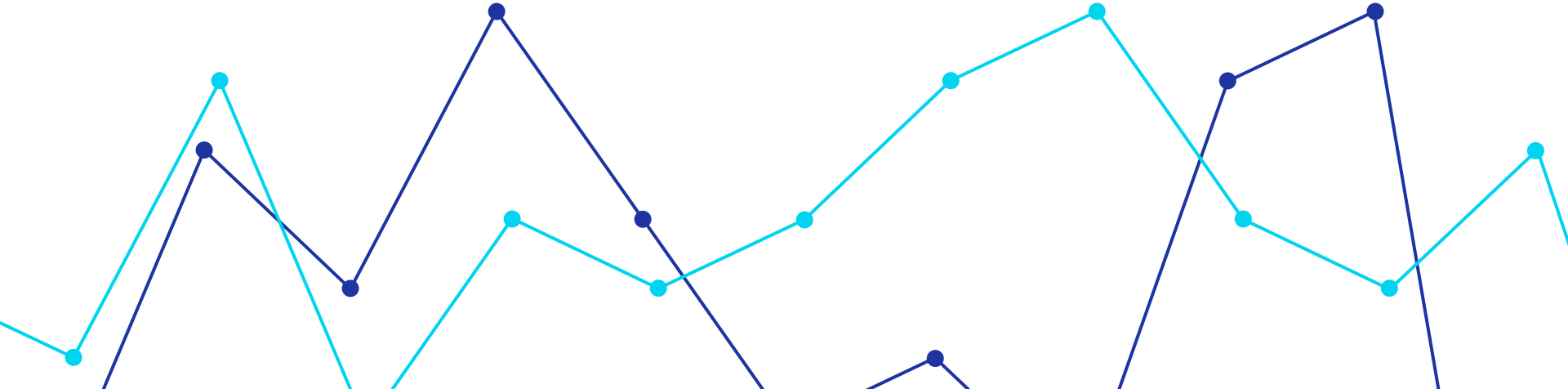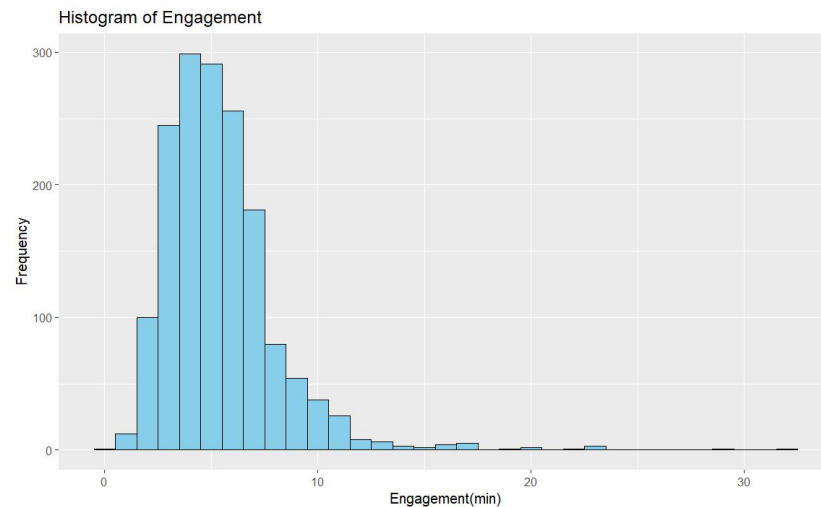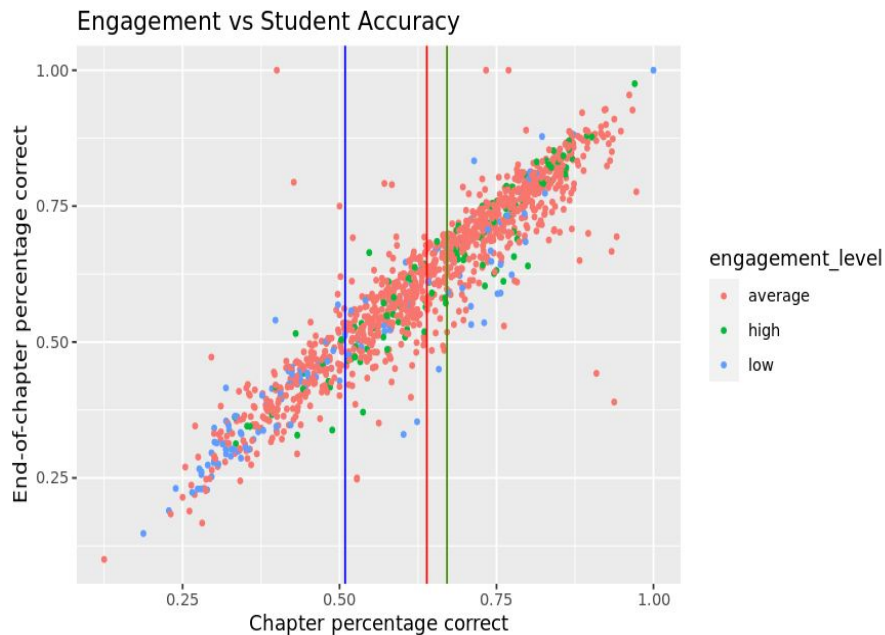# Beyond the Numbers:
Unlocking Student Engagement in Statistics

