Langley Park Dashboard Report

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Background

The Langley Park Civic Association is a non-profit organization with a mission to enhance the Langley Park community and its adjacent jurisdictions. Together with other citizens of Langley Park, the association has been engaged in various activities, including coordinated clean-ups, tree-planting, and provision of meals and financial aid to families affected by COVID-19.

Our client will use the evidence we provide to demonstrate that students from certain ethnic groups may be inadequately represented or misrepresented in leadership positions and general staff, thereby establishing a link between leadership and the students.

Purpose

To provide instruction on how our team collects, analyzes, and presents data from schools located in the Langley Park area of P.G. County. This project is aimed at producing a comprehensive report that investigates the relationships between individuals in leadership roles in the county and school board, and the various ethnic groups and subsets of the student population enrolled in schools near Langley Park.

Data gathering

The goal of our data-gathering process was to collect students' enrollment information and demographics for teachers and students from schools located in the Langley Park area. Our team collected student enrollment and student demographic data by accessing the PGCPS website and downloading the data as an Excel sheet. The data was obtained for the previous two academic years, 2020-2021 and 2021-2022. The data consists of the numbers of students enrolled in schools in PG County from PreK to Grade 12. Our team also collected student demographic information from 17 schools, including 2 high schools, 3 middle schools, and 12 elementary schools located in the Langley Park area. Unfortunately, we were not able to collect any data on teachers' demographics since the data was not available online. Our team also submitted a Public Information Act request to get access to this data, but we received a response very late in the semester from the PIA members which prevented us from adding the data to our existing datasets.

Roadblocks

Our team faced a significant challenge in the lack of resources to find the required data requested from our client and the unavailability of data from some schools surrounding Langley Park. We cannot create a narrative with data from just a few schools to represent the community's entire population.

We were informed about the Maryland Public Information Act and its purpose of granting the public access to public records, which could have supported our data even further. However, finding out this information towards the end of the semester did not help because of deadlines and the time window it takes for our team to receive a response.
Another roadblock that the project team encountered was the lack of an alternative communication platform with the client, aside from email. While email can be a useful tool for communication, it may not always be the most effective means of conveying information or addressing concerns. By establishing multiple communication channels, our project team could ensure that we effectively addressed the client's needs and concerns while maintaining a positive working relationship. Future teams should consider this matter and consider setting up a Slack account.

Data processing

The first step of data processing was to ensure that all the variables shared a common format. We were able to do this in Excel, where we were able to identify typos in the data as well as some columns that were mainly filled with null values. We decided to take out a lot of the variables that were highly populated by these null variables as well as some variables that were not going to be used. We then combined all the data points we had into a single sheet and imported the data into Tableau.

From Tableau, we transformed some variable formats into another based on how they were being compared to other variables. This was mainly turning discrete numbers into percentages and vice versa.

By the end, most of the schools that we had data for were elementary schools. While there were two high schools and 2 middle schools, we concluded that it was better to just focus on elementary schools since we had the most samples.

Insights

The first metric that we decided to look into was math and English proficiency. We analyzed this metric in a percentage form. For this metric, the higher the value, the better, since it determines the availability of the students in math and English. The lowest percentage of Math proficiency that we saw was 11% and the lowest percentage of English proficiency we saw was 16%. The highest percentage that we saw for math proficiency was 33% and the highest percentage for English proficiency was 42%.

