

2025



Academic Performance & Enrollment Dynamics Analysis

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Executive Summary

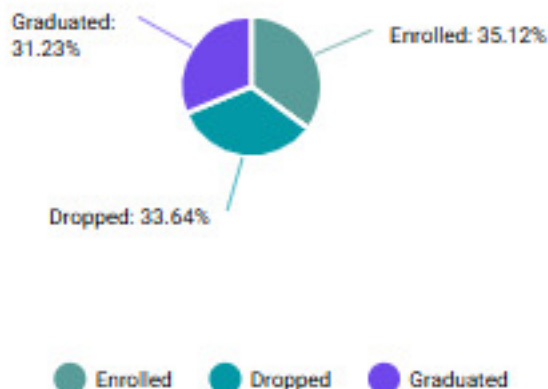
This report presents a comprehensive analysis of student data to identify key trends, performance drivers, and demographic patterns. The total student population analyzed is 778,250.

High Drop-out Rate: The overall drop-out rate stands at 33.64% (261,835 students), which is slightly higher than the graduation rate of 31.23%. This points to a significant institutional challenge.

Extracurricular Paradox: Students who do NOT participate in extracurricular activities have a significantly higher average GPA (3.154) than those who do (2.865).

Academic Status Volatility: The analysis of academic status over time shows a critical spike in the proportion of dropped students in the recent enrollment year (2023), with 55,351 students dropping out.

GPA Leadership: Karachi University leads all institutions with the highest average GPA of 3.083.



Methodology and Data Overview

Project Goal: To perform Exploratory Data Analysis (EDA) on student performance and demographic data to uncover actionable insights for institutional improvement and student success prediction.

Data Source: Aggregated data from an institutional student information system (provided via educaton_with_dashboad.xlsx).

Key Metrics Analyzed: Demographics (University, City, Academic Discipline, Academic Level, Age), Performance (GPA, Academic Status), and Contextual Factors (Funding Type, Hosteler status, Extracurricular Participation).

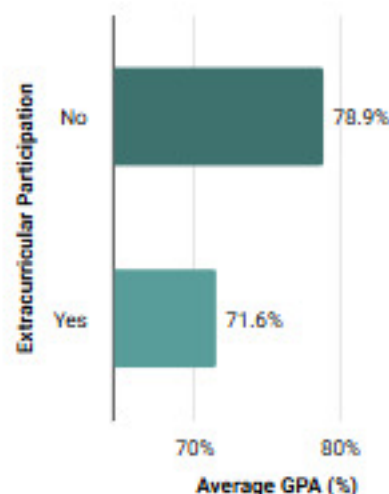


Academic Status	Sum of Student ID	Percentage
Enrolled	273,356	35.12%
Dropped	261,835	33.64%
Graduated	243,059	31.23%
Total	778,250	100.00%

Key Findings: Performance & Enrollment

GPA by University: Karachi University exhibits the highest average GPA (3.083), while Bahauddin Zakariya University has the lowest (2.924). The overall average GPA is 3.010.

Impact of Extracurriculars: The data suggests a negative correlation between extracurricular participation and GPA. Students who do not engage in extracurriculars score 9.1% higher on average (3.154 GPA) than those who do (2.865 GPA).



Recommendations & Conclusion

Recommendations for Academic Strategy

- **Student Retention:** Prioritize intervention for the 2023 cohort by conducting a deep-dive analysis to understand the high drop-out rate.
- **Student Support:** Rethink extracurricular engagement by implementing a mandatory "Time Management for Academic Success" workshop for participants.
- **Institutional Comparison:** Investigate best practices at Karachi University to identify transferable strategies for other institutions.

Conclusion

This analysis has successfully identified key areas of risk and opportunity. The most immediate concern is the high and recently spiked drop-out rate, alongside the counter-intuitive finding regarding extracurriculars and GPA. Addressing these factors through targeted support and strategic resource allocation will be crucial for improving institutional performance and student success.

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