

Perkins V
State Determined Performance Indicators for Arkansas

I. Secondary State Determined Performance Indicators for Arkansas

Who is a CTE Concentrator - Secondary?

CTE Concentrator - Secondary is identified as a student that has completed one foundational CTE credit and one additional CTE credit for a total of two CTE credits within the same approved CTE program of study.

Any two levels must sum to two (2) credits within a program of study. Concentrators must have 1.0 credit in Level 1. Level 1 includes the foundational courses. Levels progress in specificity as required (Section 3(41)(D-E)).

Examples of Program of Study:

<https://dcte.ade.arkansas.gov/docs/Resources//Dec26%20Changes%20-%20Business%20and%20Marketing%20Programs%20of%20Study.pdf>

Students earn credits in courses within a program of study that progress in specificity (beginning with all aspects of an industry or career cluster and leading to more occupation-specific instruction and skill attainment) (Section 3(41)(D)).

Level 1 = Foundational

Level 2 = Core

Level 3 = Advanced coursework

Examples of how credits can be earned to result in CTE concentrator

Example 1:

Level 1 - 1.0 credit

Level 2 - 0.5 credit

Level 3 - 0.5 credit

Total = 2.0 credits

Example 2:

Level 1 - 1.0 credit

Level 2 - 1.0 credit

Total = 2.0 credits

Example 3: (For School Years 2020-21 and 2021-22) Allowable to include students who have already been enrolled in a Program of Study under the current Operational Guide. Beginning in the 2022-23 school year, Perkins funding will be contingent upon students completing Level 1 and Level 2 courses in a Program of Study before enrolling in Level 3 courses. The example below will not be allowable beginning in the school year 2022-23.

Level 1 - 1.0 credit

Level 3 - 1.0 credit

Total = 2.0 credits

Modeling of 2019 Secondary Concentrators and Performance Indicators

Proposed baselines and measures for meaningful progress were developed using extensive modeling of available data. The 2018-19 student enrollment from certified Statewide Information System (SIS) cycle 7 tables were used to establish the group of students and the school and district LEA to which the student’s data would be attributed for the Academic Performance Indicator - Secondary. The 2019 post-corrections four- and five-year adjusted cohorts were used to establish the group of students and the school and district LEA to which the student’s data would be attributed for the Graduation Rate indicators.

Documents containing the CTE programs of study with course code information from 2015-16 through 2018-19 were used to determine courses included in programs of study for the past four years. Student course credit/grades data from certified SIS cycle 7 data from 2014-15 to 2018-19 were used to determine if students completed CTE courses within these programs of study for the past 4 years. The definition of a concentrator proposed for Perkins V was used to determine if a student would have been considered a Perkins V concentrator in 2019. Figure 1 represents the years of course credits used to determine if students in Grades 9-12 in 2018-19 school year would meet the program of study credit requirements to be considered a concentrator in one or more programs of study.

Modeling Concentrators Under Perkins V Using Programs of Study and Course Credits Earned

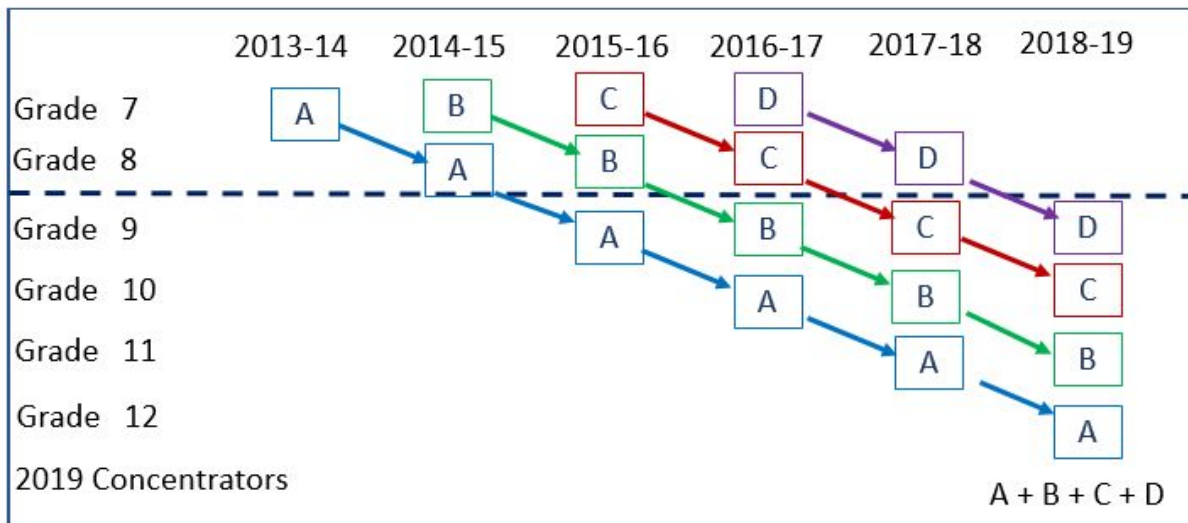


Figure 1: Cohort of students used to model the 2019 Secondary CTE concentrators based on Perkins V proposed definitions.

The 2013-14 and 2014-15 programs of study were not available. The 2015-16 programs of study course list was used as a proxy for the two prior years. Students’ course credits earned,

provided by the Office of Information Technology, were used to determine if a Grades 9 - 12 student in 2019 earned one or more concentrations at any time starting with course credits earned in 7th grade through the current grade in 2019.

Table 1 provides the count of concentrators, non-concentrators, and all students used for modeling the 2019 four- and five-year adjusted cohort graduation rates for concentrators. This represents a non-duplicate count of students. Students with more than one concentration are included only once in the table and in the graduation rates.

Table 1: Population of Students Used for Concentrator Modeling for Adjusted Cohort Graduation Rate

Cohort	Concentrator	# Expect	# Graduate	Graduate Rate
Four-Year Adjusted Cohort	Total	36,514	31,970	87.6
	Non-concentrators	17,629	13,674	77.6
	Concentrators	18,885	18,296	96.9
Five-Year Adjusted Cohort	Total	35,386	31,912	90.2
	Non-concentrators	17,050	14,035	82.3
	Concentrators	18,336	17,877	97.5

Table 2 provides the number of concentrators and non-concentrators among all students used for modeling the Academic Performance Indicators. This represents a non-duplicate count of full-academic year students. Students with more than one concentration are included only once in the table.

Table 2: Population of Students Used for Concentrator Modeling for Academic Performance

	Concentrator	# Total	# Tested	% Tested
Full academic year students only Grades 9-12 ELA	All Students	130,976	128,909	98.4
	Non-Concentrators	89,595	87,769	98.0
	Concentrators	41,381	41,140	99.4
Full academic year students only Grades 9-12 Math	All Students	130,976	128,985	98.5
	Non-Concentrators	89,595	87,831	98.0
	Concentrators	41,381	41,154	99.5
Full academic year students only Grades 9-12 Science	All Students	130,976	129,423	98.8
	Non-Concentrators	89,595	88,161	98.4
	Concentrators	41,381	41,262	99.7

Where possible, If the proposed indicators for Perkins V are aligned with the indicators used in the Arkansas ESSA plan then Arkansas schools will be able to focus on increased rigor and relevance in student learning opportunities (including CTE programs of study) and students will grow in their achievement and graduate ready for success in college, career, and community engagement.

Accountability for Perkins V - Secondary

The Division of Career and Technical Education will provide an accountability report to each school receiving Perkins V funds. The accountability report will include school data on the Indicators for Perkins V. The Division of Career and Technical Education will provide Business Rules for Calculating the Indicators for Perkins V - Secondary.

Proposed Secondary Indicators for Perkins V

[1S1: Four-Year Graduation Rate](#)

[1S2: Extended Graduation Rate](#)

[2S1: Academic Performance in Reading/Language Arts](#)

[2S2: Academic Performance in Mathematics](#)

[2S3: Academic Performance in Science](#)

[3S1: Postsecondary Placement](#)

[4S1: Non-traditional Program Enrollment](#)

[5S1: Program Quality – Attained Recognized Postsecondary Credential](#)

Reporting for Perkins V Data - Secondary

Annual reporting of Perkins V - Secondary data will be included in the School Report Card and will be available on My School Info at <https://myschoolinfo.arkansas.gov/SRC>.

1S1: Four-Year Graduation Rate

Numerator: The percentage of CTE concentrators who graduate high school, as measured by the four-year adjusted cohort graduation rate (defined in section 8101 of the Elementary and Secondary Education Act of 1965).

Denominator: Number of CTE concentrators who, in the reporting year, were included in the State's computation of its graduation rate as defined in the State's Consolidated Accountability Plan pursuant to Section 1111(b)(2) of the ESSA.

Formula:

2019 Four-Year Adjusted Cohort Graduation Rate

$$\frac{\text{Actual Graduates in 2019 Four-Year Adjusted Cohort who were CTE Concentrators}}{\text{Students in the 2019 Four-Year Adjusted Cohort expected to graduate who were CTE Concentrators}}$$

Rationale: The Four-Year Graduation Rate is calculated using the same methodology as utilized for the Arkansas ESSA School Index.

Students in the adjusted cohort who met requirements for CTE concentrator status in one or more programs of study during the four-year period for the cohort are included as CTE concentrators as expected to graduate. These CTE concentrators with documentation of graduation (SIS Cycle 9 Graduates Table) are included in the numerator as actual graduates. Students can complete requirements in multiple concentrations. The adjusted cohort graduation rate is a non-duplicate count of CTE concentrators where each student is counted only once in the denominator even if the student has completed more than one concentration.

Clarifying Note: Only concentrators are included in this metric and concentrators are only counted once in the metric.

Baseline Data: 90.58% Four-Year Graduation Rate

- Schools at or below the 5th percentile for the proposed CTE Concentrator four-year graduation rate baseline need the most comprehensive support and improvement to improve their graduation rate. This rationale parallels the theory of action in ESSA and creates unified support for improving student graduation outcomes.
- If the baseline for the CTE concentrators were set at the 5th percentile of the school distribution of scores for the modeled measure, then the schools with the highest level of need would be at or below the modeled baseline. Reasonable targets for improvement can be set based on the improvement rate of the ESSA comprehensive support and improvement schools which increases the likelihood that meaningful progress can be made by schools and that in doing so, schools elevate student outcomes at all levels and for all subgroups of students.

- Having aligned measures, baselines, and meaningful progress expectations would allow schools to focus on all students and addressing gaps in concentrator subgroups' graduation rates through congruent efforts.

Table 3: School CTE Concentrator (proposed Perkins V definition) 2019 Four-Year Adjusted Cohort Graduation Rate Values at Percentiles

Percentile	Four Year
P_5	90.58
P_10	92.64
P_15	93.94
P_20	94.44
P_25	94.91
P_30	95.38
P_35	95.92
P_40	96.43
P_45	97.07
P_50	97.44
P_55	97.82
P_60	98.13
P_65	98.77
P_70	99.28
P_75	100.00
P_80	100.00
P_85	100.00
P_90	100.00
P_95	100.00

Figure 2 illustrates the school distributions for the 2019 Four-Year Adjusted Cohort Graduation Rates for all students, non-concentrators, and CTE concentrators.