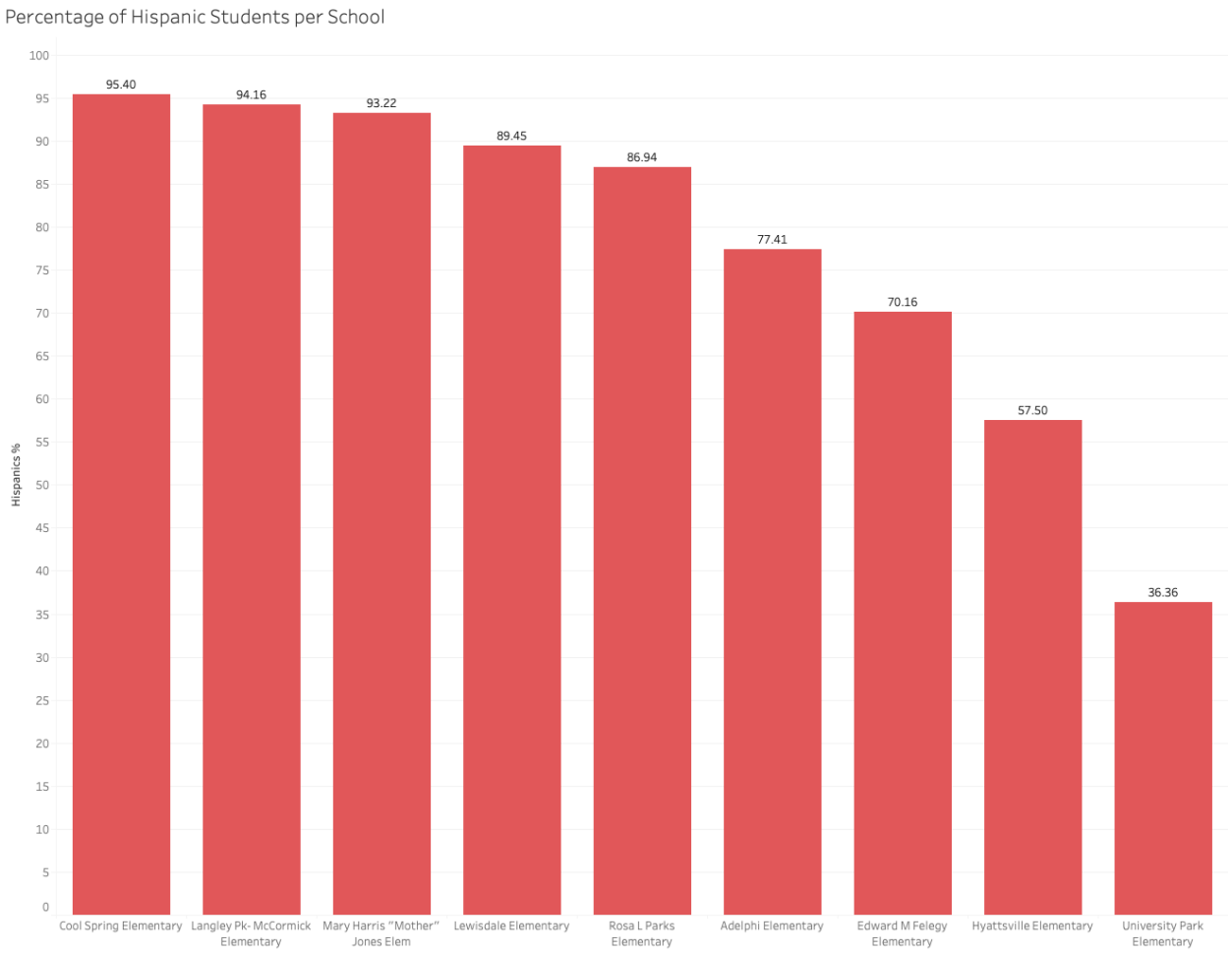
The second metric that we analyzed was building utilization. However, we noticed that, when combining building utilization with other variables, the visualization would diminish its representation. Due to this, we decided to use seats available as a means to represent building utilization. In this case, the more positive the number, the better, since it means that the school has the resources to support its number of students. The

lowest number of seats available that we identified was -285 and the highest number of seats available that we have was 192.

