south dakota
DEPARTMENT OF EDUCATION
Learning. Leadership. Service.

Calculation Guide

2019-20 School and Educator
Equity Report

This resource will answer frequently asked questions regarding the department's State Plan details for reporting disproportional rates of access to qualified teachers in Title I schools serving low-income and minority students.

The School and Educator Equity Report (Equity Report) is a new addition to the Accountability Report Card in response to Every Student Succeeds Act (ESSA) and State Plan under ESEA section 1111(g)(1)(B) which requires SEAs to report disproportional rates of access to qualified teachers for low-income and minority students served by Title I schools as compared to all schools.

Information and Descriptions used in the Report

In this report, the department reports the number of schools by poverty and minority status and by Title I and Non-Title I status; and schools with disproportional rates of access to qualified teachers. The Equity Report is found in the State public report card's Options Menu.

Title I Designation

Schools designated as Title I receive supplemental funds to assist in meeting the educational goals of students who are low-income. The number of low-income students is determined by the number/percent of students enrolled in the free and reduced lunch (FRL) program. Local Education Agencies (LEAs)s may designate as Title I any school attendance area or school in which at least 35% of the children are from low-income families (additional details are found in ESEA: SEC. 1113. ∅20 U.S.C. 6313). Once the department has finalized the list of schools designated as Title I, the list is used in this School and Educator Equity Report.

Poverty Status

Poverty designation for a school is based on the percentage of low-income students as compared to all other public schools in the state. There are three levels for poverty and minority status: high, low, and neither high nor low.

Minority Status

Minority designation for a school is based on the percentage of students who are members of any of the five subgroups listed below as compared to other public schools in the state.

- American Indian/Alaska Native
- Black/African American
- Hispanic/Latino
- Native Hawaiian/Pacific Islander

- Two or more Races

Method for Determining Poverty Status Level

The following steps are conducted to identity the poverty status for schools.

- Determine the percentage of students who are economically disadvantaged at each public school for the current school year. Per the department's ESSA State Plan, a low-income student is a student who qualifies as "economically disadvantaged" in the state accountability system, typically a student who qualifies for the free and reduced lunch program.
  - Economically disadvantaged rates are calculated using data from three sources:
    - Community Eligibility Provision (CEP) – CEP is a program that eliminates the need for individual household applications for free and reduced-priced meals in high-poverty LEAs and schools.
    - Child and Adult Nutrition Services (CANS) – CANS is a federal program for food distribution and nutrition services. These programs furnish resources to eligible local agencies including schools who provide food in meals or commodities to participants.
    - Free and Reduced Lunch (FRL) data – FRL is a federal program that provides free or reduced-price meals to students from families whose income meets the guidelines. (https://doe.sd.gov/cans/documents/20-Income.pdf)

- Apply a "quartile method" using all schools in the state.
  - Exclude the few schools who do not have data used to establish the poverty status level.
  - Rank the remaining schools from lowest to highest economically disadvantaged rate.
  - Divide the number of schools with rates into four quarters or quartiles. For example, if there are 100 schools, each quarter would have 25 schools.
  - Assign a poverty status level.
    - Schools with rates in the upper quartile (above the 75th percentile) are considered high poverty.
    - Schools with rates in the lower quartile (below the 25th percentile) are considered low poverty.
    - Schools with rates in the middle two quartiles (between the 25th and 75th percentiles) are considered neither high nor low poverty.
  - Assign the poverty status level of "neither high nor low poverty" to the few schools who did not have an economically disadvantaged rate.

Method for Determining Minority Status Level

The following steps are conducted to identity the minority status level for schools.

- Determine the percentage of minority students at each of the schools for the current school year. Minority rates are calculated based on the number of students in a racial subgroup (from the list above, i.e., American Indian/Alaska Native) divided by all student enrolled in the school.
- Apply a "quartile method" to all schools in the state
  - Exclude the few schools who do not have the data used to establish the minority status level.
  - Rank schools from lowest to highest minority rate.
  - Divide the number of schools with rates into four quarters or quartiles. For example, if there are 100 schools, each quarter would have 25 schools.
    - Schools with rates in the upper quartile (above the 75th percentile) are considered high minority.

- Schools with rates in the lower quartile (below the 25th percentile) are considered low minority.
- Schools with rates in the middle two quartiles (between the 25th and 75th percentiles) are considered neither high nor low minority.
- Assign the minority status level of "neither high nor low minority" to the few schools who did not have a minority rate.

Measures for Disproportional Access to Quality Teachers

The department needs to determine if students in South Dakota have equal access to high-quality teachers. To do this, the department identified three teacher qualifications categories. These are:

1. Out-of-Field – Teachers who are teaching in a content area without certification. For example, a teacher who has a music certification but is assigned to teach an Algebra course.
2. Inexperienced – Teachers who have taught for three or fewer years in their careers.
3. Ineffective – Teachers who are both out-of-field AND inexperienced.

Once the department determines how many teachers from the school fall into each of the three categories above, the next step is to calculate what is called "disproportional access". Disproportional access is when a school's rate for any of the three teacher categories is higher than the target value (threshold) based on all schools in the state.

