

Distance Learning: Advising at Scale

Harry Weaver



**Can we help students
understand what they need to
do to succeed?**





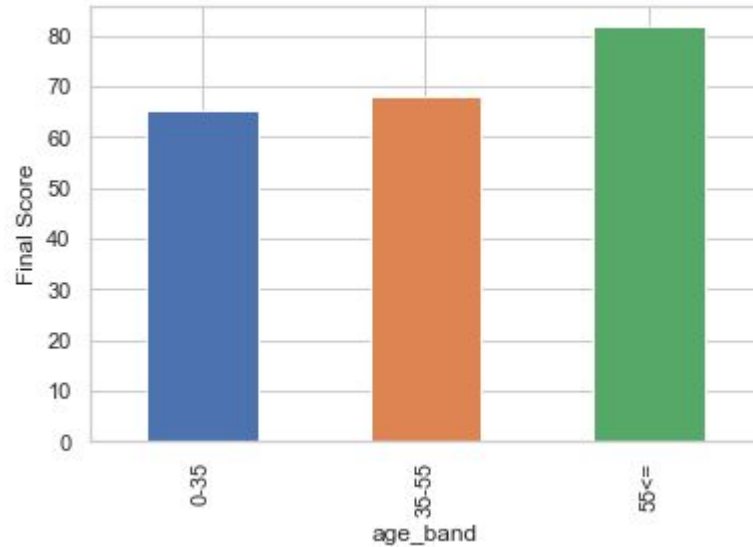
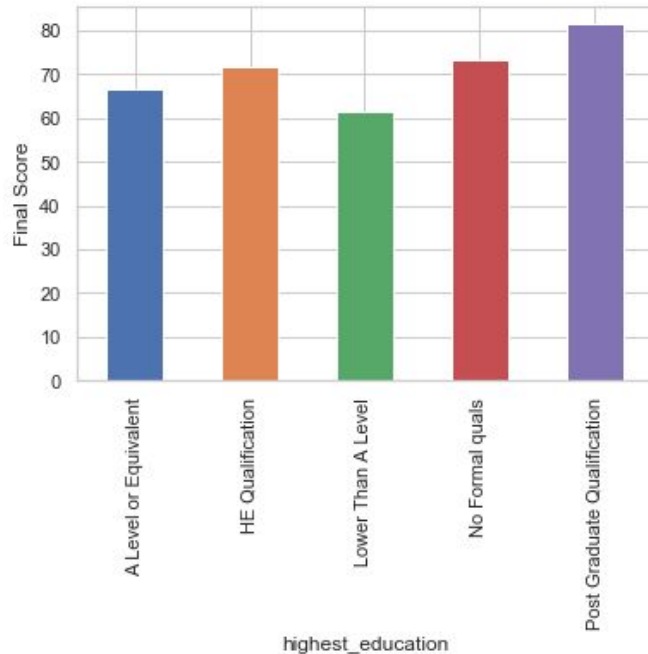
What affects student performance on a final?

Personal
Background and
Experience

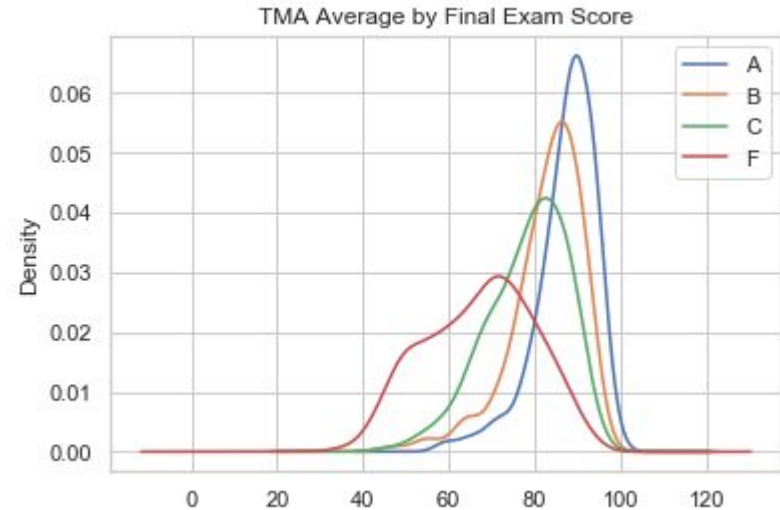
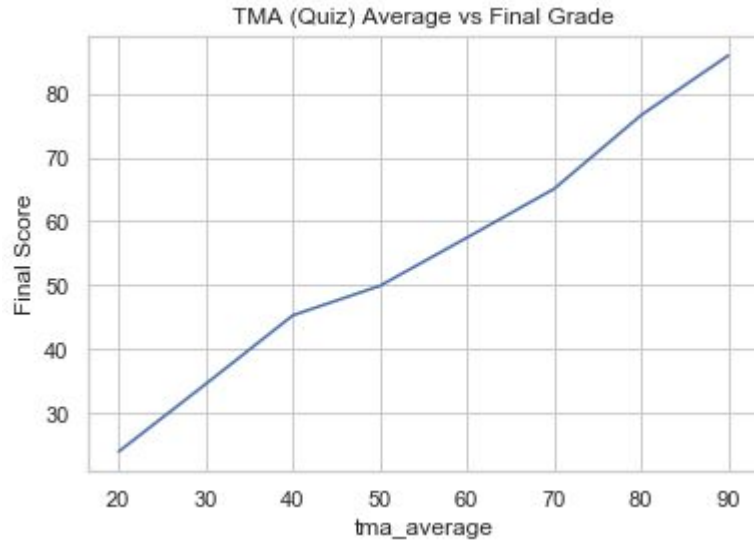
Class
Performance

