

Tool IX: The Power of Data

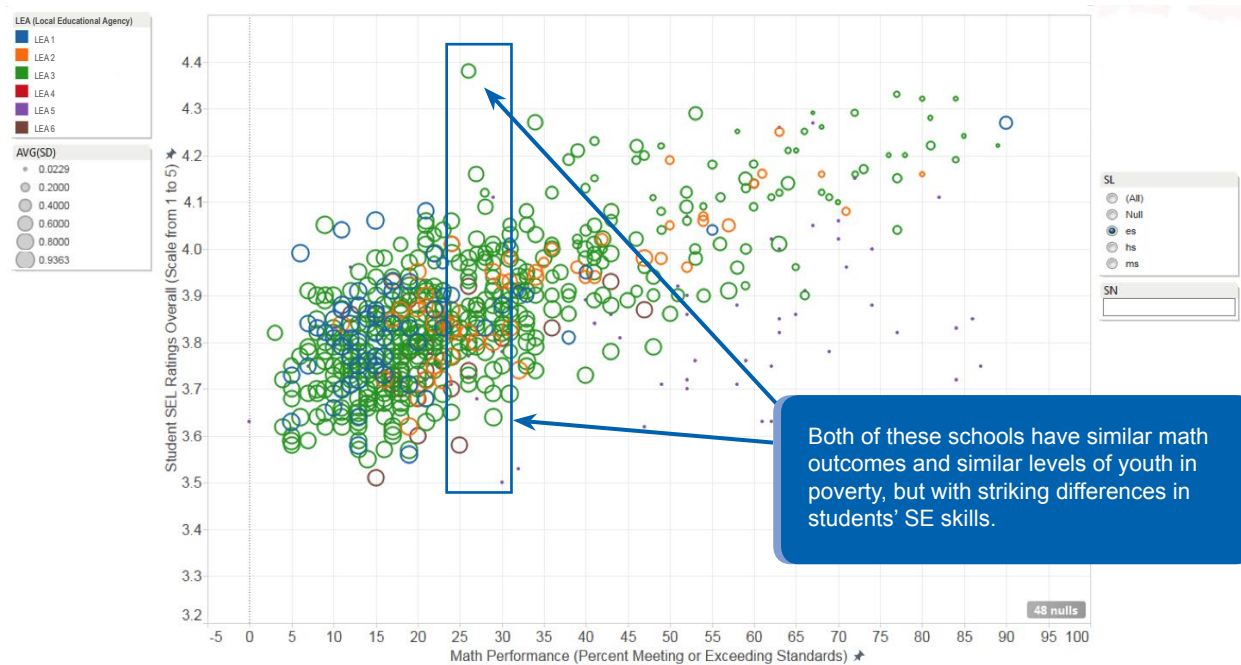
Opportunities to identify trends and bright spots within and across districts

Overview

Scatter plots can show the strength of the relationship between two factors and illuminate how groups vary across those factors.

This presentation demonstrates ways to interpret scatter plots that show a snapshot of select data from the CORE districts' administration of student surveys of social-emotional (SE) skills and school culture-climate (CC).

These scatter plots also show the types of inquiries that districts may consider upon receiving district-wide data on students' social-emotional skills and school culture-climate.



