Iowa School Report Card – Technical Guide

This document provides detailed information about the Iowa School Report Card (SRC) system. The methods, weightings and calculation used to determine school ratings are described in detail. Furthermore, important considerations for interpreting a school's performance ratings are also addressed.

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Background

In 2013 the Iowa Legislature passed House File 215 (HF 215) which compelled the Iowa Department of Education (IDE) to develop a school performance system and report card for all Iowa Schools. The purpose was to establish specific performance goals and evaluate the effectiveness of each attendance center.

The IDE has taken great efforts to build the Iowa School Report Card (SRC) collaboratively. In order to complete the requirements outline in section 73 or HF215, the IDE formed an internal work team. This team included a cross section of approximately 20 employees within the Department, representing multiple bureaus and roles. Representatives included School Improvement, Equity, Special Education, Title I, Standards and Curriculum, Early Childhood and Information and Analysis Services. The purpose of the team was to delve into the detail of the legislation and provide recommendations for measuring each metric. The recommendation and next steps were outlined and delivered in the 2014 Legislative Report.

This report had several key recommendations:

1) A School Report Card (SRC) system must be built on a framework that combines accountability and improvement to be successful.
2) Transparency and simplicity are key elements to an SRC system.
3) An Iowa SRC system needs to include both technical assistance and support if districts and schools are to use the data to drive improvement and increase student outcomes.
4) For a SRC system to be effective, it needs to be built collaboratively, involving both AEAs and school districts in the process.
5) A critical next step in the development of an SRC is to build consensus around an agreed-upon method for combining the results of each individual metric into an overall score and rating.

While the legislative report provided a set of recommendations for measuring each indicator, it did not propose a method for bringing multiple measures together into an overall rating system. The IDE felt strongly that it must work with external stakeholders to complete the tasks which are highlighted in recommendations 4 and 5 of the report. Specifically, the SRC must be built collaboratively with consensus around the process and methodology for rating Iowa schools.

Collaboration and Stakeholder Input

To carry out this work the IDE engaged a group of stakeholders. First, the IDE formed a work team which included AEA, IDE and school district staff with extensive measurement expertise. Second, the Director of the Iowa Department of Education formed an SRC Stakeholder Group. The Director's SRC Stakeholder Group included representatives from key advocacy groups such as the Iowa State Education Association, Iowa Association of School Boards, School Administrators of Iowa, and Urban Education Network. The group also included AEA, District and IDE staff. The purpose of the SRC Work Team was to review the recommendations of the Legislative report and make suggestions for improvements. The SRC Work Team also put together a series of additional recommendations to complete the work of the SRC. The SRC Work Team presented these recommendations to the Director's Stakeholder Group to vet

and build consensus and finalize decisions for the SRC. For example, the SRC Work Team created multiple models for bringing the SRC measure together into an overall rating system. These models were reviewed by the Director's Stakeholder group and consensus was reached on the model for the SRC. The information contained within this technical guide represent the consensus process and decisions made to build a report card for all Iowa schools.

School Report Card Methodology

Iowa's School Report Card is comprised of multiple measures which are combined to determine an overall performance rating. Iowa Schools are rated based on their overall score into one of six performance categories: Exceptional, High Performing, Commendable, Acceptable, Needs Improvement and Priority. The SRC includes eight measures: 1) Academic Proficiency, 2) Closing the Achievement Gap, 3) Annual Growth, 4) College and Career Ready Growth, 5) On-Track for College Readiness, 6) Graduation Rate, 7) Average Daily Attendance and 8) Staff Retention. Parental Involvement and Community Involvement are two measures which were included in the legislation but will not be available in the first release of the SRC. These measures will be added in subsequent releases.

There are approximately 1,300 schools in Iowa which must be measured by the SRC system. These represent different grade configurations from early childhood centers to high schools. Not all of the measures apply to all grades served. For example, graduation rates would not apply to grade schools. Therefore, it was important to build a SRC which accounts for the measures at each appropriate level. This would allow for a school's score to be made with "like comparisons". Elementary would be scored next to elementary, middle schools to middle schools, and high school to high schools.