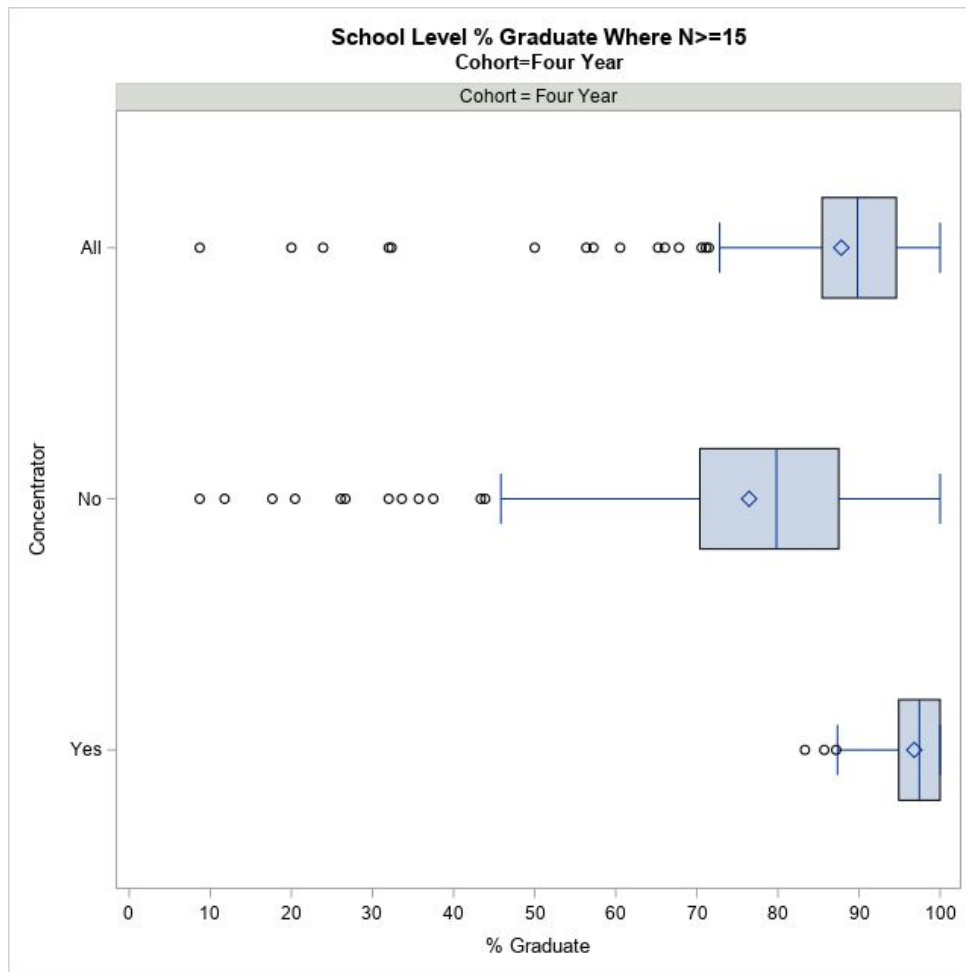


Figure 2. Distribution of Schools' 2019 Four-Year Adjusted Cohort Graduation Rates.

Note that CTE Concentrators (proposed Perkins V definition) within schools graduate at a higher rate than non-concentrators--hence the proposed baseline of 90.58%.

Meaningful Progress for Schools Below the Baseline: increase 2 percentage point for Four-Year Graduation Rate over four years.

This rate of progress is based on paralleling the expected rate of progress for schools in Arkansas's approved long-term goals in the [approved ESSA plan](#). Tables A.5-A.6 of the approved Arkansas ESSA plan provide historical improvement rates and expected rates of improvement based on all students. Schools with Four-Year Adjusted Cohort Graduation Rates at 90% or higher typically improved by 0.4 to 0.6 percentage points annually until reaching 100%. In Arkansas's approved ESSA plan the incremental improvement for all schools was set at 0.58 to reach 94% by 2028. For Perkins V, increasing the four-year adjusted cohort graduation rate by 1.0 point over two years is a data-informed improvement rate. Improving 1.0 point over two

years, rather than 0.5 per year, allows for slight variations in graduation cohorts annually while still expecting upward progress.

Meaningful Progress for Schools Above the Baseline: All schools are expected to demonstrate progress toward the long term goals established in the approved Arkansas ESSA plan.

1S2: Extended Graduation Rate

Numerator: The percentage of CTE concentrators who graduate high school, as measured by extended-year adjusted cohort graduation rate defined in such section 8101.

Denominator: Number of CTE concentrators who, in the reporting year, were included in the State's computation of its extended-year cohort graduation rate as defined in the State's Consolidated Accountability Plan pursuant to Section 1111(b)(2) of the ESEA.

Formula:

2019 Five-Year Adjusted Cohort Graduation Rate

$$\frac{\text{Actual Graduates in 2019 Five-Year Adjusted Cohort who were CTE Concentrators}}{\text{Students in the 2019 Five-Year Adjusted Cohort expected to graduate who were CTE Concentrators}}$$

Rationale: The Five-Year Graduation Rate is calculated using the same methodology as utilized for the ESSA School Index.

Students in the adjusted cohort who met requirements for CTE concentrator status in one or more programs of study during the five-year period for the cohort are included as CTE concentrators as expected to graduate. These CTE concentrators with documentation of graduation (SIS Cycle 9 Graduates Table) are included in the numerator as actual graduates. Students can complete requirements in multiple concentrations. The adjusted cohort graduation rate is a non-duplicate count of CTE concentrators where each student is counted only once in the denominator even if the student has completed more than one concentration.

Clarifying Note: Only concentrators are included in this metric and concentrators are only counted once in the metric.

Baseline Data: 91.59% Five-Year Graduation Rate

- Schools at or below the 5th percentile for the proposed CTE Concentrator five-year graduation rate baseline need the most comprehensive support and improvement to improve their graduation rate. This rationale parallels the theory of action in ESSA and creates unified support for improving student graduation outcomes.
- If the baseline for the CTE concentrators were set at the 5th percentile of the school distribution of scores for the modeled measure, then the schools with the highest level of need would be at or below the modeled baseline. Reasonable targets for improvement can be set based on the improvement rate of the ESSA comprehensive support and improvement schools which increases the likelihood that meaningful progress can be made by schools and that in doing so, schools elevate student outcomes at all levels and for all subgroups of students.
- Having aligned measures, baselines, and meaningful progress expectations would allow schools to focus on all students and addressing gaps in concentrator subgroups' graduation rates through congruent efforts.

Table 4: School CTE Concentrator (proposed Perkins V definition) 2019 Five-Year Adjusted Cohort Graduation Rate Values at Percentiles

Percentile	Five Year
P_5	91.59
P_10	94.23
P_15	94.94
P_20	95.65
P_25	96.30
P_30	96.69
P_35	97.20
P_40	97.50
P_45	97.85
P_50	98.11
P_55	98.33
P_60	98.65
P_65	99.46
P_70	100.00
P_75	100.00
P_80	100.00
P_85	100.00
P_90	100.00
P_95	100.00

Figure 3 illustrates the school distributions for the 2019 Five-Year Adjusted Cohort Graduation Rates for all students, non-concentrators, and CTE concentrators.

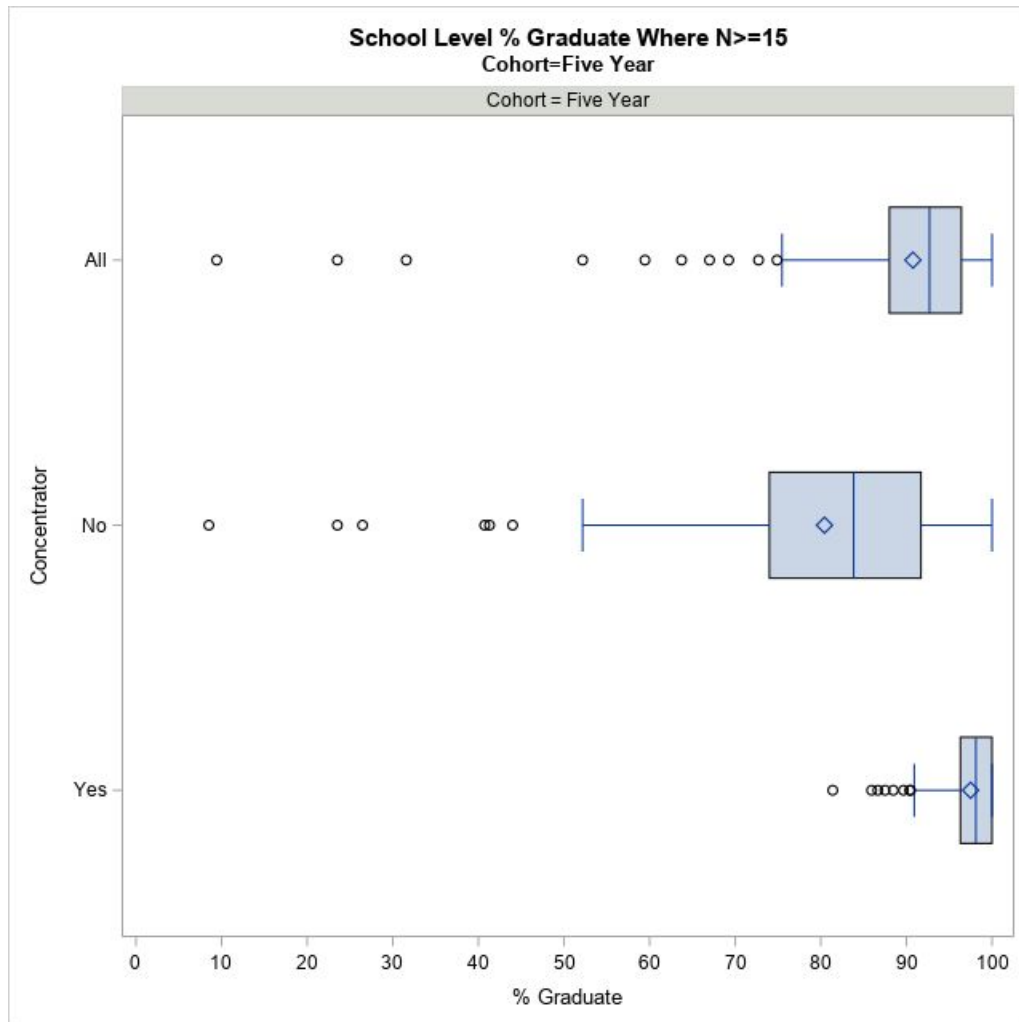


Figure 3. Distribution of School Five-Year Adjusted Cohort Graduation Rates.

Note that CTE Concentrators (proposed Perkins V definition) within schools graduate at a higher rate than non-concentrators, even for the five-year rate--hence the proposed baseline of 91.59%.

Meaningful Progress for Schools Below the Baseline: increase 1 percentage point for Five-Year Graduation Rate over four years.

