

IWERC Dashboard

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BADM 550

April 13, 2025

IWERC Dashboard - Release 3 Document

Project Overview:

We began by individually designing layouts for the IWERC dashboard, each incorporating specific variables and visualizations that we believed would be most effective. Afterward, we met as a team to review our designs and align in a direction. We then presented our concepts to the client and received feedback on which visualizations and features would be most beneficial to include in the final dashboard.

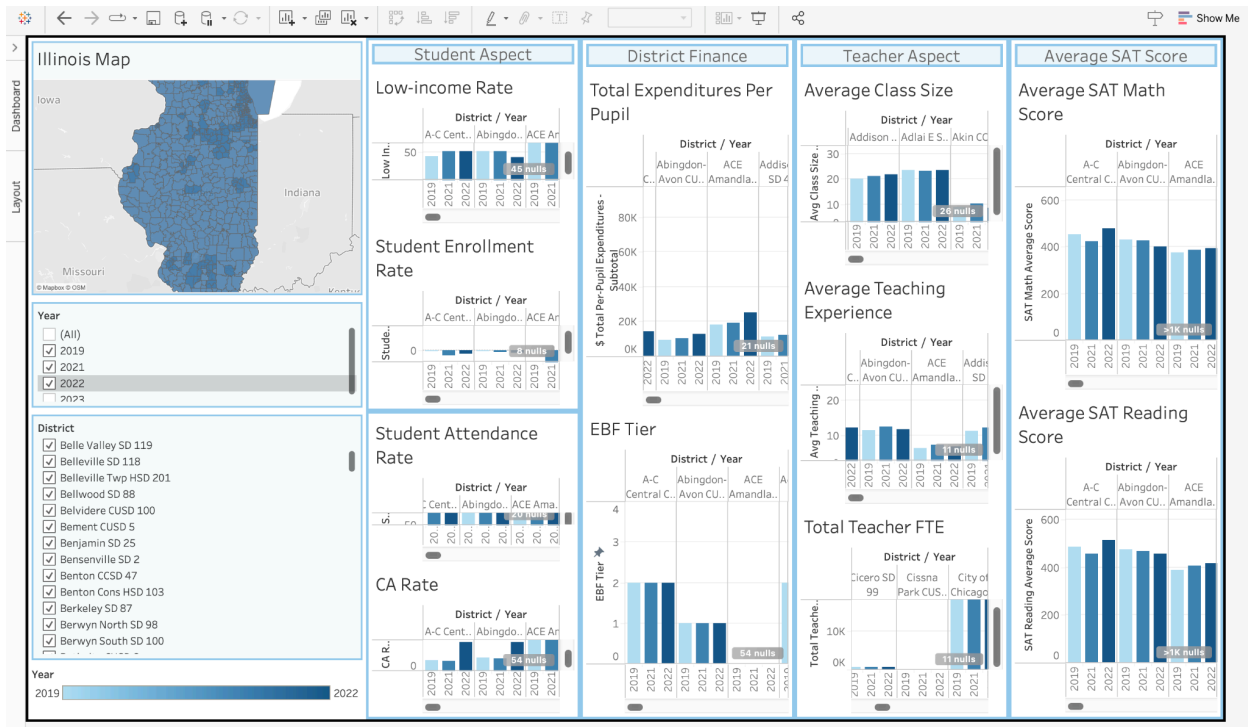
Objectives for Release 3:

- Finalize individual dashboard designs.
- Incorporate client feedback into individual dashboards.
- Begin identifying elements to merge into the final team dashboard.
- Prepare a report summarizing key data findings.

Work Progress:

Below is a summary of each team member's contribution, including the dashboard, key features, and client feedback.

