	I3100100	Mathematical Studies Standard
I3220400	English IV	I3100200	Mathematical Standard Level
03221100	Research/Technical Writing	I3100300	Mathematics Higher Level
03221200	Creative/Imaginative Writing	I3100400	Further Mathematics Standard
03221500	Literary Genres	03101100	Pre-Calculus
03221600	Humanities	03102500	Independent Study in Mathematics (1st time)
03221800	Independent Study in English	03102501	Independent Study in Mathematics (2nd time)
03231000	Independent Study in Journalism		
03231902	Advanced Broadcast Journalism III		
03240400	Oral Interpretation III		
03240800	Debate III		
03241100	Public Speaking III		
03241200	Independent Study in Speech		

ELA or mathematics: ELA and mathematics

Campus levels applicable: high school

Enrollment sizes: Campuses of any enrollment size can be considered for evaluation on this indicator.

Data requirements and availability

The following table presents data availability of potential indicators for 2012 when modeling might be expected to occur and for 2013, the first year of the new accountability system.

Indicator	Data availability in 2012	Data availability in 2013
1. Algebra I by the end of Grade 8 This indicator is based on course completion data, not end-of-course assessment data.	Data requirements: 2009-10 attendance data (Sept. 2010) 2010-11 course completion data (Sept. 2011)	Data requirements: 2010-11 attendance data (Sept. 2011) 2011-12 course completion data (Sept. 2012)
2. Greater than expected student growth on the state assessment	None.	Data requirements for Option A: Phased-in measure requires 2012, 2013 STAAR and campus characteristic data Fully implemented measure requires 2012 through 2014 STAAR and campus characteristic data (elementary schools) and 2012 through 2015 STAAR and campus characteristic data (middle schools) Data requirements for Option B: 2012 through 2015 STAAR and campus characteristic data
3. Grade 8 and Grade 10 college preparatory assessments This indicator is based on Grade 8 (EXPLORE, ReadiStep) and Grade 10 (PLAN, PSAT) assessments.	Grade 8 data requirements: Fall 2011 ReadiStep data (Dec 31, 2011) Spring 2012 ReadiStep data (June 30, 2012) Fall 2011 EXPLORE data (Feb 15, 2012) Spring 2012 EXPLORE data (August 15, 2012) Grade 10 data requirements: 2011-12 PSAT (January 31, 2012) Fall 2011 PLAN data (Feb 15, 2012) Spring 2012 PLAN data (August 15, 2012)	Grade 8 data requirements: Fall 2012 ReadiStep data (Dec 31, 2012) Spring 2013 ReadiStep data (June 30, 2013) Fall 2012 EXPLORE data (Feb 15, 2013) Spring 2013 EXPLORE data (August 15, 2013) Grade 10 data requirements: 2012-13 PSAT (January 31, 2013) Fall 2012 PLAN data (Feb 15, 2013) Spring 2013 PLAN data (August 15, 2013)
4. Participation and performance in UIL academic competitions	Data requirements: To be determined. No data are currently collected regarding this measure.	Data requirements: To be determined. No data are currently collected regarding this measure.
5. Enrolled and began instruction at an institution of higher education following high school graduation	Data requirements: 2009-10 high school graduates (March 2011) 2010-11 higher education enrollment and course data (TBD)	Data requirements: 2010-11 high school graduates (March 2012) 2011-12 higher education enrollment and course data (TBD)
6. Remedial course participation in postsecondary education	Data requirements: 2009-10 high school graduates (March 2011) 2010-11 higher education enrollment and course data (TBD)	Data requirements: 2010-11 high school graduates (March 2012) 2011-12 higher education enrollment and course data (TBD)
7. Participation and performance on college admissions tests	Data requirements: 2010-11 graduates (Spring 2012) 2010-11 SAT (fall 2011), ACT (fall 2011)	Data requirements: 2011-12 graduates (Spring 2013) 2011-12 SAT (fall 2012), ACT (fall 2012)

Indicator	Data availability in 2012	Data availability in 2013
8. Participation and performance on AP/IB courses and examinations	Data requirements: 2010-11 enrolled students (March 2011) 2010-11 AP and IB examination results (fall 2011) 2010-11 AP and IB course data (Sept. 2011)	Data requirements: 2011-12 enrolled students (March 2012) 2011-12 AP and IB examination results (fall 2012) 2011-12 AP and IB course data (Sept. 2012)
9. Students completing and receiving credit for advanced and dual enrollment courses	Data requirements: 2010-11 course completion data (Sept. 2011)	Data requirements: 2011-12 course completion data (Sept. 2012)

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