Studying

Personal Background - Education and Age

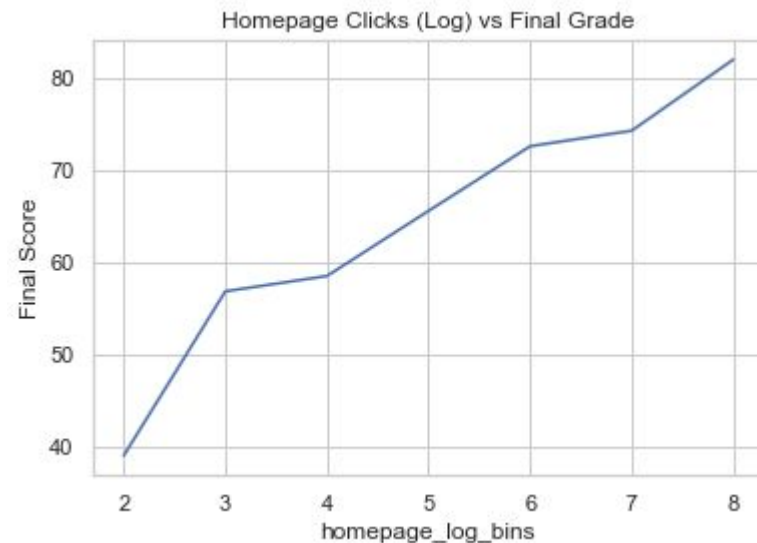
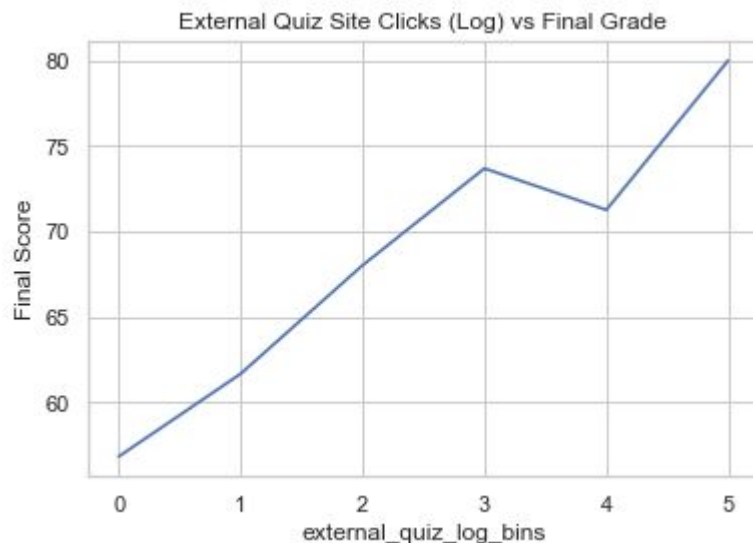