Interpreting Scores

An overall school rating does not provide contextual information about a school nor does it make a conclusion about the quality of the staff or provide important information about ongoing work to raise student achievement. The report card should create a constructive dialog between educators, administrators and parents about the work that is currently underway in the school to support all students in achieving their full potential.

While the report card may not "tell the whole story" about a school, it does offer a high level view of student performance of across a number of measures. A composite score is generated from multiple years of data which depicts a stable picture of performance across time. Consumers can use these data to compare a school against the state average and to see if the information provides any trends in performance. Schools can use this information to assist in developing achievement goals and to guide their improvement efforts.

Weightings

Because a SRC system includes multiple metrics, the value of each in contributing to an overall score is a critical decision point. This is truly a value exercise in which one determines how much each measure is worth and assigns a "weighting." The weight of each measure defines how much a given metric contributes to an overall score.

A consensus was reached to assign the following weightings: Proficiency, Gap and Growth would be worth 20 percent each (60 percent), College Readiness and Graduation Rate worth 10 percent each (20 percent) and finally 20 percent distributed across the remaining indicators (20 percent). However, because each measure does not apply to all school levels and not all measures are available for each type of school a final decision was made to adjust the weighting to account for these differences. The below breakdown shows the final weight for each measure:

Measures	High School	Middle School	Elementary School
Proficiency	22.2%	25.0%	28.6%
Closing Achievement Gap	22.2%	25.0%	28.6%
College and Career Ready Growth	11.1%	12.5%	14.3%
Annual Expected Growth	11.1%	12.5%	14.3%
College and Career Readiness	11.1%	12.5%	NA
Graduation Rate	11.1%	NA	NA
Attendance	5.6%	6.3%	7.1%
Staff Retention	5.6%	6.3%	7.1%
	100.0%	**100.0%**	**100.0%**

It is important to note that there are two growth measures included in the SRC system. The value of each growth measure will be weighted equally. Information about the different growth measures can be found in the School Report Card Measures section of this document. The decision to use two separate growth measures was made through the consensus feedback process the Department used for building the SRC system.

Individual Measure Score

Of the eight measures included in the SRC, all but one is a percentage which ranges from 0 to 100. For example, an elementary school which has annual growth rate of 60 percent has a majority of students making year to year progress in both reading and math. In this example, the natural score of 60 would be used in the calculation to determine the score for this measure. This is important because any improvement in this measure in future years would be reflected in an increase in the overall score for this school.

A school's annual growth score would be multiplied by the weighting percent for that measure to get the overall score. In this example, this elementary school would receive 8.58 points for the annual growth measure.

Growth score multiplied by weighting value equals total points

60 x .143 = 8.58 points.

The only exception to the 0 to 100 score is the Closing the Achievement Gap Score. For more detailed information about this score is included in the section which reviews that measure.