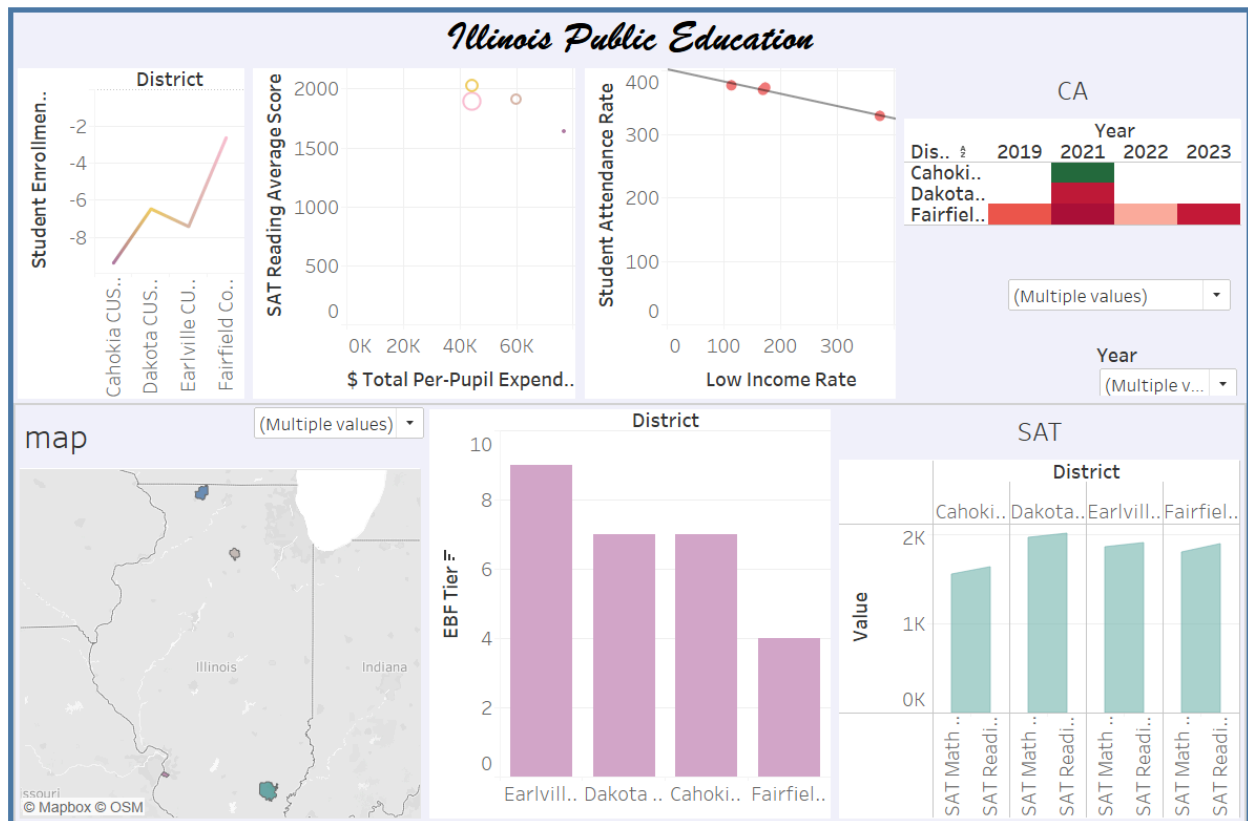
Lechen's Dashboard



- Summary: In this dashboard, I incorporated visualizations of Illinois map, filter functions (Year and District), and educational related variables (low-income rate, student enrollment rate, student attendance rate, chronic absenteeism rate, total expenditure per pupil, EBF Tier, average class size, average teaching experience, total teacher FTE, average score of SAT math and reading). In addition to the map, I use bar charts to show the trend due to the limitation of available data (only 4 years of data is not aesthetically pleasing when using line charts). This dashboard can realize the function of showing all variable visualizations of any district in any year.
- Client Feedback:
 1. It prefers to show all visualizations on one dashboard so that unnecessary variables can be deleted (e.g., average class size, average teaching experience, total teacher FTE).
 2. Add a pie chart of the race composition of students in each district.

3. Add a part that includes correlation relationships between variables.
4. Add a part of the explanation of some unintuitive variables.