This rate of progress is data-informed and based on initial analysis of the parallel with the expected rate of progress for schools in Arkansas's long-term goals in the [approved ESSA plan](#). Table A.7 of the Arkansas ESSA plan indicates the expected rate of progress to reach 97% five-year graduation rate by 2028 at approximately 1.14 percentage points annually. Arkansas started calculating five-year adjusted cohort rates with ESSA. The improvement rate of 1.14 percentage points was based on getting to the goal of 97% graduating within five years. However, in calculating the rate for the prior three years, the improvement rate at five-years slows as the four-year rate improves over time. For Perkins V, increasing the five-year adjusted

cohort graduation rate by 0.5 points over two years is a data-informed improvement rate. Improving 0.5 points over two years, rather than 0.25 per year, allows for slight variations in graduation cohorts annually while still expecting upward progress.

Meaningful Progress for Schools Above the Baseline: All schools are expected to demonstrate progress toward the long term goals established in the approved Arkansas ESSA plan.

2S1: Academic Performance in Reading/Language Arts

Numerator: CTE concentrator performance in the challenging State academic standards adopted by the State under section 1111(b)(1) of the Elementary and Secondary Education Act of 1965, as measured by the academic assessments in reading/language arts as described in section 1111(b)(2) of such Act.

Denominator: Number of CTE concentrators who took the ESEA assessments in reading / language arts whose scores were included in the program year in the State's computation of the annual measure for reading / language arts. The denominator for this indicator is a non-duplicate count of CTE concentrators where each student is counted only once in the denominator even if the student has completed more than one concentration.

Formula:

$$\frac{\text{Academic Proficiency Score for ELA}}{\text{ELA Weighted Achievement Score} \times (0.50) + \text{ELA School Mean Value Added Growth Score} \times (0.50)}$$

The Arkansas ESSA School Index for the High School grade span equally weights the achievement and growth scores. Multiplying weighted achievement and growth score each by a weight of 0.50 puts the final Academic Performance score on a scale comparable to the performance indicator in the ESSA School Index Score for the high school grade span.

Rationale:

Section 113 (b)(2)(A)(ii)

If the academic performance measure for Perkins V is aligned with the achievement and growth measures approved in Arkansas's ESSA plan; then, schools will have a unified focus on increased rigor and relevance in student learning opportunities (including CTE programs of study) and students will grow in their performance and increase their readiness for college, career, and community engagement. This is critical to a student-focused learning system. Utilizing a similar metric allows educators to support students in improving their readiness for success in the postsecondary opportunities they choose to pursue. If a student finds his/her interests lie in one or more career or technical fields this choice would not be at the expense of other options. Figure 4 provides a comparison of ESSA and proposed Perkins V academic performance indicator.

ESSA	Proposed Perkins V
N ≥ 15	N ≥ 15
Academic Indicator <ul style="list-style-type: none"> • ACT Aspire (Grades 3-10) • DLM (Grades 3-10) 	Academic Indicator <ul style="list-style-type: none"> • ACT Aspire (Grades 3-10) • DLM (Grades 3-10) • ACT (Grades 11-12) (3-Yr Best)
School Growth Score <ul style="list-style-type: none"> • Content Value-added Growth (Math + ELA) • EL Value-Added Growth 	School Growth Score <ul style="list-style-type: none"> • Value-added Growth by Subject (Math, ELA, Science)
SQSS <ul style="list-style-type: none"> • ACT (SQSS Only) (Grade 12 Cohort—3-Yr Best) • Science Achievement & Value-added Growth 	
Graduation Rate Indicator	Separate Perkins V Indicator
Full Academic Year Only	Full Academic Year Only
All Schools by Grade Span	All Schools with Grades 9, 10, 11, and/or 12

Figure 4. Comparison of current ESSA and proposed Perkins V academic performance indicators.

The academic performance indicator includes only CTE Concentrators that are full academic year students. For the purpose of clarifying the term full academic year, as used for these business rules, the Arkansas Division of Elementary and Secondary Education (DESE) uses the definition: Students who are continuously enrolled in a particular school on or before October 1 through the date of the first data pull for the regular or alternate assessment are considered full academic year students (not highly mobile). The actual dates are posted annually in the Final Business Rules for Calculating the ESSA School Index Score available on the DESE website at

<http://dese.ade.arkansas.gov/divisions/public-school-accountability/every-student-succeeds-act-essa/informational-documents>.

Academic Performance Indicator for Reading/Language Arts

The proposed academic performance indicator for ELA includes the following: weighted achievement for grades 9 and 10 ACT Aspire and DLM ELA scores, value-added growth for grades 9 and 10 ACT Aspire ELA scores, and weighted achievement for Grades 11 and 12 ACT Reading scores.

- The weighted achievement formula for Academic Performance in English/Language Arts includes the Grade 9 and Grade 10 weighted achievement used in the ESSA School Index, calculated for CTE Concentrators in Grades 9 and 10. Points are assigned to each readiness or performance level of students. The number of students at each performance level are multiplied by the points earned and then summed and divided by the number of students tested (full academic year students only).
 - Use In Need of Support (0 points), Close (0.5 point), Ready (1.0 point), Exceeds (1.0 or 1.25 points*) for ACT Aspire

- Performance Levels 1 (0 points), 2 (0.5 point), 3 (1.0 point), 4 (1.0 or 1.25 points*) for DLM
 - *Points for Exceeding depend on the number of students in the lowest readiness level compared to the number in the Exceeding level. If a school has the same number or fewer concentrators in highest readiness level than in the lowest, the multiplier for the highest level is 1.0. If a school has more concentrators in the highest readiness level then for each concentrator in the highest level, over and above the number in the lowest level, the multiplier is 1.25.
- The value-added growth score used for English/Language Arts includes the value-added growth score for English Language Arts calculated for the CTE Concentrators in Grades 9 and 10.
- The weighted achievement formula for academic performance in English/Language Arts includes the Grade 11 and 12 weighted achievement using the following points assigned to proxy readiness levels based on students' best ACT Reading score (3-year best ACT score is used in Arkansas's approved ESSA School Quality Student Success Indicator).
 - ACT Score < 17 (In Need of Support)
 - $17 \leq$ ACT score < 19 (Close)
 - $19 \leq$ ACT Score < ACT College Readiness Benchmark (Ready)
 - ACT Score \geq College Readiness Benchmark (Exceeds)

ACT College Readiness Benchmark ELA = 20

The Grades 11 and 12 weighted achievement is proposed for two reasons: (1) the majority of concentrations are earned by Grades 11 and 12 and (2) including Grades 11 and 12 ACT provides a mechanism for schools to improve the academic performance of each cohort of CTE Concentrators.

Figure 5 shows the number of CTE concentrators for the Grades 9 and 10 and the Grades 11 and 12 grade bands. In Grades 9 and 10 the majority of schools have very low numbers of CTE concentrators. The increased number of Grades 11 and 12 CTE concentrators occurs because students have had more time and opportunity to earn one or more concentrations.

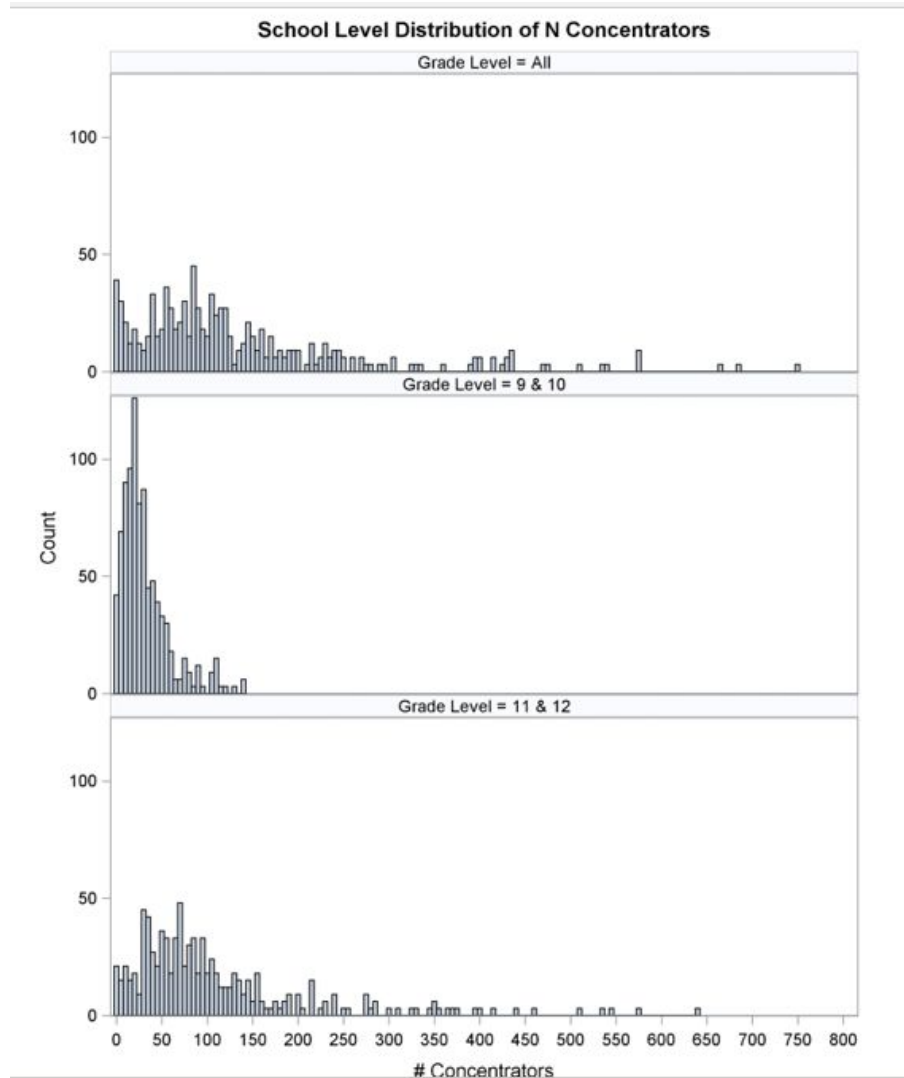


Figure 5. Distribution of school CTE Concentrator counts and percentage of students in ELA.

In order to provide incentive for schools to attend to improving students' achievement over their Grade 10 ACT Aspire scores, the calculation for English/Language Arts Academic Performance includes calculating weighted achievement for Grades 11 and 12 students using the ACT reading score. For Grade 11 and Grade 12, the student's highest ACT reading score is used to assign points (similar to the methodology used to determine weighted achievement). If a student does not have an ACT score in Grade 11 or 12 the students' prior Grade 10 Act Aspire score is used for the student.

When modeled the academic performance measure using 2019 data, this proposed combination of weighted achievement for Grades 9-12 plus value-added growth for Grades 9 and 10 functioned better than using Grades 9 and 10 weighted achievement and value-added growth alone. The close link between ACT Aspire and ACT gives educators information to support student improvement in academic performance beyond Grade 10. Modeled results

indicate the distribution of schools' CTE Concentrator scores including Grades 11 and 12 ACT Reading scores are higher across the board than the distribution of schools' CTE Concentrator proposed academic performance scores limited to Grades 9 and 10 (Figure 6).