Rating Scores and Distribution

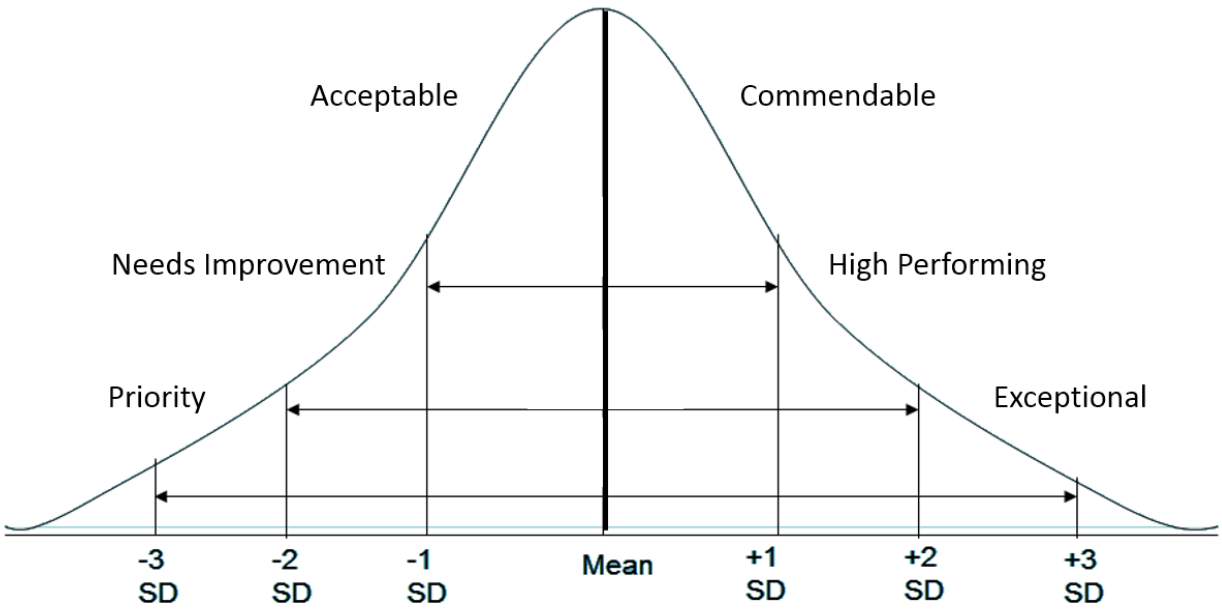
The overall rating score determines which School Report Card Category the school is assigned. To get the overall score, you add up all of the point received for each of the individual measures. The scores assigned to each area were determined using 2013-2014 and 2014-15 levels combined. The goal is to lock in the cuts and distribution for multiple years so schools can work towards improvement. However, if there are large changes, such as an adoption of a new assessment, which show drastic differences in results the scale may require modification to more accurately reflect performance.

Below are the cuts. It is important to note that all scores are calculated and reported to one-tenth of a percent. This means that calculations are rounded to the third decimal point (0.001 or 0.1%).

Category	High Schools	Middle Schools	Elementary Schools
Exceptional	75 and above	71 and above	79 and above
High performing	70-74.9	68-70.9	73-78.9
Commendable	65.4-69.9	64-67.9	67-72.9
Acceptable	60-65.3	57-63.9	61-66.9
Needs improvement	56.0-59.9	53-56.9	55-60.9
Priority	55.9 and below	52.9 and below	54.9 and below

* Round all scores using accepted rules of rounding.

These cuts were based on the creation of a normal distribution by each school level. All scores were rated and the cuts were made by standard deviations from the mean.



Multi-year Combination

In order to build a stable rating system, it was determined that using multiple years of data would likely result in less fluctuation than using data from a single year. Further, because of the large number of small schools in Iowa, we did not want the number of students and achievement in any given year to create large variability where a school would be rated high one year and low the next.

For all measures the most recent two years available for each measure were used in the calculations. The years available is dependent by each measure based on when data becomes available. For example, the proficiency and growth measures typically include the most recent two years of assessment data. For the 2015 Iowa School Report Card, proficiency and growth measures includes the combination of assessment results for the 2013-14 and 2014-15 school year. On the other hand, a measure such as graduation rate is two years behind. The graduation rate measure is a five year graduation rate which takes multiple years to calculate. The 2015 SRC uses the five year graduation rate for the Class of 2012 and Class of 2013.

In all cases SRC metrics use the following method for calculations. It combines the numerator from year 1 plus the numerator from year 2 divided by the combined denominator from year 1 and year 2. The rationale for using this method was to ensure that the years included in the calculation represent the overall weighting of the proportion of the student that are represented. An example can be seen below for Proficiency.