Team08: Senam Adedze, Sonia Zhu, Wangley Soares
Martins, Mia Lam, Sam Reid

Relationship of Engagement and Performance

Engagement vs Student Accuracy
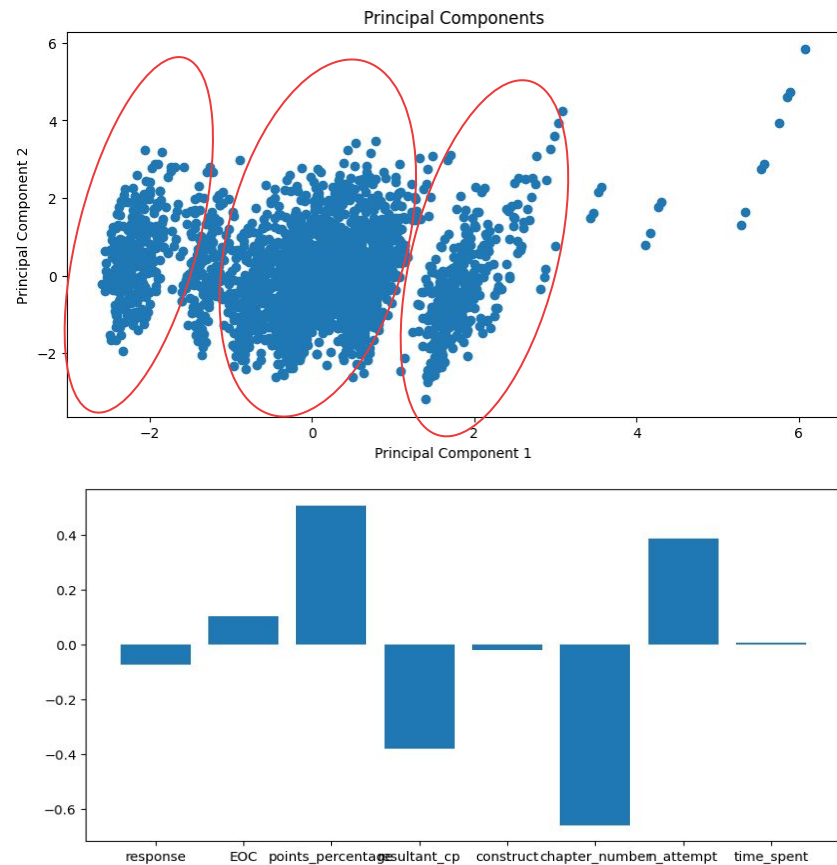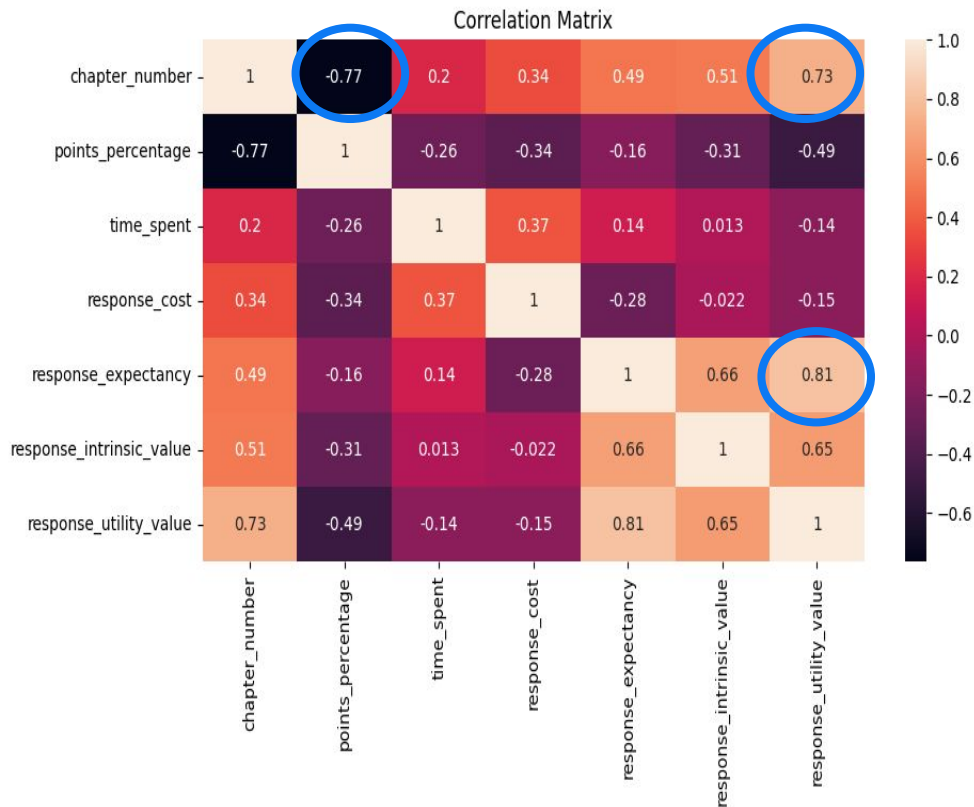

