**Student Performance Analysis Report**

1. **INTRODUCTION**

In today’s data-driven educational environment, tracking and understanding student performance is crucial for informed decision-making. This project analyzed student scores in Math, Reading, and Writing, with emphasis on gender differences and subject-wise performance patterns. The findings were visualized in an interactive Excel dashboard to help educators, school administrators, and policymakers identify performance gaps and areas for improvement.

2. **Problem Statement**

Many schools face challenges in monitoring performance trends, making it difficult to address subject-specific weaknesses or gender disparities. This analysis addresses these challenges by providing a data-driven performance overview, enabling stakeholders to design targeted interventions.

3. **Key Findings from the Dashboard**

**Dashboard Utility**

The Excel dashboard enables stakeholders to:

* Monitor overall trends in student performance.
* Compare gender-specific performance across subjects.
* Identify the highest and lowest performing areas quickly.
* Make data-driven decisions for curriculum planning and resource allocation.

**Performance Overview**

Average Scores:

Math: 66

Reading: 69

Writing: 68

Overall Passing Rate: 88.5% (\*) of students passed all subjects.

\* -- I determined the Pass Rate by: Scoring above 44 in a subjects, so if a student gets 44 in either of the subjects, the he fails.

Highest Performing Subject: Reading (Average: 69)

Lowest Performing Subject: Math (Average: 66)

**Gender-Based Analysis**

Math: Male students outperformed females by 5 points.

Reading: Female students outperformed males by 7 points.

Writing: Female students outperformed males by 9 points.

Largest Gender Gap: Writing (favoring females).

**Subject-Wise Patterns**

Reading had the highest average performance, while Math had the lowest.

A consistent pattern emerged where female students excelled in Reading and Writing, while male students performed better in Math.

**Additional Insights**

The dataset included variables such as parental education level and test preparation course completion.

Students who completed test preparation generally scored higher in all subjects.

Higher parental education levels correlated positively with student performance.

**Conclusion & Recommendations**

The analysis reveals clear subject strengths and weaknesses, as well as notable gender performance gaps:

1. **Strengthen Math Support**: Since Math scores are the lowest, targeted intervention programs could be implemented.
2. **Encourage Balanced Skill Development**: While females excel in Reading and Writing, improving male performance in these subjects could reduce the gap.
3. **Promote Test Preparation Programs**: Given the positive impact on scores, expanding access to these programs could raise overall performance.
4. **Leverage Parental Engagement**: Schools could involve parents more in academic activities, especially those with lower education levels.