Proficiency Results 2013-14 and 2014-15 School Year						
	2013-14 FAY Count	2013-14 Number Proficient Math	2013-14 Number Proficient Reading	2014-15 FAY Count	2014-15 Number Proficient Math	2014-15 Number Proficient Reading
Grade 3	50	40	35	50	42	40
Grade 4	45	40	42	48	40	44
Grade 5	55	50	45	50	40	40
Total	150	130	122	148	122	124

$$\text{2013-14 Proficiency} = \frac{130+122}{150+150} = 84\%$$

$$\text{2014-15 Proficiency} = \frac{122+124}{148+148} = 83.1\%$$

$$\text{SRC Proficiency} = \frac{130+122+122+124}{150+150+148+148} = 83.6\%$$

Missing Data and Minimum N Counts

The overall score is calculated by dividing the total points earned by the total points possible. That is, the overall score is the percent earned of the total points possible for the school taking into account any missing data. To reduce variability and decrease disclosure of personal information each measure requires there to be at least 20 students with data in the years needed to calculate a score. The employee retention measure requires at least 10 staff members in the base year to calculate a score.

A school should not be advantaged or disadvantaged by the presence or lack of a measure score. Only schools with 70% of the possible points are assigned a total score. Others are marked as not rated.

Different School Types Matter

Schools are grouped into elementary (PK-5), middle (6-8), and high (9-12) schools based on the number of students served at each grade level. The grade level with the most students is the one generally used. Schools are assigned as High Schools, Middle Schools, or Elementary Schools based on the grade level of the majority of the students during the last year used in the calculations. This can change from one year to the next.

Cautions

The report card relies heavily on the Iowa Assessment results across several metrics used in the ratings. Proficiency, growth, college readiness and closing the achievement gaps measures all are generated from Iowa Assessment results. While each of these metrics focuses on answering a different question about performance, there is inherent risk in relying on one tool for many measures. To provide balance other measures such as attendance, graduation rate and staff retention are also included in the system. Additional measures such as parental and community activities and involvement will be included when they are available. Any reporting system can be criticized for potential pitfalls or disagreement about the methods used. These must be taken into context, but these alone do not invalidate the results.

An important consideration in building any type of performance rating or improvement system is the overall cost. Cost can be quantified in multiple ways. For example, there the cost to implement new assessment or the time it would take for students to take a new assessment which might be used in the report card. There are other types of cost such as the time it take for school district personnel to collect and report new data or measures to be included. Existing measures and collection mechanisms were used to meet the requirement of creating a report card for all Iowa schools. The purpose was to contain overall costs and decrease the burden of collection and reporting for Iowa school personnel.

School Report Card Measures

Academic Proficiency - What percent of students meet or exceed proficiency targets?

Iowa uses the Iowa Assessments as the accountability measure for the No Child Left Behind Act (NCLB) of 2001. While NCLB as a federal education policy has shown mixed results, it did lead to a universal set of required assessments for all schools and districts across Iowa. This set of information can serve as a comparison for schools and districts as they consider and implement improvement efforts to increase

the success of their students. It can also inform stakeholders and the public about the progress of students and schools on indicators of student achievement.

Iowa Assessments are standardized achievement tests developed by Iowa Testing Programs (ITP) at The University of Iowa. The Iowa Assessment results include multiple achievement levels and have been established for content areas of reading and mathematics. Proficiency rates reflect the percent of students scoring at the proficiency cut point for reading, mathematics. The SRC system uses similar calculations for the student proficiency indicator that currently is reported by the Department for NCLB determinations. Academic Proficiency is the percent of students scoring proficient or above on the Iowa Assessments or the Iowa Alternate Assessment. Proficient describes a level of performance which is minimally sufficient in either reading or mathematics. In the current accountability context, Proficient is a label used to describe the performance of a group compared to a minimal standard. The standard vary by grade level and content area. For more information, examine the achievement level descriptors which can be found at this location: (https://www.educateiowa.gov/pk-12/no-child-left-behind/core-content-standards-benchmarks#Performance_Level_Descriptors. Only FAY students are used in this calculation.