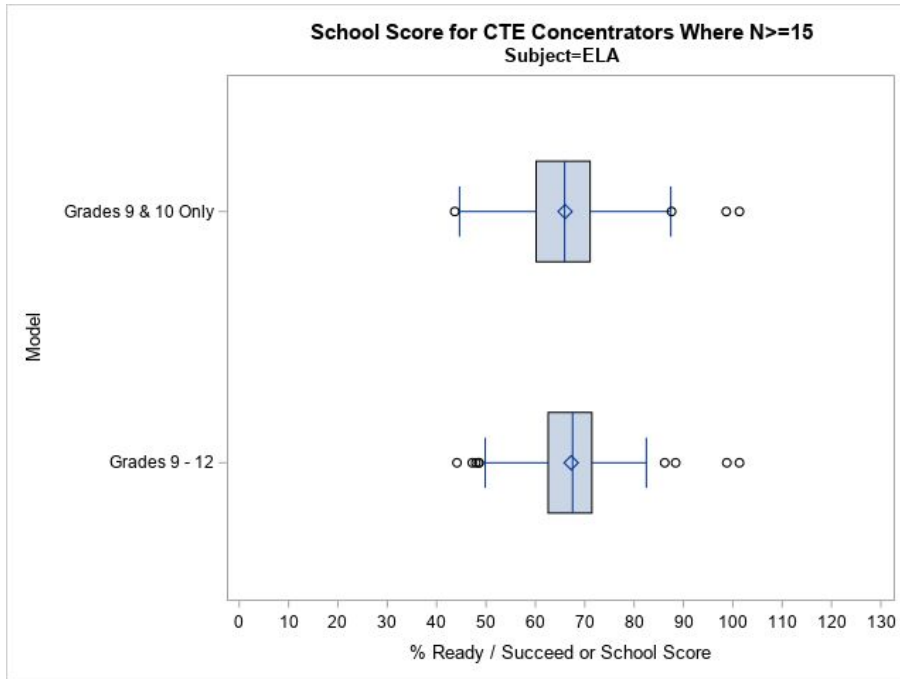


Figure 6. Grades 9-10 versus grades 9-12 in the proposed Perkins V academic performance indicator.

The calculation results in an Academic Performance score that is objective, quantifiable, and measurable as required in Section 113 (3)(A)(i)(I) and (III)(aa).

If schools are focused on improving the outcomes of students, whether through CTE or other programs, having a unified focus on the major metrics for academic performance in CTE which are also the major metrics for the ESSA School Index Score will benefit them. Figure 7 shows the distribution of the proposed school academic performance scores. Note that performance of concentrators and non-concentrators are similar. If schools focus on improving student learning through engagement in CTE programs of study and/or other programs then student outcomes should improve.

Figure 7 illustrates the school distribution of academic performance scores if calculated for all students, non-concentrators, and concentrators.

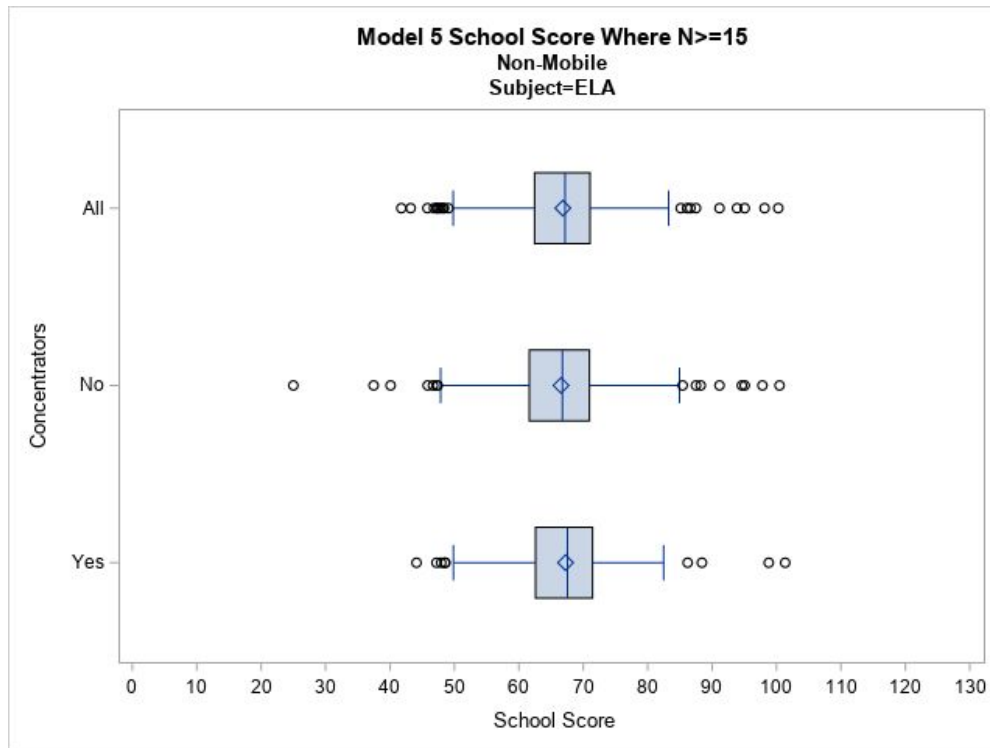


Figure 7. School distribution of academic performance scores for ELA if calculated for all students, non-concentrators, and concentrators.

Clarifying Note: Only concentrators are included in this metric and concentrators are only counted once in the metric.

Baseline: 52.78 Points for Academic Performance in Reading/Language Arts

Arkansas proposes a baseline for Reading/Language Arts set at the CTE Concentrators' School Score value at the 5th percentile in the CTE Concentrator School Score Distribution.

- Schools at or below the 5th percentile for the proposed CTE Concentrator School Score need the most comprehensive support and improvement. Rationale parallels the theory of action in ESSA and creates unified support for improving student academic outcomes.
- If the baseline for the CTE performance measure for performance were set at the 5th percentile of the school distribution of scores for the modeled measure, then the schools with the highest level of need would be at or below the modeled baseline. Reasonable targets for improvement can be set based on the improvement rate of the ESSA comprehensive support and improvement schools which increases the likelihood that meaningful progress can be made by schools and that in doing so, schools elevate student outcomes at all levels.
- Having aligned measures, baselines, and meaningful progress expectations would allow schools to focus on improving student readiness and address gaps in concentrator performance through congruent efforts.

Table 5: School CTE Concentrator (proposed Perkins V definition) ELA Academic Performance Values at Percentiles

Percentile	ELA
P_5	52.78
P_10	57.02
P_15	59.52
P_20	61.86
P_25	62.60
P_30	63.56
P_35	64.68
P_40	65.89
P_45	66.58
P_50	67.54
P_55	67.89
P_60	68.85
P_65	69.79
P_70	70.39
P_75	71.44
P_80	72.61
P_85	74.74
P_90	77.34
P_95	80.06

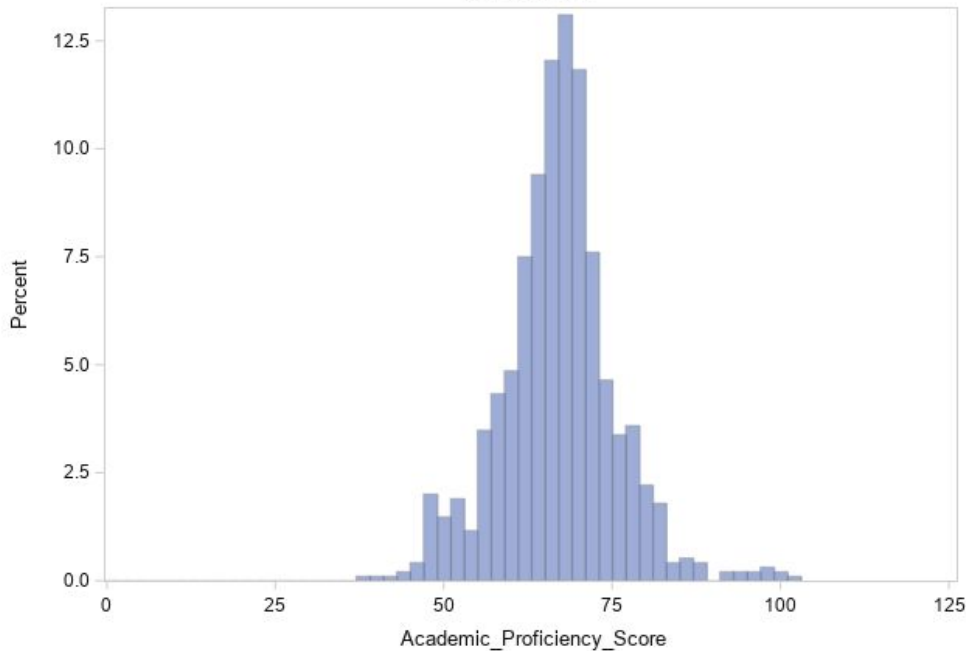


Figure 8. Distribution of schools' ELA academic performance scores.

Meaningful Progress for Schools Below the Baseline: increase 2.0 points for Academic Performance in Reading/Language Arts over four years.

The mean change in ESSA School Index Scores for schools needing comprehensive support and improvement provides evidence to support the proposed rate of improvement for meaningful progress for schools' CTE concentrator scores. Table 6 indicates the progress made by schools at the high school level identified in 2018 as needing comprehensive support and improvement under ESSA. The high school grade span includes four high schools that are alternate learning environments. These high schools tend to have more volatile performance statistics than traditional high schools; hence the more extreme maximum and minimum for this grade span.

Table 6: Change in ESSA School Index Score for Schools Identified in Lowest Five Percent in 2018

Grade Span	N	Mean	Std Dev	Minimum	Maximum
3 - High School Level	11	1.02	5.69	-6.04	15.97

Meaningful Progress for Schools Above the Baseline: All schools are expected to demonstrate progress toward the long term goals established in the approved Arkansas ESSA plan.

2S2: Academic Performance in Mathematics

Numerator: CTE concentrator performance in the challenging State academic standards adopted by the State under section 1111(b)(1) of the Elementary and Secondary Education Act of 1965, as measured by the academic assessments in mathematics as described in section 1111(b)(2) of such Act.

Denominator: Number of CTE concentrators who took the ESEA assessments in mathematics whose scores were included in the program year in the State's computation of the annual measure for mathematics.

Formula:

$$\text{Academic Proficiency Score for Math} = \text{Math Weighted Achievement Score} \times (0.50) + \text{Math School Mean Value Added Growth Score} \times (0.50)$$

Rationale:

Section 113 (b)(2)(A)(ii)

If the academic performance measure for Perkins V is aligned with the achievement and growth measures approved in Arkansas's ESSA plan; then, schools will have a unified focus on increased rigor and relevance in student learning opportunities (including CTE programs of study) and students will grow in their performance and increase their readiness for college, career, and community engagement. This is critical to a student-focused learning system. Utilizing a similar metric allows educators to support students in improving their readiness for success in the postsecondary opportunities they choose to pursue. If a student finds his/her interests lie in one or more career or technical fields this choice would not be at the expense of other options.

