Evaluating Student Achievement Across Schools or Classrooms

Subject Area: All subjects

Grade Levels: All grades

Time: At least 45 minutes; can be completed in multiple sessions

Lesson Objectives:

Administrators and teachers will:

• Learn techniques to better track and analyze levels of student achievement across multiple schools and/or classrooms.
• Learn to explore relationships between multiple fields of data to determine which variables might be impacting the learning.

Overview:

This lesson focuses on techniques to help administrators and teachers better understand the performance of students in different schools or classrooms and how best to respond to their needs. InspireData’s many data analysis tools are explored in a visual format to help clarify how students’ reading proficiency varies among the schools in a district, and how variables such as student mobility rates, class sizes, and the predominant reading program being used might be impacting student outcomes.

Multiple plot types and other powerful features of InspireData are explored, including the ability to instantly calculate statistics and color plots based on a different variable to look for additional correlations. The simple process of “capturing” insightful plots and notes to form annotated slide shows is also explained.
Preparation:

- This lesson requires the InspireData® software application published by Inspiration Software, Inc. You can download a 30-day trial at http://www.inspiration.com/InspireData.

Lesson:

1. Open the Cross-District Comparison - Updated database: InspireData Starter> Databases> Mathematics> Cross-District Comparison.
2. Review the contents of the table, including the table notes. Click the field headings for details about the data. (The reading programs listed are fictional.)

3. Switch to Plot View and review the sample plots. (Click the icons in the Slide Sorter or click the Slide Show menu>Start Slide Show.) Note the many types of analyses that can be conducted using the data set. How might the ability to visualize data across multiple schools and/or classrooms within individual schools be useful in your school district?
4. Practice creating plots via the buttons on the Toolbar. For example, click the **Axis plot** button and define the x/y axes. See the “Learn to Use” handouts for reference (Help>Documentation>Handouts).

5. Look for correlations among the data fields by adding a line of best fit to axis plots. Select the **Line Type** button in the lower-left corner of the workspace and choose **Line of Best Fit** from the menu that appears. Observe that the correlation coefficient is automatically calculated in the upper left. The correlation coefficient always falls between -1 and 1. The farther the coefficient is from 0, the stronger the relationship. Axis plots with lines of best fit are just one way to identify trends among schools or classrooms and to plan strategies to help every school, classroom, and student perform to their highest potential.

6. Practice enhancing plots with other InspireData features. For example, the **Color by Field** tool can be used to color icons by another variable, such as student mobility rate, as shown above. In that example, there is a strong correlation between the percentage of a school’s teachers who are considered “highly qualified” and student reading-proficiency scores, but there is also
a strong correlation with the percentage of students who move. This is clearly shown by the fact that all of the schools colored with high mobility rates (up to 25%) were low-performing schools regardless of the percentage of teachers who were highly qualified. This was especially true of Utterman School, where 90% of teachers were highly qualified but where only 35% of students scored proficient in reading. These types of plots can be profoundly illuminating, leading to further investigation with other variables and/or strong impetus to take action to address problems.

6. Practice creating Venn plots. First click the Venn plot button, and then choose the parameters for a loop. Add additional loops if desired. Venn plots are another excellent way to quickly see the effects of certain variables on a data set.

7. Use the Notes area to record observations, and create slides using the Capture Slide button in the Slide Sorter.
8. At any point, switch back to Table View to review all the data in the table or add new data.

9. Use the Database Template tab to record multiple school or classroom data, modifying field headings and adding additional fields and records as necessary. Options for entering data:
   • Select File>Import to import data from spreadsheets or databases in comma-separated (.CSV) or tab-separated formats.
   • Type directly into the table.
   • Launch a survey or publish an e-Survey via the Table menu with the Survey and e-Survey tools.

10. Switch to Plot View to analyze the data and capture plots and notes.

11. Share what you have learned with colleagues. They may have additional ideas for assessing issues and analyzing data with InspireData.

Adaptations/Extensions:
   • Add more data directly to the table or by using the Survey or e-Survey tools.
   • Enhance plots by adding other InspireData features and computations. See the “Learn to Use” handouts for reference (Help>Documentation>Handouts).