College and Career Ready Growth (CCR Growth) – What is the percent of students that are making growth each year toward college and career readiness?

Academic growth is a popular concept, with many different definitions and calculations, some of which are exceedingly complicated. An important premise in recommending a growth measure was a desire to use a method that was transparent, could be calculated directly, and reflected an expectation of reasonable growth for all students. After reviewing multiple options, it was recommended that SRC system growth indicator be based primarily on a post-secondary success target, which fits best with our vision for success for Iowa's students. For this indicator, an individual growth goal will be generated for each student based on his/her prior year National Standard Score and the amount of growth needed for the student to reach college/career ready (CCR) by grade 12. For students whose standard scores already above the CCR growth goal, the trajectory and growth target will be the annual expected growth in the 35-65 percentile range. The individual CCR goal will always be equal to or greater than the expected growth goal at the 50th percentile for the student's current grade.

For diagnostic purposes, reading and math may be reviewed separately. This indicator can be calculated with students in 4th grade and above, given that the first required year of testing is 3rd grade. The building summary will be the percent of students meeting their individual growth goals.

Iowa Testing Program (ITP) considers a score of 306 in reading and 306 in mathematics on the Iowa Assessment to be "college and career ready". Student growth toward college and career ready is designated as the amount of growth a student would need to make in a given year to make adequate progress toward the college and career ready score. For example, a student in fifth grade has seven more years to attain the college and career ready score (12 – 5). If that fifth grade students scores a 220 in reading what score would they need to be considered on track? The student would need to make 306

– 220 = 86 points over the next 7 years or an average of $\frac{86}{7} = 12.3$ points per year to be considered on track in reading. If the student attains a score of 220 + 12.3 = 232.3 or more in sixth grade the student is considered to have made growth during the year. The CCR Student growth measure is the percent of students who made growth in reading and mathematics during the most recent two year period. FAY status is taken into account students and students who are FAY in second year are included in the growth calculation.

Annual Expected Growth – What is the percent of students that are making a year of academic growth in a year's time?

While it is important to examine student's progress towards college readiness, it is also critical to ensure that student is making annual progress year to year. Expected student growth for SRC purposes is growth in a middle range (in the 35-65 percentile range). For a fifth grade student the expected growth from 5th to 6th grade is 13 points in reading and 13 points in mathematics. Our fifth grade student who scored a 220 in reading needs to score 233 in order to have made expected student growth in reading.

Annual expected student growth is the percent of students who made the growth target in reading and mathematics. To calculate the score for expected student growth, take the number of students who met or exceeded expected growth for their grade level and divide by the total number of students across 2 years.

Growth Expectations by Grade and Content Area

Grade	Reading	Mathematics
3rd to 4th	15	15
4th to 5th	14	14
5th to 6th	13	13
6th to 7th	12	12
7th to 8th	11	11
8th to 9th	10	10
9th to 10th	8	8
10 to 11th	7	7

FAY status is taken into account and students who were FAY during the second year are included in the growth calculation.

Closing the Achievement Gap Score – Is progress being made to close the achievement gaps between subgroups?

The Closing Gaps measures the gap between the academic performance of a group of often marginalized students and their counterparts in the classroom. Scores for students who receive free or reduced price lunch, students who are participating in an English Language Learners program, and students with Individualized Education Programs (IEP), groups that tend to demonstrate the most disadvantage in student achievement, are compared with the scores of their classmates. The Iowa Assessments for grades 3-8 and 10-11 are used to compute an achievement gap.

Here is a sample data calculation. First calculate the average percent of students proficient in both groups for each of the last two years (see the academic proficiency section). Then find the gap for each of the years. FAY status is taken into account in the gaps calculation.