Histogram of Engagement

Mean: 5 mins
Mode: 4 mins
Standard Deviation: 2.74, meaning 68% of students take about 2-8 min on any given page

Correlation and PCA to identify important predictors

Conclusion

```
Call:
lm(formula = engaged ~ points_earned + time_spent + n_attempt +
    response, data = student_df)

Residuals:
     Min       1Q   Median       3Q      Max
-0.19872 -0.04952 -0.01405  0.03516  0.72480

Coefficients:
              Estimate Std. Error t value Pr(>|t|)
(Intercept)    0.02019    0.01437   1.405 0.160253
points_earned  0.03140    0.01591   1.973 0.048746 *
time_spent     0.29350    0.02067  14.200  < 2e-16 ***
n_attempt      0.14234    0.03820   3.726 0.000203 ***
response       0.05068    0.02013   2.517 0.011950 *
---
Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1 ' ' 1

Residual standard error: 0.08473 on 1251 degrees of freedom
Multiple R-squared:  0.1935,    Adjusted R-squared:  0.1909
F-statistic: 75.02 on 4 and 1251 DF,  p-value: < 2.2e-16
```
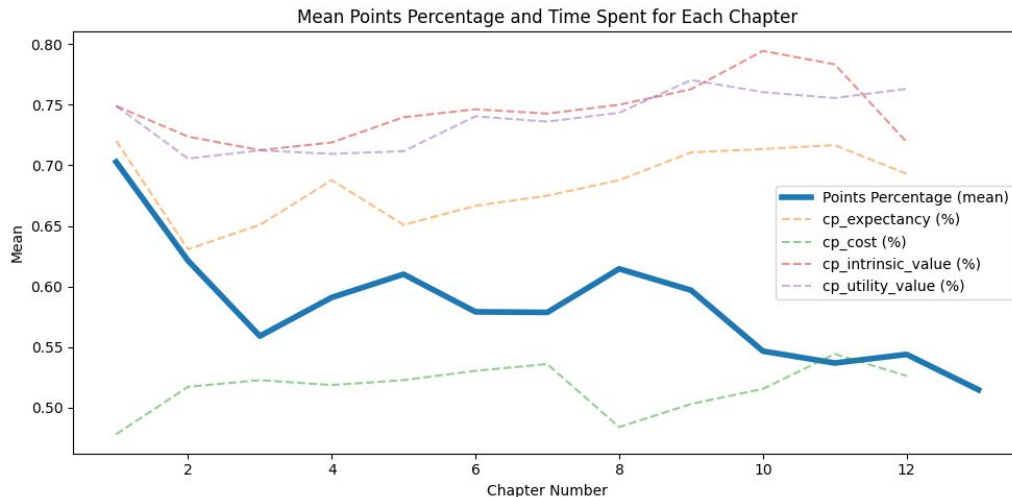

Mean Points Percentage and Time Spent for Each Chapter

Insights:
- Keep the content of each page under 5 minutes to align with students' attention span
- Low-engagement students are in greatest need of intervention to improve overall performance.

Future actions:
-Identify types of questions that lead to higher engagement and student accuracy
-Narrow bounds to identify low-engagement students