Past Performance correlates strongly to final exam performance





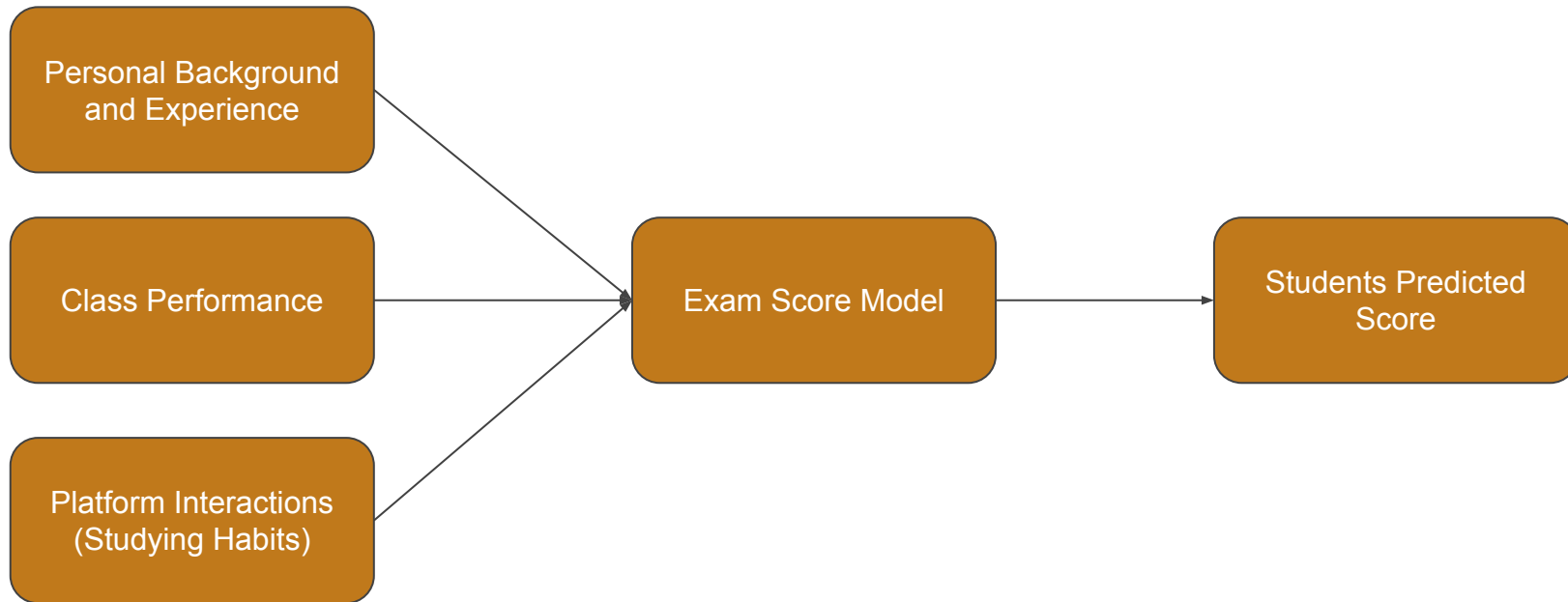
How much you study matters on your final grade



**Can we utilize a model to predict
how a student will do on the
final?**



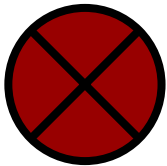
Model Design



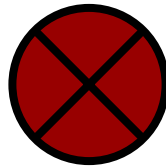


What can we potentially influence after all quizzes have been taken?