The proposed academic performance indicator for math includes the following: weighted achievement for grades 9 & 10 ACT Aspire math scores, value-added growth for grades 9 & 10 ACT Aspire math scores, and weighted achievement for Grades 11 & 12 ACT Math scores.

- The weighted achievement formula for Academic Performance in Math includes the Grade 9 and Grade 10 weighted achievement used in the ESSA School Index, calculated for CTE Concentrators in Grades 9 & 10. Points are assigned to each readiness or performance level of students. The number of students at each performance level are multiplied by the points earned and then summed and divided by the number of students tested (full academic year students only).
 - Use In Need of Support (0 points), Close (0.5 point), Ready (1.0 point), Exceeds (1.0 or 1.25 points*) for ACT Aspire
 - Performance Levels 1 (0 points), 2 (0.5 point), 3 (1.0 point), 4 (1.0 or 1.25 points*) for DLM
 - *Points for Exceeding depend on the number of students in the lowest readiness level compared to the number in the Exceeding level. If a school has the same number or fewer concentrators in highest readiness level than in the lowest, the multiplier for the highest level is 1.0. If a school has more concentrators in the

highest readiness level then for each concentrator in the highest level, over and above the number in the lowest level, the multiplier is 1.25.

- The value-added growth score used for Math includes the value-added growth score for Math calculated for the CTE Concentrators in Grades 9 & 10.
- The weighted achievement formula for Academic Performance in Math includes the Grade 11 and 12 weighted achievement using the following points assigned to proxy readiness levels based on students' best ACT Math score (3-year best ACT score is used in Arkansas's approved ESSA School Quality Student Success Indicator).
 - ACT Score < 17 (In Need of Support)
 - $17 \leq$ ACT score < 19 (Close)
 - $19 \leq$ ACT Score < ACT College Readiness Benchmark (Ready)
 - ACT Score \geq College Readiness Benchmark (Exceeds)

ACT College Readiness Benchmark Math = 22

The Grades 11 and 12 weighted achievement is proposed for two reasons: (1) the majority of concentrations are earned by Grades 11 and 12 and (2) including Grades 11 and 12 ACT provides a mechanism for schools to improve the academic performance of each cohort of CTE Concentrators.

Figure 9 shows the number of CTE concentrators for the Grades 9 and 10 and the Grades 11 and 12 grade bands. In Grades 9 and 10 the majority of schools have very low numbers of CTE concentrators. The increased number of Grades 11 and 12 CTE concentrators occurs because students have had more time and opportunity to earn one or more concentrations.

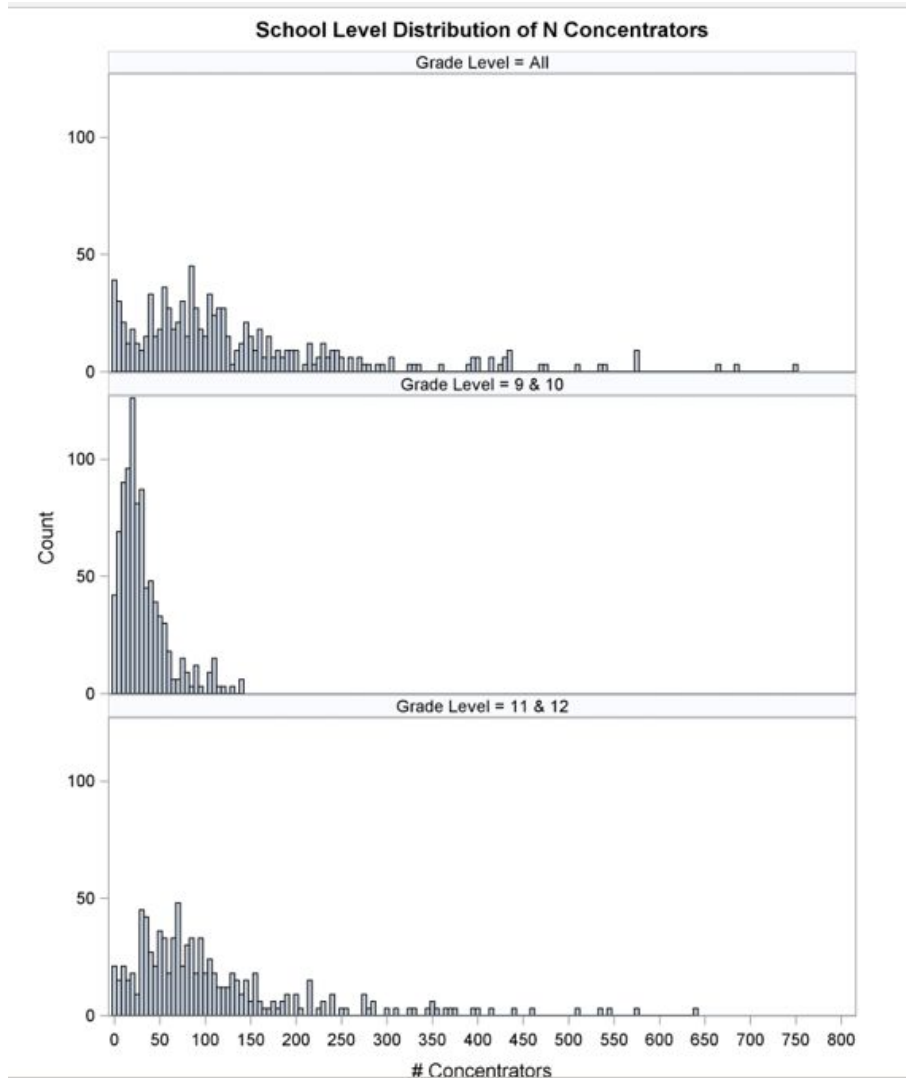


Figure 9. Distribution of school CTE Concentrator counts and percentage of students for math.

In order to provide incentive for schools to attend to improving students' achievement over their Grade 10 ACT Aspire scores, the calculation for math Academic performance includes calculating weighted achievement for Grades 11 and 12 students using the ACT Math score. For Grade 11 and Grade 12, the student's highest ACT Math score is used to assign points (similar to the methodology used to determine weighted achievement). If a student does not have an ACT score in Grade 11 or 12 the students' prior Grade 10 Act Aspire math score is used for the student.

When modeled the academic performance measure using 2019 data, this proposed combination of weighted achievement for Grades 9-12 plus value-added growth for Grades 9 and 10 functioned better than using Grades 9 and 10 weighted achievement and value-added growth alone. The close link between ACT Aspire and ACT gives educators information to support student improvement in academic performance beyond Grade 10. Modeled results

indicate the distribution of schools' CTE Concentrator scores including Grades 11 and 12 ACT Math scores is higher across the board than the distribution of schools' CTE Concentrator proposed academic performance scores limited to Grades 9 and 10 (Figure 10).

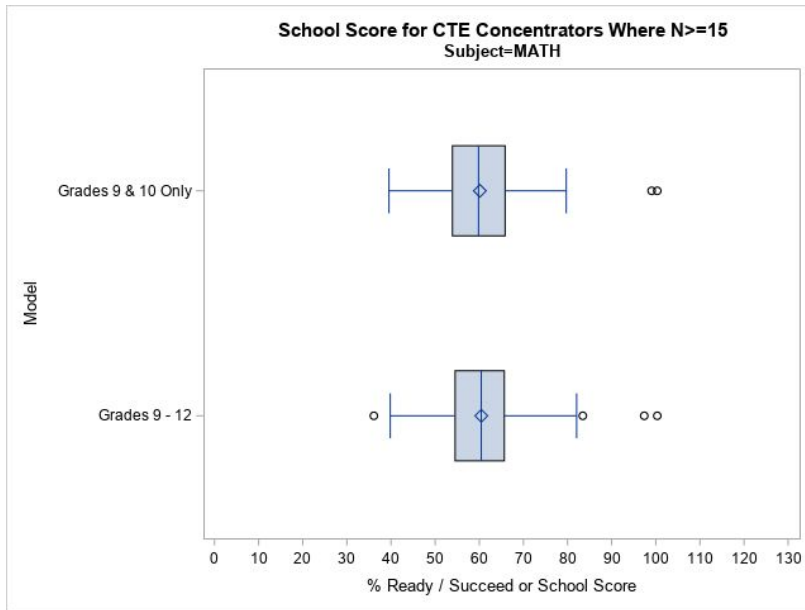


Figure 10. Grades 9-10 versus grades 9-12 in the proposed Perkins V academic performance indicator for math.

The calculation results in an Academic Performance score that is objective, quantifiable, and measurable as required in Section 113 (3)(A)(i)(I) and (III)(aa).

If schools are focused on improving the outcomes of students, whether through CTE or other programs, having a unified focus on the major metrics for academic performance in CTE which are also the major metrics for the ESSA School Index Score will benefit them. Figure 11 shows the distribution of the proposed school academic performance scores. Note that the performance of concentrators and non-concentrators are similar. If schools focus on improving student learning through engagement in CTE programs of study and/or other programs then student outcomes should improve. Figure 11 shows the school distribution of academic performance scores if calculated for all students, non-concentrators, and concentrators.

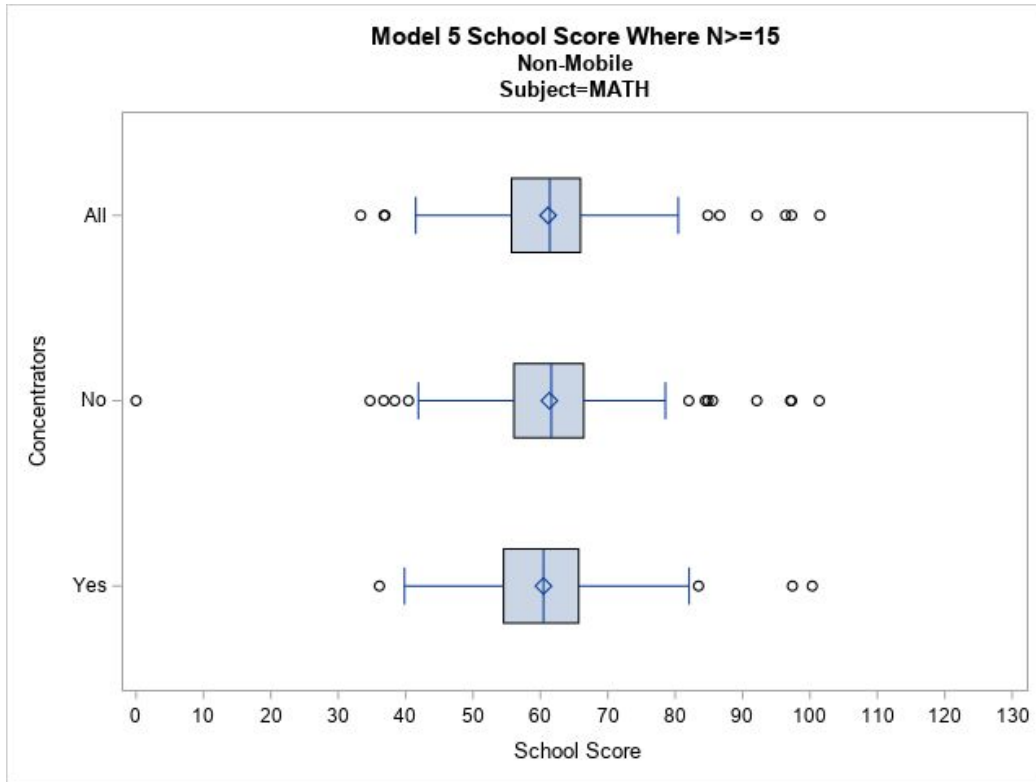


Figure 11. School distribution of academic performance scores if calculated for all students, non-concentrators, and concentrators.