Group	Percent Proficient in 2013-14 (math and reading combined)	Percent Proficient in 2014-15 (math and reading combined)
ELL students, IEP students, and/or students receiving FRL	60.0%	65.0%
All other students	75.0%	75.0%
GAP	15.0%	10.0%

Note that in this example the GAP decreased from 2014 to 2015 ($10.0\% - 15.0\% = -5.0\%$). Exactly what we like to see! Because this gap closing is a negative number it needs to be transformed to a scale that can be used for the report card. Since call values on the SCR range from 0 to 100 a transformation is completed. The T-scale was chosen for this calculation step. A T-scale is a normal curve with a mean of 50 points and a standard deviation of 10 points. The original curve for the GAP measure in Iowa has a mean of 0.0 and a standard deviation of 0.1. So, for the example above the transformation equation would be Closing Achievement Gap = $((\frac{score - \bar{x}_{gap}}{s_{gap}}) \times 10) + 50 = ((\frac{0.05 - 0}{0.1}) \times 10) + 50 = 55$.

The gap is calculated using last two years of data. The last step is to take the GAP closing times the weighting for GAP. This will give the number of points for this area.

Also note that in a school, if the group comprised of ELL students, IEP students, and/or students receiving FRL have a Percent Proficient in 2014-15 (math and reading combined) greater than the all other student group, there is no gap. The school would then receive all possible points in this area.

College and Career Readiness (CCR) – What is the percent of students that are at or above a college readiness benchmark?

The college readiness indicator in the SRC system reports the percent of students who met or exceed the college and career readiness benchmark on the Iowa Assessments. A research study was completed to examine and align performance on the Iowa Assessment to the ACT benchmarks which predict success in college. For this purpose, college-ready means the acquisition of the knowledge and skills a student needs to enroll and succeed in credit-bearing first-year courses at a postsecondary institution without the need for remediation. The following cut scores on the ACT are considered to represent college readiness: Reading – 22 and Mathematics – 22.

The SRC uses Iowa Assessments National Scale Scores (NSS) that translate to the college readiness scores on the ACT. The CCR measure is calculated for middle and high schools only. This includes grade 5-8 and 10-11. FAY status is taken into account for this measure. This was validated by the Iowa Testing Programs study, *Establishing Validity Evidence to Assess College Readiness through a Vertical Scale.*

Scores on individual Iowa Assessments have been mapped to the targets of readiness on the ACT test and can be linked for grades 5-11 (Furgol, Fina, & Welch, 2011).

A student whose scale score meets or exceeds the college ready benchmark (Figure 1 and Figure 2) is considered to be college ready in the content area. A two year composite score of the percent of students meeting the benchmark in reading and mathematics is computed.