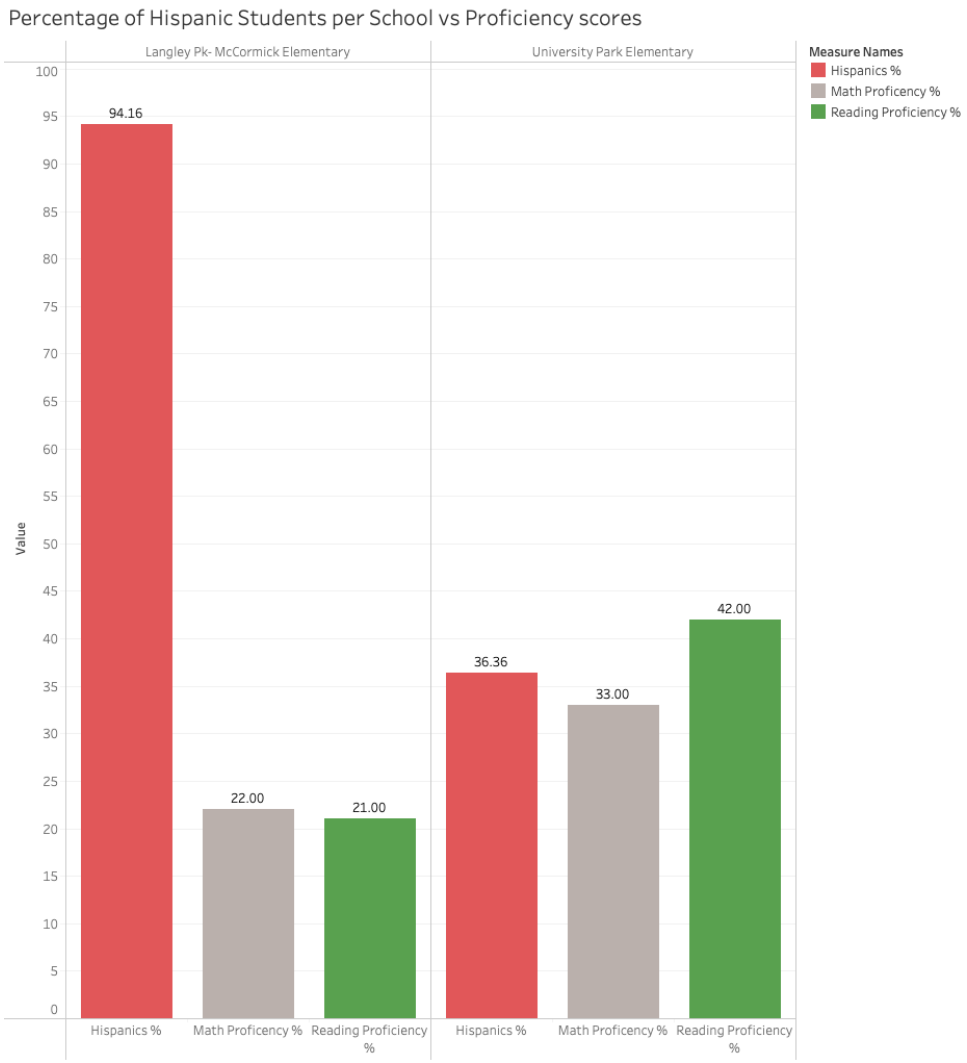
The third metric that we looked into was the percentage of students who qualified for free lunches. This is a metric that can relate to financial aid needed where the higher the number of students who qualify for free lunch, the higher the number of students who might be experiencing the need for fanatical support. The highest percentage of students who qualified for free lunch in a single school was 68% and the lowest was 17%.

Lastly, the last metric that we looked into was the percentage of students who identify themselves as Hispanics. The highest percentage of students who identified themselves as Hispanics was 95% and the lowest percentage was 36%.