Yuchien's Dashboard



- Summary: The Illinois School Performance Dashboard is designed to provide a comprehensive and interactive overview of educational outcomes across the state's school districts using seven key visualizations. At the core of the dashboard is a map visualization that displays school districts geographically, allowing users to spot regional trends and disparities in performance or funding. Complementing this spatial view is a line chart showing student enrollment trends over time, helping stakeholders understand demographic shifts and enrollment growth or decline. A bar chart illustrating EBF (Evidence-Based Funding) tiers by district highlights funding adequacy and equity,

allowing quick comparisons across Tier 1 (underfunded) to Tier 4 (well-funded) schools. To explore the socioeconomic dimension, a pie chart with linear line visualizes the relationship between low-income rates and student performance metrics, revealing correlations and outliers that may inform targeted interventions.

Academic achievement is further explored through an area chart ranking districts by average SAT scores, offering clear comparisons across regions. Post-secondary readiness is addressed through a chronic absenteeism rate (CA) chart, a square plot shows the percentage of students who are absent in higher education—an important long-term performance indicator. Lastly, an overall performance automatic chart brings together multiple metrics, such as Total Per-Pupil Expenditures and SAT scores, into a composite view, offering a high-level snapshot of each district's academic health. Together, these visualizations allow educators, policymakers, and the public to assess school performance holistically, compare districts across key indicators, and identify areas of opportunity or concern for Illinois' education system.

- Client Feedback:

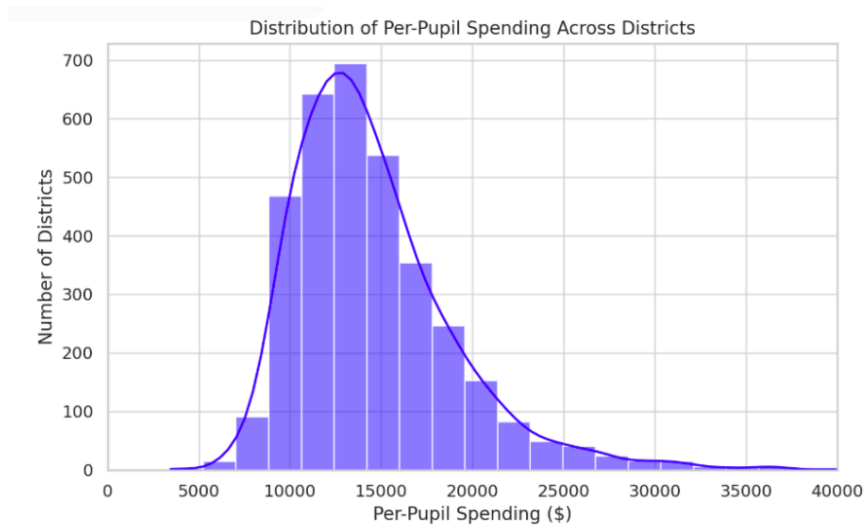
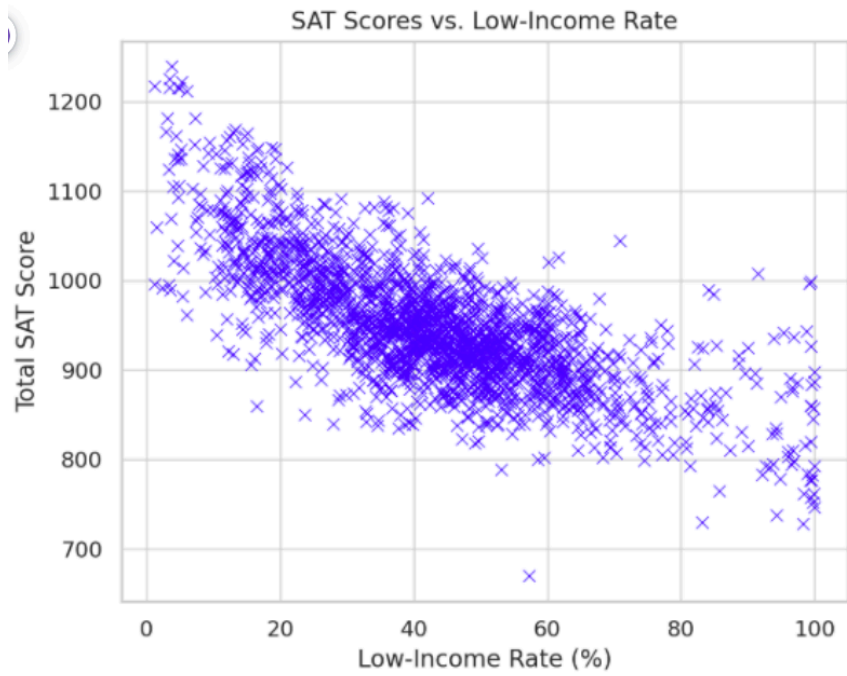
1. Prefers to see different variables across years and only keep 1~2 correlation analyses.
2. Prefer to use bar charts for visualizations so it will be easier for people to understand the difference.