Figure 1. On track to college readiness in reading

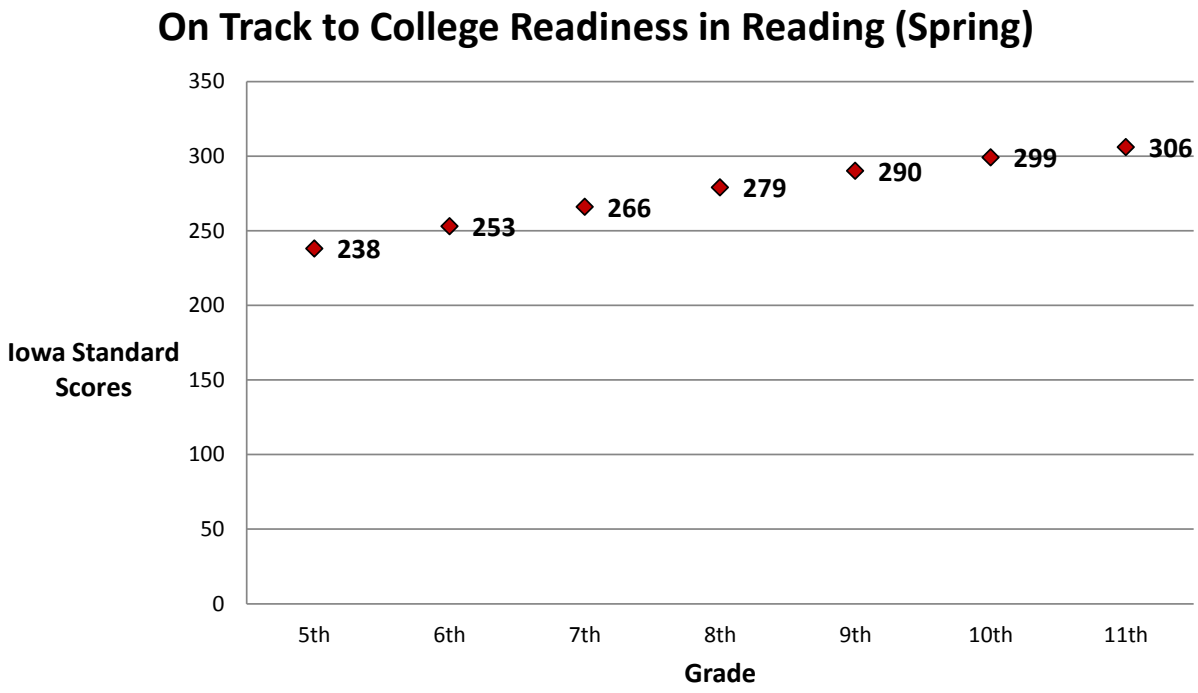
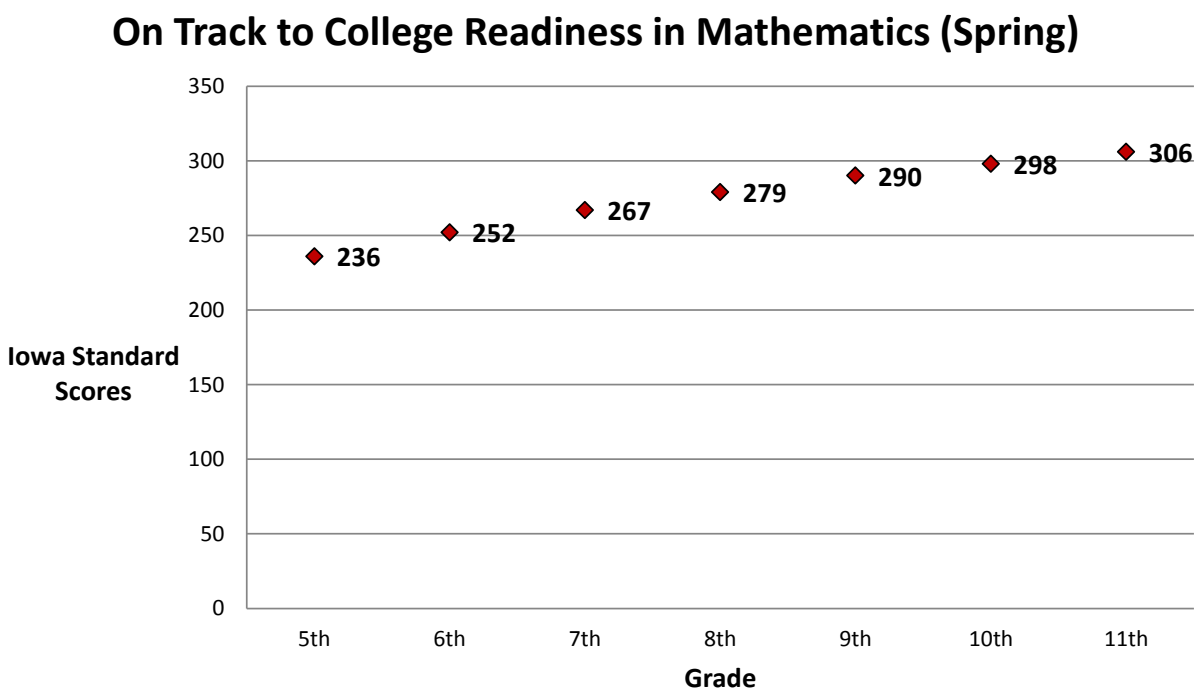


Figure 2. On track to college readiness in mathematics



Graduation Rate – What percent of student's complete high school in five-years?