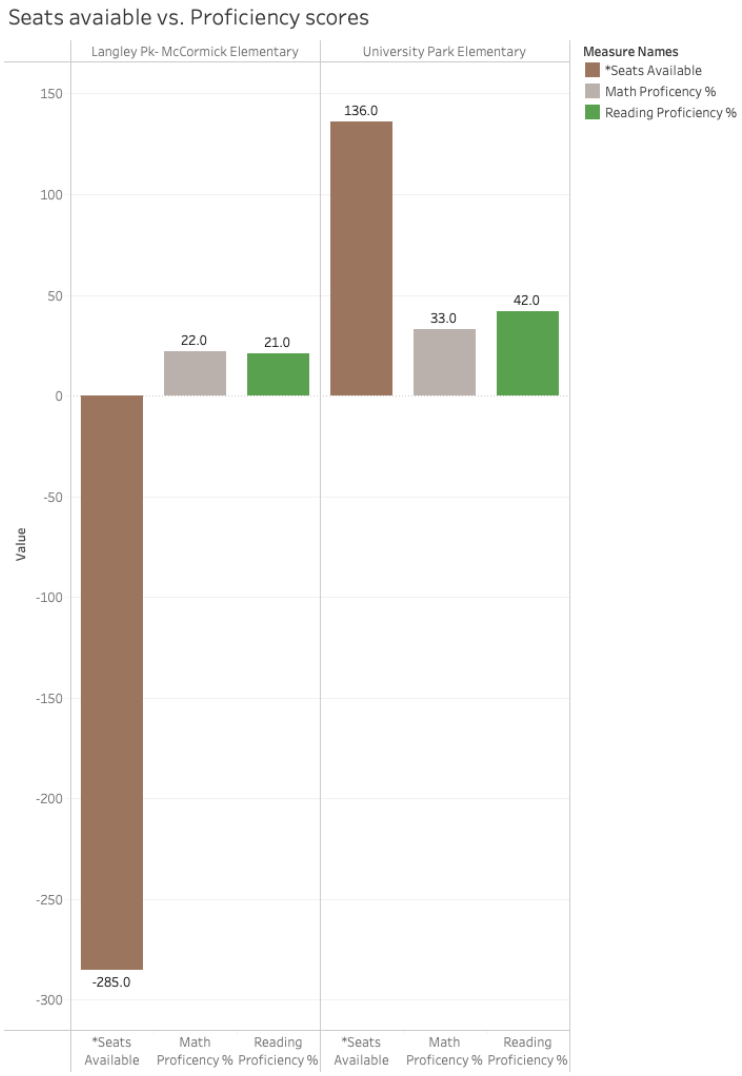
After analyzing all of these variables, we were able to narrow down our analysis. First, we decided to use the percentage of Hispanic students to narrow our analysis to two schools, one with some of the highest and the other with the lowest. This was a great way to analyze how different ethnic groups are being supported since not only were the percentage of Hispanic students but so were the other variables. The two schools that we decided to look at were Langley Park- McCormick Elementary and University Park Elementary. Langley Park Elementary had a percentage of 94% and University Park Elementary had a percentage of 36%. One thing to note is that while Langley Park did not have the highest percentage of Hispanic students, it better aligned with our client's interest due to its location.