Clarifying Note: Only concentrators are included in this metric and concentrators are only counted once in the metric.

Baseline Data: 46.09 Points for Academic Performance in Mathematics

Arkansas proposes a baseline for Mathematics set at the CTE Concentrators’ School Score value at the 5th percentile in the CTE Concentrator School Score Distribution.

Schools at or below the 5th percentile for the proposed CTE Concentrator School Score need the most comprehensive support and improvement. Rationale parallels the theory of action in ESSA and creates unified support for improving student academic outcomes.

- If the baseline for the CTE performance measure for performance were set at the 5th percentile of the school distribution of scores for the modeled measure, then the schools with the highest level of need would be at or below the modeled baseline. Reasonable targets for improvement can be set based on the improvement rate of the ESSA CSI schools which increases the likelihood that meaningful progress can be made by schools and that in doing so, schools elevate student outcomes at all levels.
- Having aligned measures, baselines, and meaningful progress expectations would allow schools to focus on improving student readiness and address gaps in concentrator performance through congruent efforts.

Table 7: School CTE Concentrator (proposed Perkins V definition) Math Academic Performance Values at Percentiles

Percentile	MATH
P_5	46.09
P_10	49.81
P_15	52.63
P_20	53.51
P_25	54.52
P_30	56.39
P_35	57.81
P_40	58.85
P_45	59.75
P_50	60.46
P_55	61.06
P_60	62.42
P_65	63.19
P_70	64.29
P_75	65.68
P_80	66.48
P_85	68.11
P_90	69.89
P_95	73.53

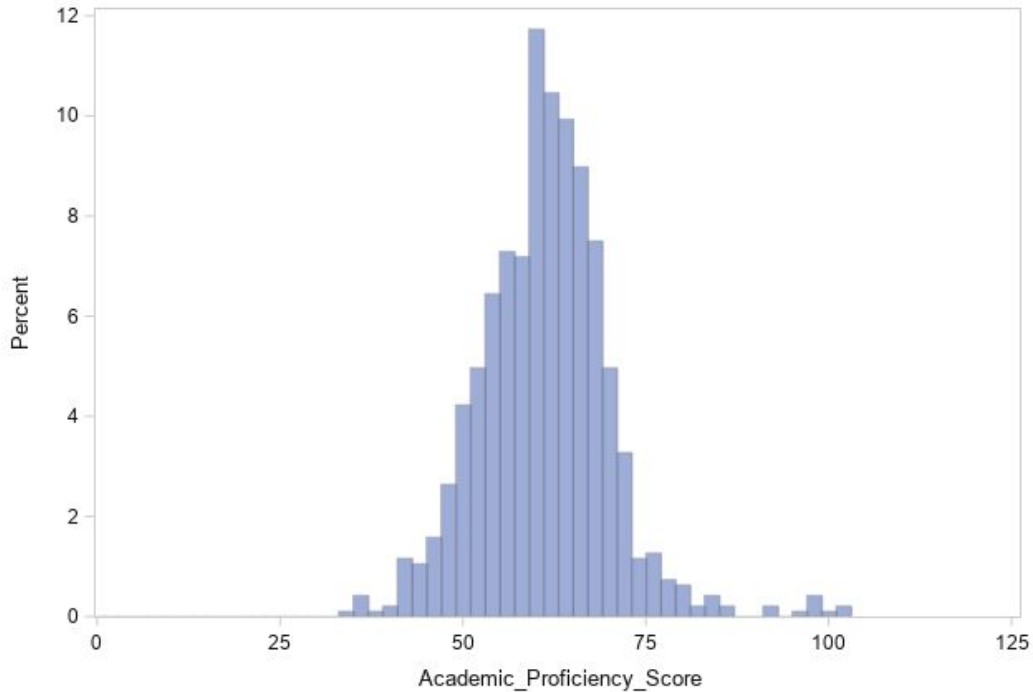


Figure 12. Distribution of schools' math academic performance scores.

Meaningful Progress for Schools Below the Baseline: increase 1.0 point for Academic Performance in Mathematics over 4 years.

The mean change in ESSA School Index Scores for schools needing comprehensive support and improvement provides evidence to support the proposed rate of improvement for meaningful progress for schools' CTE concentrator scores. The table below indicates the progress made by schools at the high school level identified in 2018 as needing comprehensive support and improvement under ESSA. The high school grade span includes four high schools that are alternate learning environments. These high schools tend to have more volatile performance statistics than traditional high schools; hence the more extreme maximum and minimum for this grade span.

Table 6 (Repeated): Change in ESSA School Index Score for Schools Identified in Lowest Five Percent in 2018

Grade Span	N	Mean	Std Dev	Minimum	Maximum
3 - High School Level	11	1.02	5.69	-6.04	15.97

2S3: Academic Performance in Science

Numerator: CTE concentrator performance in the challenging State academic standards adopted by the State under section 1111(b)(1) of the Elementary and Secondary Education Act of 1965, as measured by the academic assessments in science as described in section 1111(b)(2) of such Act.

Denominator: Number of CTE concentrators who took the ESEA assessments in science whose scores were included in the program year in the State's computation of the annual measure for science.

Formula:

$$\text{Academic Proficiency Score for Science} = \text{Science Weighted Achievement Score} \times (0.50) + \text{Science School Mean Value Added Growth Score} \times (0.50)$$

Rationale:

Section 113 (b)(2)(A)(ii)

If the academic performance measure for Perkins V is aligned with the achievement and growth measures approved in Arkansas's ESSA plan; then, schools will have a unified focus on increased rigor and relevance in student learning opportunities (including CTE programs of study) and students will grow in their performance and increase their readiness for college, career, and community engagement. This is critical to a student-focused learning system. Utilizing a similar metric allows educators to support students in improving their readiness for success in the postsecondary opportunities they choose to pursue. If a student finds his/her interests lie in one or more career or technical fields this choice would not be at the expense of other options.

The proposed academic performance indicator for science includes the following: weighted achievement for grades 9 & 10 ACT Aspire Science scores, value-added growth for grades 9 & 10 ACT Aspire Science scores, and weighted achievement for Grades 11 & 12 ACT Science scores.

- The weighted achievement formula for Academic Performance in Science includes the Grade 9 and Grade 10 weighted achievement calculated for CTE Concentrators in Grades 9 & 10. Points are assigned to each readiness or performance level of students. The number of students at each performance level are multiplied by the points earned and then summed and divided by the number of students tested (full academic year students only).
 - Use In Need of Support (0 points), Close (0.5 point), Ready (1.0 point), Exceeds (1.0 or 1.25 points*) for ACT Aspire
 - Performance Levels 1 (0 points), 2 (0.5 point), 3 (1.0 point), 4 (1.0 or 1.25 points*) for DLM
 - *Points for Exceeding depend on the number of students in the lowest readiness level compared to the number in the Exceeding level. If a school has the same number or fewer concentrators in highest readiness level than in the lowest, the

multiplier for the highest level is 1.0. If a school has more concentrators in the highest readiness level than for each concentrator in the highest level, over and above the number in the lowest level, the multiplier is 1.25.

- The value-added growth score used for Science includes the value-added growth score for Science calculated for the CTE Concentrators in Grades 9 & 10.
- The weighted achievement formula for Academic Performance in Science includes the Grade 11 and 12 weighted achievement using the following points assigned to proxy readiness levels based on students' best ACT Science score (3-year best ACT score is used in Arkansas's approved ESSA School Quality Student Success Indicator).
 - ACT Score < 17 (In Need of Support)
 - $17 \leq$ ACT score < 19 (Close)
 - $19 \leq$ ACT Score < ACT College Readiness Benchmark (Ready)
 - ACT Score \geq College Readiness Benchmark (Exceeds)

ACT College Readiness Benchmark Science = 23

The Grades 11 and 12 weighted achievement is proposed for two reasons: (1) the majority of concentrations are earned by Grades 11 and 12 and (2) including Grades 11 and 12 ACT provides a mechanism for schools to improve the academic performance of each cohort of CTE Concentrators.

Figure 13 shows the number of CTE concentrators for the Grades 9 and 10 and the Grades 11 and 12 grade bands. In Grades 9 and 10 the majority of schools have very low numbers of CTE concentrators. The increased number of Grades 11 and 12 CTE concentrators occurs because students have had more time and opportunity to earn one or more concentrations.

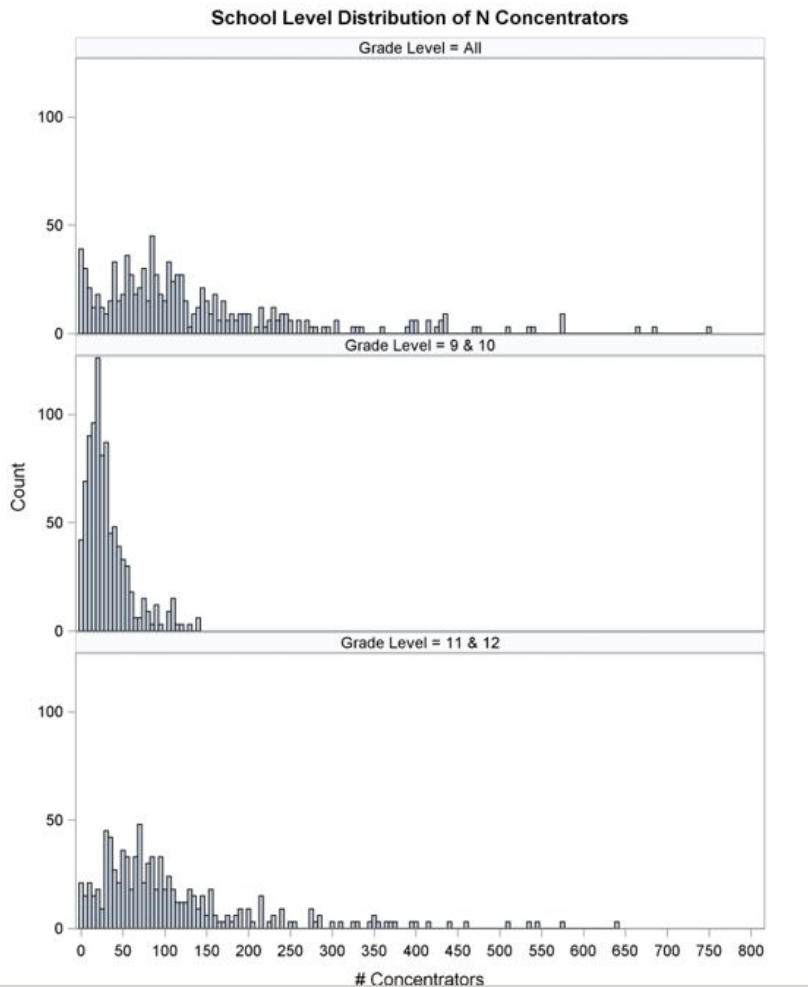


Figure 13. Distribution of school CTE Concentrator counts and percentage of students for science.