Understanding the scatter plot

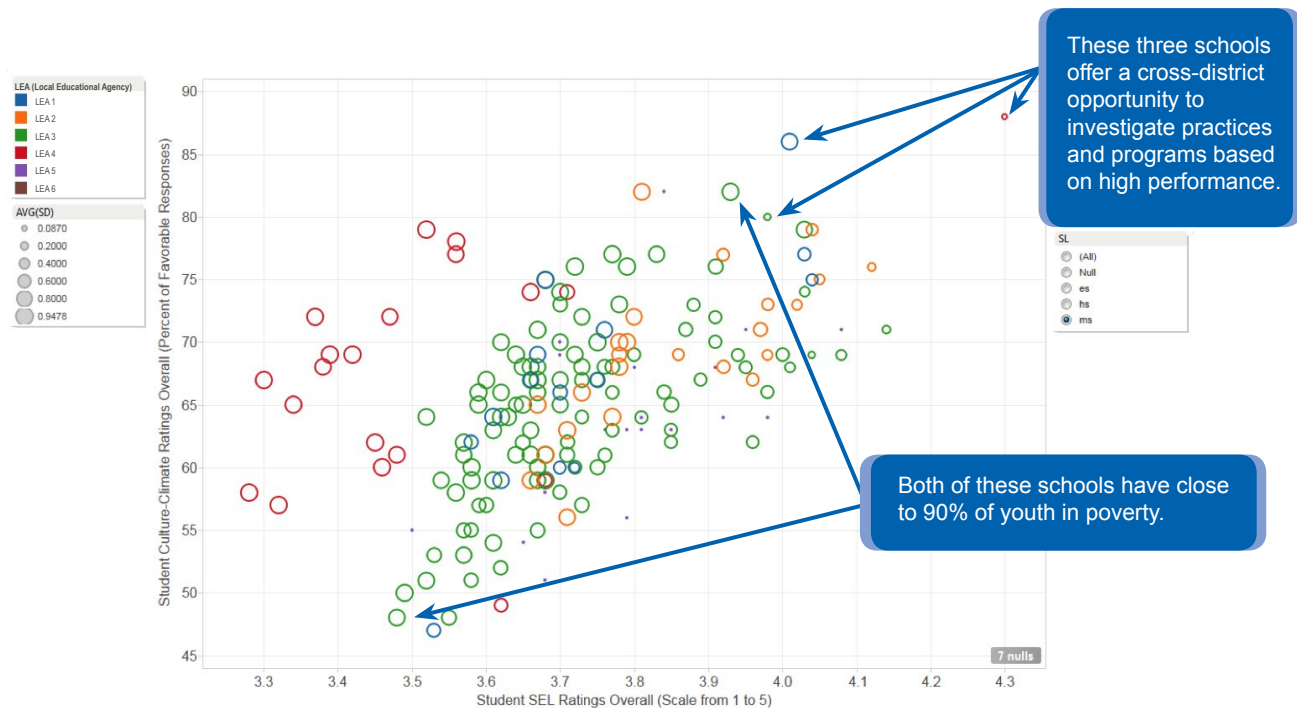
- Each dot on the graph represents a school, specifically how a school performs on two factors, indicated by the x-axis and the y-axis.
- The x-axis indicates the school-wide average math performance based on the percentage of students meeting or exceeding standards.
- The y-axis indicates the school average of students' social-emotional skills (based on averaging ratings on student self-report surveys for self-management, self-efficacy, social awareness, and growth mindset).
- The size of the dot is related to the percentage of youth in poverty in the school: the larger the dot, the higher the percentage of youth in poverty.
- Each color represents an individual district.
- The line is the line of best fit (or “trend line”), which shows the strength of the overall relationship between the two variables: social-emotional skills and math performance.
- The correlation is X, indicating the two factors are related (i.e., that schools with higher student social-emotional ratings tend to have higher student math performance).

Findings illuminated by the scatter plot

The scatter plot shows that the academic performance and social-emotional ratings of schools are positively correlated, but there is also variation in terms of the relationship between academic performance and SE ratings among schools (e.g., while some schools are high on SE ratings and high on academic performance, there are other schools that are high on SE ratings and low on academic performance).

Opportunities for system improvement:

- The green district has schools with wide variation in their SE ratings, which presents an opportunity for the district to determine which programs and practices are in place (or lacking) at both ends of the spectrum and generate hypotheses about what might be driving the difference in SE skills across schools.
- The purple district tends to have students with higher math scores but lower social-emotional skills. It is worth investigating which programs and practices are being implemented in schools from other districts with similar math performance and student demographics that might lead to improvements in social-emotional skills in the purple schools.
- Even among schools with similar math scores and similar percentages of youth in poverty, there is wide variation in average SEL skills across schools and districts. Understanding this offers the opportunity for districts to look for schools that are “beating the odds” (i.e., fostering higher SE skills in students than might be expected given average math scores and percentages of youth in poverty) in order to learn about the practices/programs in those schools in greater detail.



Understanding the scatter plot

- Each dot on the graph represents a school, specifically how a school performs on two factors, indicated by the x-axis and the y-axis.
- The x-axis indicates the school average of students' social-emotional (SE) skills (based on averaging ratings on student self-report surveys for self-management, self-efficacy, social awareness, and growth mindset).
- The y-axis indicates the school-wide percent of students that responded favorably on the culture-climate survey.
- The size of the dot is related to the percentage of youth in poverty in the school: the larger the dot, the higher the percentage of youth in poverty.
- Each color represents a district.
- The line is the line of best fit (or “trend line”), which shows the strength of the overall relationship between school-level average student SE ratings and school culture-climate ratings.
- The correlation is X, indicating the two factors are highly related and complementary indicators.

Findings illuminated by the scatter plot

This scatter plot shows a fairly strong relationship between school ratings of social-emotional skills and school ratings of culture-climate both within and across districts. In other words, schools in which students have strong social-emotional skills tend to demonstrate positive culture-climate as well. However, there are exceptions, i.e. schools that rate high on one measure but low on the other measure.

Opportunities for system improvement

- The green district has a great deal of spread in its schools' social-emotional and culture-climate data. The district could pair schools that are struggling in either culture-climate, social-emotional skills, or both, with schools that are performing well in these domains for capacity-building, mentorship, and support.
- Across the districts, there are a few schools with higher than average ratings of student social-emotional skills and school culture-climate, as well as large percentages of youth in poverty. This presents an opportunity for districts to investigate what practices and programs are in place in these higher performing schools that other schools may be able to learn from or replicate.