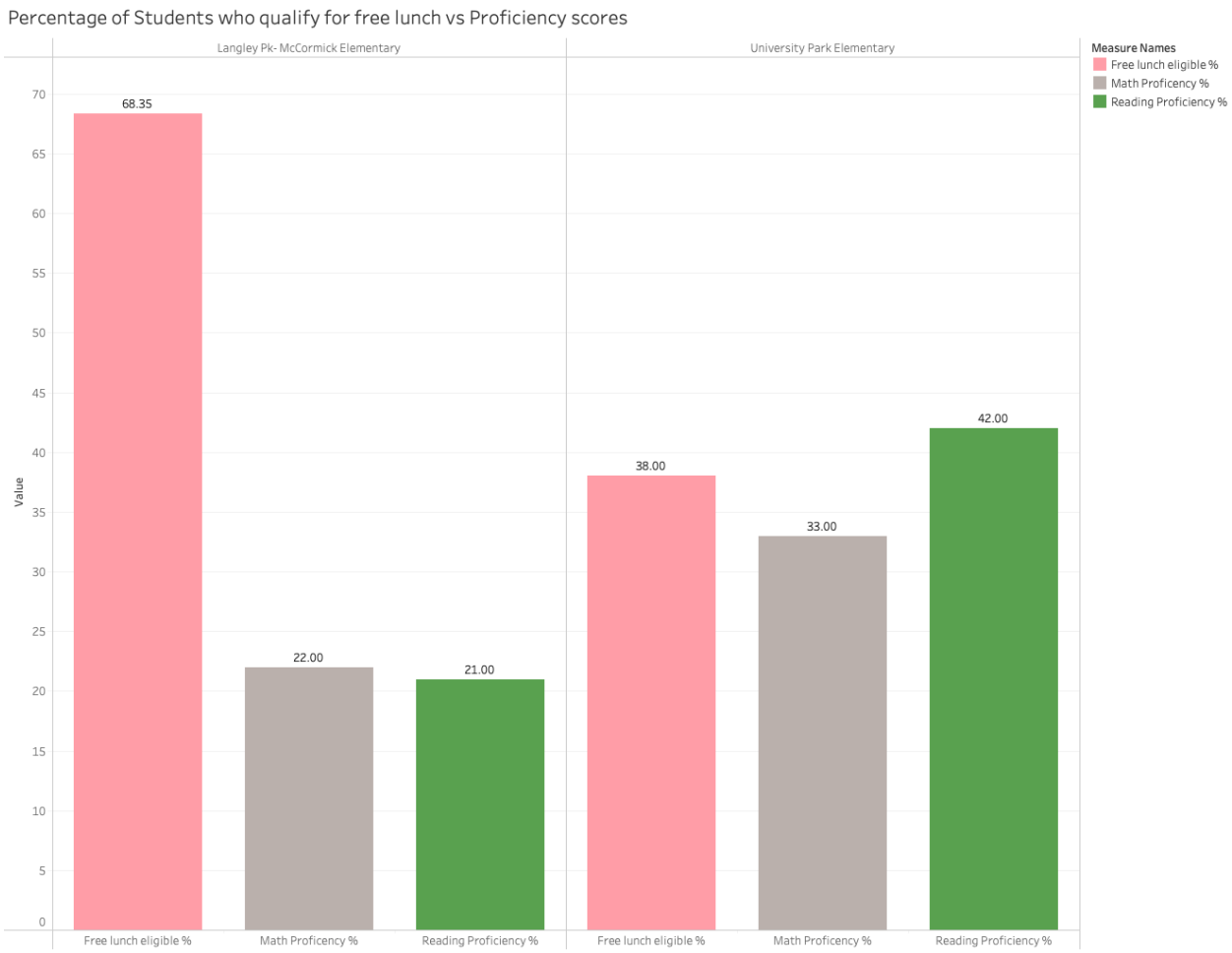
While the percentage of Hispanic students allowed us to narrow down the number of schools we should focus on, we decided to use Math and English proficiency as an undependable variable and compare it to the number of seats available and the percentage of students who qualify for free lunch.



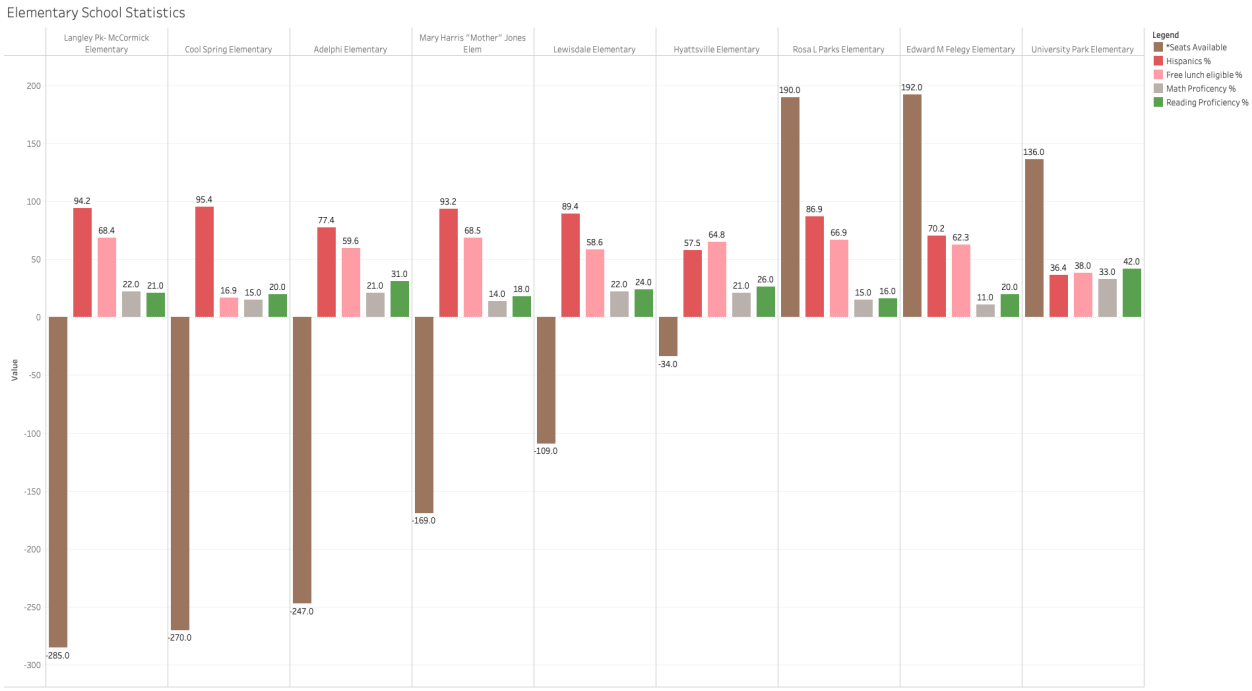
The first metric to compare was math and English proficiency and how they both compare between each school. As we can see, there is a big difference between both schools. While University Park Elementary has both the highest percentage of English and Math proficiency, Langley Park has a lower score and while it's not the lowest, it's still considered to be below the average for the schools we had data for. This comparison indicates that there is a difference in the way students perform at school.