In order to provide incentive for schools to attend to improving students' performance over their Grade 10 ACT Aspire scores, the calculation for Science Academic Performance includes calculating weighted achievement for Grades 11 and 12 students using the ACT Science score. For Grade 11 and Grade 12, the student's highest ACT Science score is used to assign points (similar to the methodology used to determine weighted achievement). If a student does not have an ACT score in Grade 11 or 12 the students' prior Grade 10 Act Aspire Science score is used for the student.

When modeling the academic performance measure using 2019 data, this proposed combination of weighted achievement for Grades 9-12 plus value-added growth for Grades 9 and 10 functioned better than using Grades 9 and 10 weighted achievement and value-added growth alone. The close link between ACT Aspire and ACT gives educators information to support student improvement in academic performance beyond Grade 10. Modeled results indicate the distribution of schools' CTE Concentrator scores including Grades 11 and 12 ACT

Science scores is higher across the board than the distribution of schools' CTE Concentrator proposed academic performance scores limited to Grades 9 and 10.

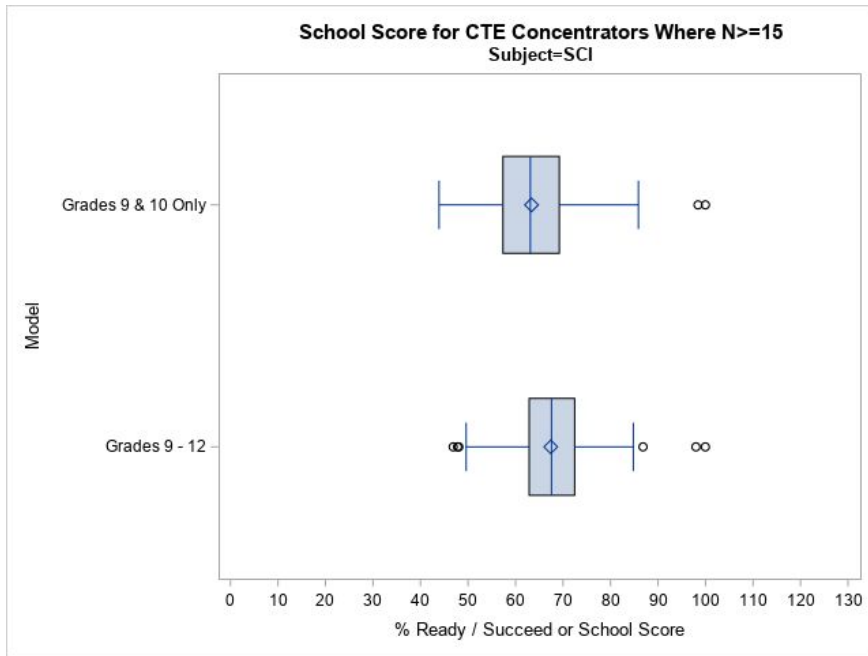


Figure 14. Grades 9-10 versus grades 9-12 in the proposed Perkins V academic performance indicator for science.

The calculation results in an Academic Performance score that is objective, quantifiable, and measurable as required in Section 113 (3)(A)(i)(I) and (III)(aa).

If schools are focused on improving the outcomes of students, whether through CTE or other programs, having a unified focus on the major metrics for academic performance in CTE which are also the major metrics for the ESSA School Index Score will benefit them. Figure 15 shows the distribution of the proposed school academic performance scores. Note that the performance of concentrators and non-concentrators are similar. If schools focus on improving student learning through engagement in CTE programs of study and/or other programs then student outcomes should improve.

Figure 15 shows the school distribution of academic performance scores if calculated for all students, non-concentrators, and concentrators.

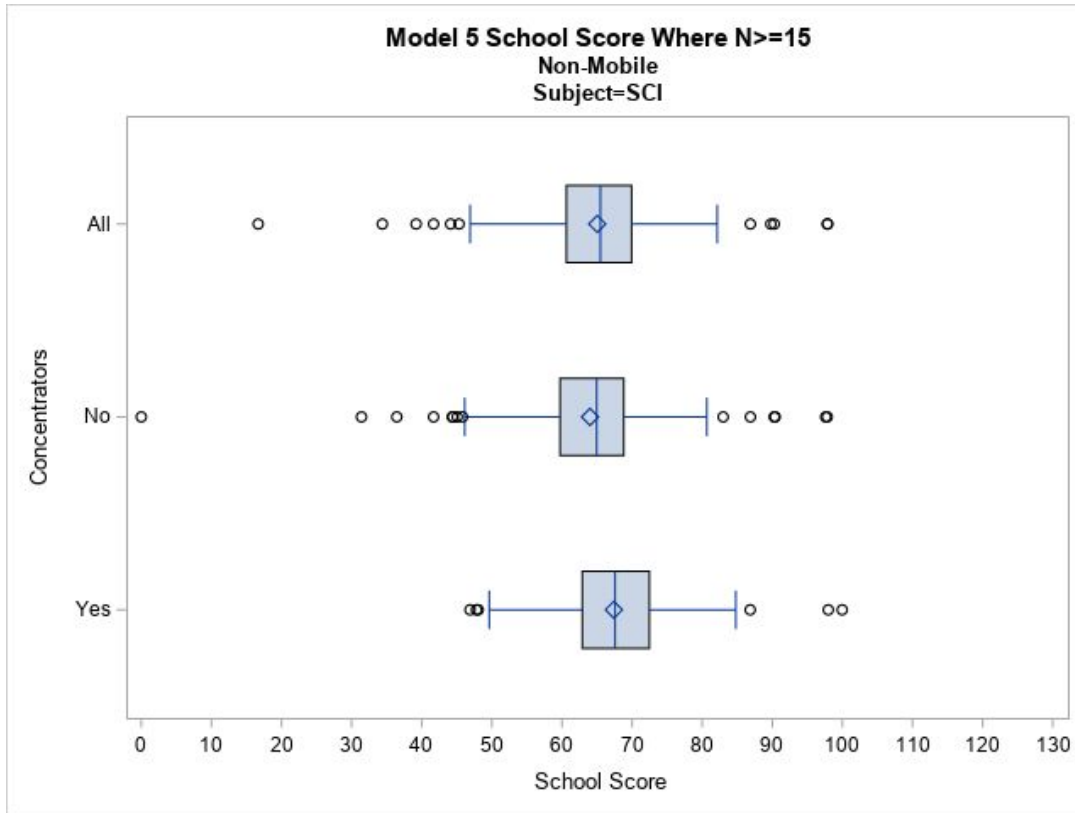


Figure 15. School distribution of academic performance scores in science if calculated for all students, non-concentrators, and concentrators.

Clarifying Note: Only concentrators are included in this metric and concentrators are only counted once in the metric.

Baseline Data: 53.32 Points for Academic Performance in Science

Arkansas proposes a baseline for Science set at the CTE Concentrators’ School Score value at the 5th percentile in the CTE Concentrator School Score Distribution.

- Schools at or below the 5th percentile for the proposed CTE Concentrator School Score need the most comprehensive support and improvement. Rationale parallels the theory of action in ESSA and creates unified support for improving student academic outcomes.
- If the baseline for the CTE performance measure for performance were set at the 5th percentile of the school distribution of scores for the modeled measure, then the schools with the highest level of need would be at or below the modeled baseline. Reasonable targets for improvement can be set based on the improvement rate of the ESSA comprehensive support and improvement schools which increases the likelihood that meaningful progress can be made by schools and that in doing so, schools elevate student outcomes at all levels.
- Having aligned measures, baselines, and meaningful progress expectations would allow schools to focus on improving student readiness and address gaps in concentrator performance through congruent efforts.

Table 8: School CTE Concentrator (proposed Perkins V definition) Science Academic Performance Values at Percentiles

Percentile	SCIENCE
P_5	53.32
P_10	57.67
P_15	59.40
P_20	60.90
P_25	62.89
P_30	63.85
P_35	64.63
P_40	65.56
P_45	66.77
P_50	67.58
P_55	68.40
P_60	68.97
P_65	69.98
P_70	70.86
P_75	72.46
P_80	73.36
P_85	74.55
P_90	76.55
P_95	80.63

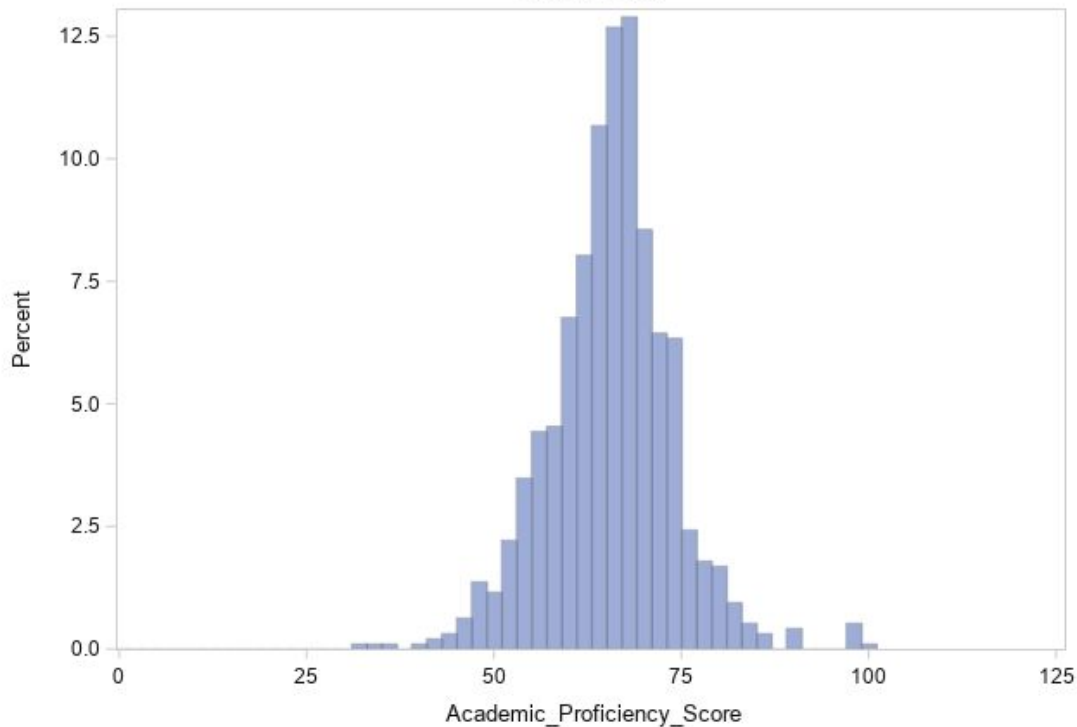


Figure 16. Distribution of schools' science academic performance scores.

