

Data Analytics Engineer Technical Challenge

Please do not spend more than 5 hours completing this technical challenge.

Prompt: A group of parent leaders is advocating to the State Board of Education for more educators of color to represent the students within the schools. They have asked you to work with them to provide data to support this advocacy. What analysis questions would you ask to provide these data points/graphs? Please use the attached file to run analyses and prepare a presentation of your recommendations to present to the parent leaders.

Data: The attached files include the following:

1. Results file, including:
 - a. Student Demographics - includes summarized school demographic data between 2014-15 through 2019-2020 academic years for all schools within the Road Map Project region.
 - i. Note: results that have a denominator <10 have been suppressed to ensure student privacy.
 - b. Educator Demographics - includes summarized school educator data between 2014-15 through 2019-2020 academic years for all schools within the Road Map Project region.
2. Indicator reference – to be joined to the results file to provide information about the indicator.
3. School reference – to be joined to the results file on school code and academic year to provide information about the school.

Deliverables:

During your final interview, be prepared to present your work, and discuss your approach and additional analyses you would perform if you had access to additional datasets or more time. What further questions would you have for the parent leaders?

Deliverable 1: Handout/Slides

- Develop a short presentation that includes visualizations that display and describe the results. This should be targeted to a **non-technical audience** and your presentation should be **less than 10 minutes**.

Deliverable 2: Rationale, Methods, Code & Discussion (2-3 pages max)

- Please provide your rationale and methodological approach for the analysis you conducted.
- If you used a data programming language (SQL, Python, R, STATA, etc.) please include your annotated code and outputs.
- If you used a reporting tool (Tableau, Access, Excel), please send the file and outputs.
- Please discuss what additional data sources and analyses you would consider using if you had more time.