

# Semi-Final Data Analytics Report

Data Analysis Summary Report  
Student: Jhon Lloyd T. Cruz  
Partner: John Emmanuel De Vera  
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## OBJECTIVES:

- Examine relationships between study hours, attendance, and final performance.
- Identify predictive patterns and provide recommendations for improvement.

## KEY FINDINGS:

1. Dataset size: 50 students.
2. Mean Final Score: 80.64 | Max: 100 | Min: 54
3. Strong correlations found:
  - Study Hours ( $\approx 0.93$ )
  - Attendance ( $\approx 0.93$ )
4. Students with tutors have higher average scores (88.15) than those without (75.63).

## PREDICTIVE ANALYTICS:

### Overall Model:

$$\text{Final\_Score} = 22.54 + (2.17 * \text{Study\_Hours}) + (0.53 * \text{Attendance})$$
$$R^2 = 0.9172$$

### Tutor-only Model:

$$\text{Final\_Score} = 38.95 + (2.82 * \text{Study\_Hours}) + (0.34 * \text{Attendance})$$
$$R^2 = 0.9812$$

## RECOMMENDATIONS:

- Encourage 8-10 study hours weekly for optimal results.
- Maintain attendance above 85%.
- Use dashboards to identify and support at-risk students early.
- Strengthen tutoring programs since they positively affect performance.

## CONCLUSION:

Study habits, attendance, and tutoring are key predictors of student success. Predictive modeling ( $R^2 \approx 0.9172$ ) confirms that consistent study and presence significantly improve outcomes. The Excel dashboard aids data-driven decisions.