Meaningful Progress for Schools Below the Baseline: increase 2.0 points for Academic Performance in Science over four years.

The mean change in ESSA School Index Scores for schools needing comprehensive support and improvement provides evidence to support the proposed rate of improvement for meaningful progress for schools' CTE concentrator scores. The table below indicates the progress made by schools at the high school level identified in 2018 as needing comprehensive support and improvement under ESSA. The high school grade span includes four high schools that are alternate learning environments. These high schools tend to have more volatile performance statistics than traditional high schools; hence the more extreme maximum and minimum for this grade span.

Table 6 (Repeated): Change in ESSA School Index Score for Schools Identified in Lowest Five Percent in 2018

Grade Span	N	Mean	Std Dev	Minimum	Maximum
3 - High School Level	11	1.02	5.69	-6.04	15.97

Meaningful Progress for Schools Above the Baseline: All schools are expected to demonstrate progress toward the long term goals established in the approved Arkansas ESSA plan.

3S1: Postsecondary Placement

Numerator: The percentage of CTE concentrators who, in the second quarter after exiting from secondary education, are in postsecondary education or advanced training, military service or a service program that receives assistance under title I of the National and Community Service Act of 1990 (42 U.S.C. 12511 et seq.), are volunteers as described in section 5(a) of the Peace Corps Act (22 U.S.C. 2504(a)), or are employed.

Denominator: The number of CTE concentrators who left secondary education during the reporting year.

Formula: Arkansas will report this data if verifiable data are available. At this time, verifiable data are not available in Arkansas at secondary.

4S1: Non-traditional Program Enrollment

Numerator: The number of CTE concentrators from underrepresented gender groups who became a CTE concentrator in a program of study leading to a non-traditional career field.

Denominator: Number of CTE concentrators who became a CTE concentrator in a CTE program of study leading to a nontraditional field.

Definition: The term “non-traditional fields” means occupations or fields of work for which individuals from one gender comprise less than 25 percent of the individuals employed in each such occupation or field of work.

State numbers for non-traditional programs are provided in Table 9 along with an example for clarification.

Table 9:

Number of Concentrators in Grades 9-12 in 2019 in a Non-Traditional Program of Study	Number of Non-traditional Concentrators in Grades 9-12 in 2019 Earning or Having Earned a Concentration in a Non-Traditional Program of Study	Percent of Concentrators in Grades 9-12 in 2019 Earning or Having Earned a Concentration in a Program of Study Leading to a Nontraditional Field
93,255	27,426	29.4
<p>Number of concentrators in any program of study designated a Yes for having a predominant traditional gender.</p> <p>Students with more than one concentration are counted for each concentration that applies.</p>	<p>Any concentrator whose gender is non-traditional for the program of study in which they earned the concentration.</p> <p>Students with more than one concentration are counted for each concentration that applies.</p>	<p>Percent of Concentrators whose gender is non-traditional for the program of study in which they earned the concentration.</p>
<p>Agribusiness Systems 15 concentrators (10 male + 5 female)</p> <p>Agribusiness Systems traditional gender is male.</p>	5 female concentrators	33.33%

Formula: *See above.*

Clarifying Note: Only concentrators are included in this metric. Concentrators are counted for Grades 9 - 12 for each concentration earned starting in their seventh grade year through the students' grade levels in the year the year in which this measure is reported

Baseline Data: 17.19% of concentrators in programs of study leading to non-traditional fields.

Table 10: School CTE Concentrator (proposed Perkins V definition) Percent Nontraditional Values at Percentiles

Percentile	% Nontraditional
P_5	17.19
P_10	19.87
P_15	21.61
P_20	23.12
P_25	24.32
P_30	25.77
P_35	27.27
P_40	28.00
P_45	29.29
P_50	30.20
P_55	31.27
P_60	32.41
P_65	34.16
P_70	35.44
P_75	36.77
P_80	38.61
P_85	41.18
P_90	43.48
P_95	48.98

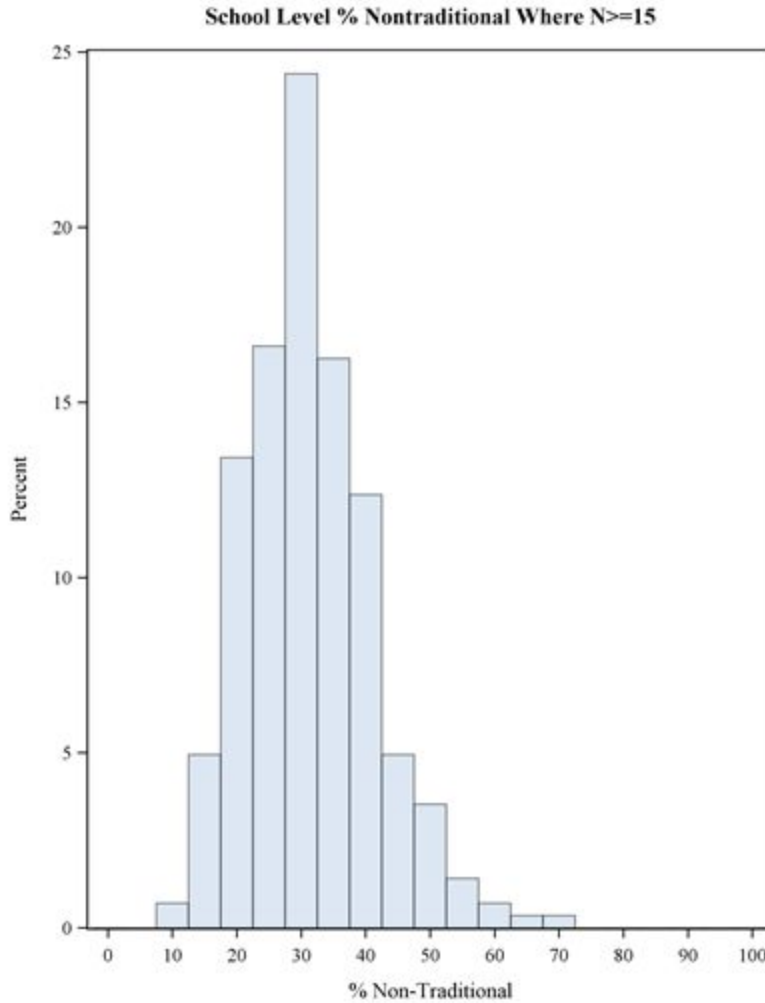


Figure 17. Distribution of School Percent Non-traditional.

Meaningful Progress for Schools Below the Baseline:

The lowest percentage for the data modeled in 2019 is 12.12% of concentrators earning concentration in a program of study leading to a non-traditional field for schools with 15 or more concentrators in programs of study that have a traditional gender.

Schools with the lowest percentage of non-traditional concentrators would need to make a percentage point per year progress in order to rise to the baseline within four years. Schools below the baseline that are closer to the baseline would only need to make 0.25 percentage points per year to surpass the baseline in four years.

Meaningful progress for schools below the baseline is set at 0.50 percentage points per year.

Meaningful Progress for Schools Above the Baseline: All schools are expected to demonstrate progress toward xxxxxx.

5S1: Program Quality – Attained Recognized Postsecondary Credential

Numerator: The percentage of CTE concentrators graduating from high school having attained a recognized postsecondary credential.

Denominator: Number of CTE concentrators who graduated from high school.

Formula: Arkansas will report this data when verifiable data are available. At this time, verifiable data are not available in Arkansas for secondary.

II. Post-Secondary State Determined Performance Indicators for Arkansas

Who is a Postsecondary CTE Concentrator?

A postsecondary CTE Concentrator is a student that has earned at least 12 credit hours within a CTE program or has completed such a program if the program requires fewer than 12 credits hours.

Modeling of 2019 Postsecondary Concentrators and Performance Indicators

Proposed baselines and measures for meaningful progress were developed using retroactive results to the extent possible. Using Perkins V eligibility requirements and definitions, baselines were established using enrollment and performance data from academic years 2016, 2017 and 2018. Data for 2019 was not available at the time baselines were set due to conversion to a new student information system platform.

1P1: Retention and Placement

Numerator: The number of CTE concentrators who, during the second quarter after program completion, remained enrolled in postsecondary education; were placed or retained in employment; were in advanced training; were in military service; were in a service program of the National and Community Service Act; or were in the Peace Corps Act.

Denominator: The number of CTE concentrators that were enrolled in the academic year previous to the reporting year.

Formula: Results for this indicator are based on a concentrator cohort from the academic year previous to the reporting year (Enrolled in 2017, reported in December 2018 CAR). The retention portion includes concentrators who were enrolled the previous academic year and who remain enrolled in the following academic year. The placement/retention in employment portion includes concentrators from the previous academic year who were employed during the second quarter following program completion and calculated using UI wage records. Results from other placement options will be added as information becomes available.

Rationale: The calculation for this indicator is a combination of the Perkins IV 3P1-Retention and 4P1-Placement in Employment which results in the same cohort being measured for two purposes. Baselines and targets were projected using a non-duplicate count in the numerator.

Baseline Data: 68.54% Retention/Placement

Meaningful Progress: Increase .50 percentage points per year for a total of 2 percentage points over 4 years.

2P1: Credential Attainment

Numerator: The number of CTE concentrators that received a college credential; a third-party, industry-based certification; apprentice certification; or received a government recognized license during participation in or within one year of program completion.

Denominator: The number of CTE concentrators that were enrolled in the academic year previous to the reporting year.

Formula: Results for this indicator are based on a concentrator cohort from the academic year previous to the reporting year. The indicator measures both academic credentials awarded by the educational institution and industry-based technical credentials awarded by third parties. Results from other credential options will be added as information becomes available.

Rationale: The calculation for this indicator is a combination of the Perkins IV 1P1-Technical Skills Attainment and 2P1-Credential Attainment which results in the same cohort being measured for two purposes. Baselines and targets were projected using a non-duplicate count in the numerator.

Baseline Data: 51.11% Credential Attainment

Meaningful Progress: Increase .50 percentage points per year for a total of 2 percentage points over 4 years.

3P1: Nontraditional Participation

Numerator: The number of gender nontraditional CTE concentrators that were enrolled in nontraditional CTE programs in the academic year previous to the reporting year.

Denominator: The number of concentrators that were enrolled in nontraditional CTE programs in the academic year previous to the reporting year.

Formula: Results for this indicator are based on a concentrator cohort from the academic year previous to the reporting year.

Rationale: The calculation for this indicator is similar to the Perkins IV 5P1-Nontraditional Participation but is based on concentrators rather than participants.

Baseline Data: 16.15% Nontraditional Participation

Meaningful Progress: Increase .01 percentage points per year for a total of .04 percentage points over 4 years.