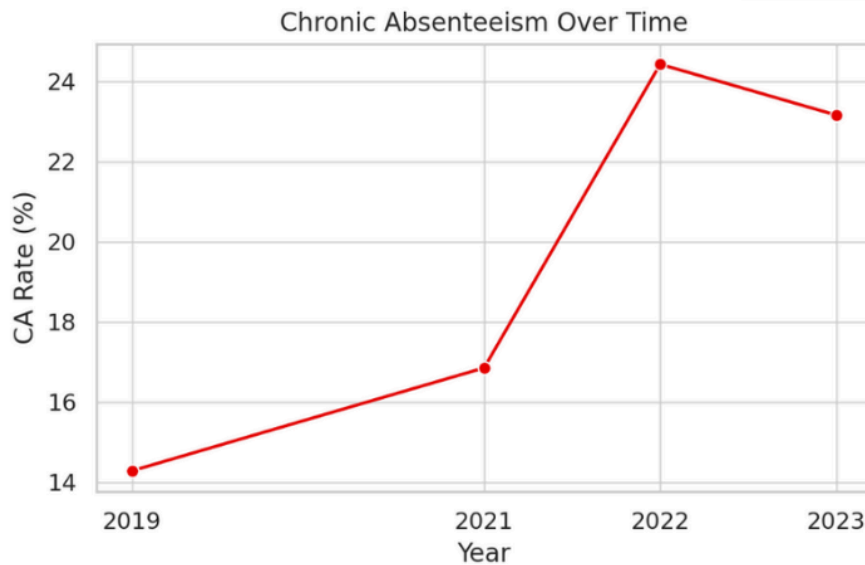
Claudia's Analysis

For my contribution to the dashboard, I focused on analyzing the correlations between key variables in the cleaned dataset. The goal of this analysis was to uncover patterns or relationships that could help stakeholders better understand factors impacting student outcomes.

- Using a correlation matrix and scatterplots, I examined how variables such as chronic absenteeism, enrollment rates, per-pupil funding, and academic performance metrics (like SAT scores) were related. This helped identify:
 - Strong negative correlations between chronic absenteeism and SAT scores, suggesting that higher absenteeism rates are associated with lower academic achievement.
 - Moderate positive correlations between funding per student and academic performance, indicating that increased investment in students may support better educational outcomes.
 - Weak or negligible correlations between some operational or demographic factors and performance, which can guide decisions on where to focus interventions.

These insights can inform strategic decisions for school districts, especially in identifying at-risk schools and targeting resources where they might have the most impact.





Report Data Analysis

After the DPI event, the client requested a brief report summarizing our key data findings. This report highlights variables that directly impact student performance, such as attendance, socioeconomic status, and school funding levels. The goal is to provide data-driven recommendations to inform the client's ongoing work.

Next Steps

- Combine key features from all team dashboards into one cohesive version.
- Finalize which insights and variables to include in the written report in collaboration with the client.
- Meet with the client to determine which visualizations should remain in the final dashboard.
- Conduct testing and refinements ahead of the final release.