The second variable that we looked at was the number of seats available at each school. Here we can see there is an almost opposite number of available seats at each school. This means that the number of resources available for each student is a lot less in Langley Park elementary school than in University Park elementary school. This is a quantified difference that is very likely to have effects on the math and English proficiency percentage and why they differ so much.



The last variable we analyzed was the percentage of students who qualify for free lunch. This variable can be an indication of the need for financial assistance. Based on the data we can see that yet again there seems to be a difference in the percentage of students who qualify for free lunch. Langley park elementary school had the highest score which correlated to the lower percentage of math and English proficiency scores.



To finish off our analysis, we decided to take all of the schools we had data for. Here we are able to see distinct patterns and see if our control variables of seats were available, percentage of students who qualify for free lunch, and percentage of Hispanic students correlate to Math and English proficiency scores.

While we can notice a correlation between the number of seats available and the math and English proficiency scores, we can see an even stronger correlation with the percentage of students who qualify for free lunch. We can also see that this percentage is only below 50% for University Park Elementary which had the lowest percentage of Hispanic students and the third-highest number of seats available.

Resources

Related Forms and Documentation:

- The Prince George's County Public Schools (PGCPS) enrollment reports provide information on the number of students enrolled in PGCPS schools, including breakdowns by grade level, race/ethnicity, gender, and other demographic characteristics.
- The National Center for Education Statistics (NCES) is a U.S. government agency that collects, analyzes, and reports data related to education in the United States. It conducts research and provides statistical information on topics such as enrollment, graduation rates, academic achievement, educational programs, and school finances.

Future Related Forms and Documentation:

- It's important to note that different agencies and departments may have their own specific procedures for submitting PIA requests, so you should check with the agency or department you are requesting information from to ensure that you follow their specific requirements.

    a. Determine which agency or department you need to submit the request to. The PIA applies to all units of state and local government in Maryland.
    b. Identify the information that you want to request. Be as specific as possible about the information you are seeking, including dates, times, names, and any other relevant details.
    c. Draft a written request that includes your contact information and a clear description of the information you are seeking. You can use a PIA request form provided by the agency or department or write your own letter or email.
    d. Submit your request to the appropriate agency or department by email, mail, fax, or in person. Make sure to follow any specific instructions provided by the agency or department.
    e. Wait for a response from the agency or department. The agency has 30 days to respond to your request, although this time frame can be extended under certain circumstances.
    f. Review the agency's response and determine whether you need to take any further action, such as appealing a denial or requesting additional information.

References and Links:

- *National Center for Education Statistics (NCES) Home Page, part of the U.S. Department of Education*. (2022). Ed.gov; National Center for Education Statistics. https://nces.ed.gov/

- *Enrollment Reports*. (2013). Pgcps.org. https://www.pgcps.org/offices/pupil-accounting/school-boundaries/enrollment-report

- *Public Information Act Requests*. (2023). Pgcps.org.

  https://www.pgcps.org/offices/general-counsel/public-information-act-requests