Calculation Details

Disproportional access is calculated using two years of teacher qualifications data for each of the three teacher categories. The department's staffing database system, called Personnel Record Form (PRF), is the source for the teacher qualifications data. Full-Time Equivalent (FTE) is the amount of time for a less than full-time activity divided by the amount of time normally required in a corresponding full-time activity. Full-time equivalency is usually expressed as a decimal to the nearest tenth; FTE counts are used in teacher qualification measures. Calculation steps are:

1. Using FTE counts, calculate the average percentage of teachers in each of the three categories mentioned above.
2. Calculate the standard deviation for each of the percentages from Step #1. Standard deviation is the measure of the spread of values within a set of data.
3. Calculate the threshold (aka target) for determining whether a school has a disproportional rate of access to qualified teachers. The thresholds are calculated by adding the average percentage and standard deviation for each category.
4. When a school's percentage is greater than the threshold, the school is flagged for disproportional access related to the measure.

After this is done, the department looks at schools who are over their target value for all three teacher categories. This is looked at for the state and for Title I schools. Title I schools that have a higher rate as compared to the target value for any of the three categories are identified as having disproportional rates of access to qualified teachers.

The population standard deviation formula is:

$$\sigma = \sqrt{\frac{\sum(X - \mu)^2}{n}}$$

where,

σ = population standard deviation

$\sum$ = sum of...

μ = population mean

n = number of observations

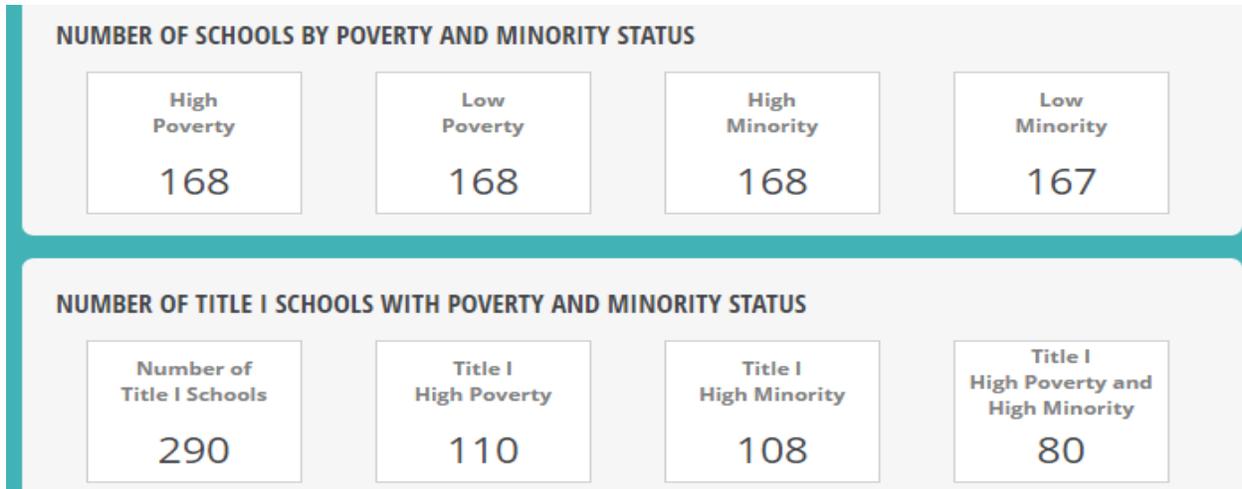(Source: https://statistics.laerd.com/statistical-guides/measures-of-spread-standard-deviation.php)

Features of the Report

- Red shaded data in this report represent Title I schools that have not met the criteria (rates equal to or below the target value) for the three teacher qualifications when compared to all schools in South Dakota. These are Title I schools that have disproportional rates of access to qualified teachers.
- The interactive analysis dashboard allows users to filter on Title I status, poverty status and minority status.
- Users have options for exporting the data into Excel, PDF and CVS documents.
- Filtering options include:
  - Title I Status (Title I, Non-Title I or All)
  - Poverty Status (high, low, neither or All)
  - Minority Status (high, low, neither or All)

Organization of Data in the Report

Data are organized into boxes on the top half of the report page and within an interactive analysis dashboard in the second half of the page-see screenshot below.

Below is a screenshot of the top half of the report page displaying the number of schools by poverty and minority status and the number of Title I schools and status levels.

NUMBER OF SCHOOLS BY POVERTY AND MINORITY STATUS

High Poverty	Low Poverty	High Minority	Low Minority
168	168	168	167

NUMBER OF TITLE I SCHOOLS WITH POVERTY AND MINORITY STATUS

Number of Title I Schools	Title I High Poverty	Title I High Minority	Title I High Poverty and High Minority
290	110	108	80

Interactive Analysis Dashboard Features

Filtering and printing options are provided in the dashboard. The next two images describe those features.

This is a screenshot of the interactive analysis dashboard. Filters are available by Title I, poverty and minority status. The red shaded data show the schools with disproportional access to qualified teachers for one or more of the three teacher qualifications categories.

Image describing how to export the report. The arrow is pointing to the location to access the export

Questions?

Contact the SD DOE Accountability staff at 605-773-3134 or DOE.Accountability@state.sd.us