With the statewide identification system and Student Reporting in Iowa (SRI) data collection, Iowa can follow a cohort of students over several years to see the percent of students who complete high school within four, five or six years. The vast majority of Iowa students complete high school "on time" or within a four-year timeframe. However, for certain groups such as general education students who are behind or students with disabilities, it can take longer to complete. Getting all students to complete high school should be the goal regardless of how long it takes to finish. To provide additional time for students, the decision was made to choose the five year graduation rate to be used in the SRC.

A four-year cohort graduation rate is calculated for the class of 2013 by dividing the number of students in the cohort (numerator) who graduate with a regular high school diploma in four years or less by the number of first-time 9th graders enrolled in the fall of 2009 minus the number of students who transferred out plus the total number of students who transferred in.

The five-year cohort graduation rate for the class of 2013 is calculated by dividing the number of students in the cohort (numerator) who graduate with a regular high school diploma in five years or less (by the 2013-2014 school year) by the number of first-time 9th graders enrolled in the fall of 2009 minus the number of students who transferred out (between 2009 and 2013) plus the total number of students who transferred in (between 2009 and 2013). The five-year cohort rate will maintain the same denominator as the previous year's four-year cohort rate, simply adding students who graduate in the fifth year to the numerator.

Iowa Five-Year Cohort Graduation Rate = (FG + TIG) / (F + TI - TO)

$$\frac{FG + TIG}{F + TI - TO}$$

For the graduating class of 2013

FG = First-time 9th grade students in fall of 2009 and graduated in 2014 or earlier
TIG = Students who transferred in grades 9 to 12 and graduated in 2014 or earlier
F = First-time 9th grade students in fall of 2009
TI = Transferred in the first-time 9th graders' cohort in grades 9 to 12
TO = Transfer out (including emigrates and deceased)

As in most of the other measures, a two year composite is used.

Attendance – What is the average daily attendance of students?

Attendance data are also collected through the Student Reporting in Iowa (SRI) system. The average daily attendance (ADA) rate for kindergarten to 8th grade is one of the additional academic indicators for the NCLB accountability system, and the work group proposes to measure attendance rates in the same manner. Each student's daily attendance is reported by his/her school, and the aggregate days of student attendance (days present) in a school or school district is reported to the Department. Similarly, each student's days enrolled is also reported. Attendance rates can then be calculated at the school and district level by summing all student days present and dividing by the sum of all student days enrolled.

Iowa's average daily attendance (ADA) is defined as the aggregate days of student attendance (days present) in a school or school district divided by the aggregate days of enrollment. Typically, ADA data are a year in arrears. For the first version of the SCR will include ADA from the 2012-13 and 2013-14 school years. The ADA is composite over the most recent two years.

Staff Retention – What percentage of licensed staff who are retained?

The data that will be used to calculate staff retention come from the Fall Basic Educational Data Survey (BEDS) Staff Collection. To be included in the analysis, the staff member must hold an Iowa teaching or administrative license and be assigned to a school. Employee retention takes into account all licensed staff members assigned to a building except nurses and coaches. Each licensed staff person can contribute to the retention in one school only: his/her "primary school." Only full-time staff members are included in the base year. Staff that move from full-time to part-time status will be considered retained if they are employed in the same school. Staff records are matched across the years using the unique license (folder) numbers.

The calculation is simple. No consideration for why staff left is considered. Retirements, moves out of state, or staff dismissals (for example) are all treated the same. Consider the following school data:

Category	Count
Staff count 2013	50
Staff retained 2013 to 2014	45
Staff count 2014	55
Staff retained 2014 to 2015	52

The overall retention rate is $\frac{45+52}{50+55} = 92.4\%$.

Additional School Report Card Measures

The original legislation required the inclusion of a Parental Involvement and Community Activities and Involvement measures. These measure will be added in future version of the SRC as they become available.