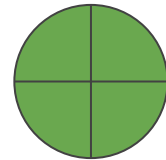
Personal
Background and
Experience



Class
Performance

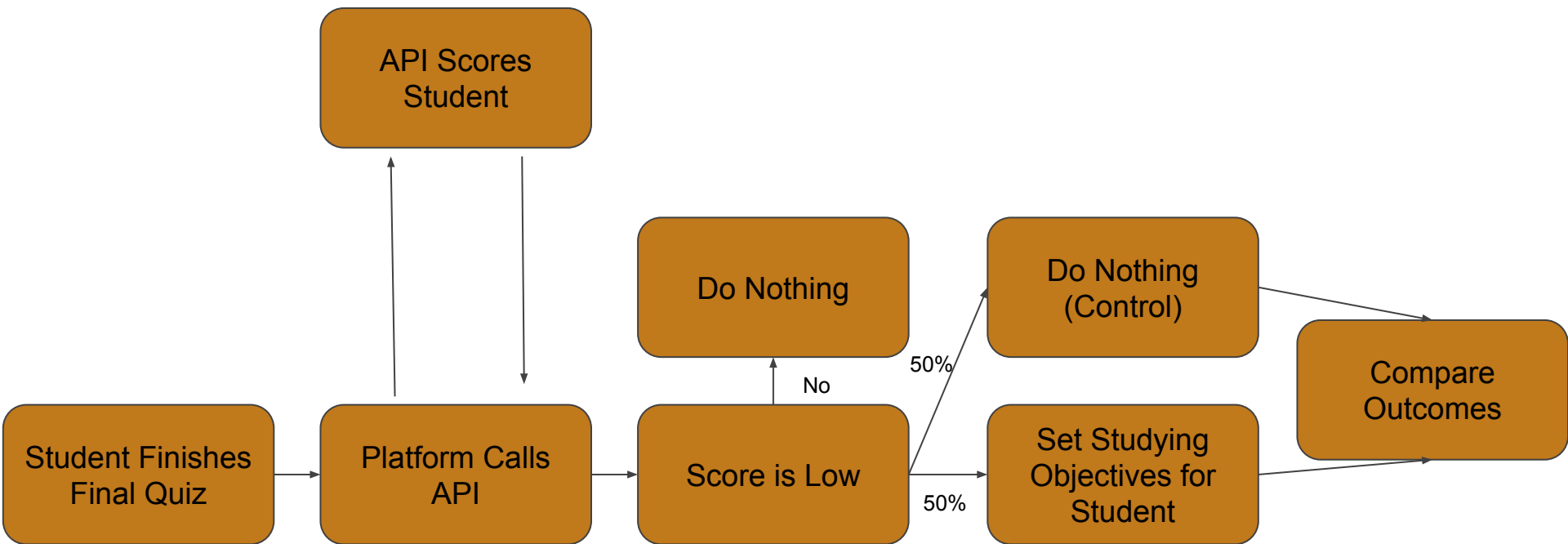


Studying

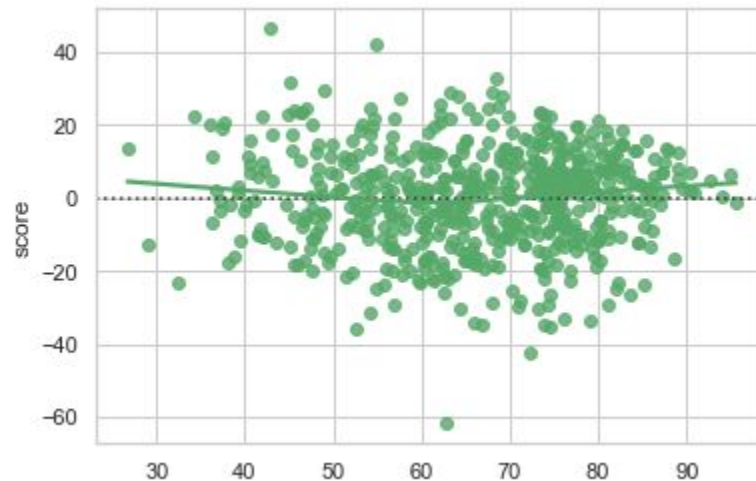
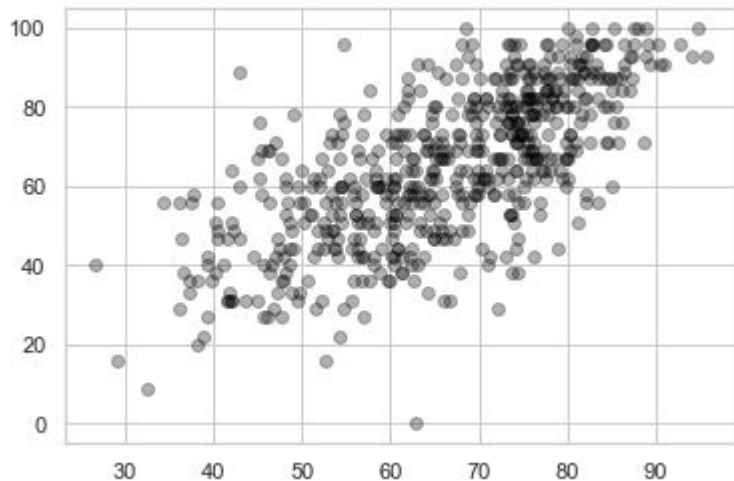




Experiment Design



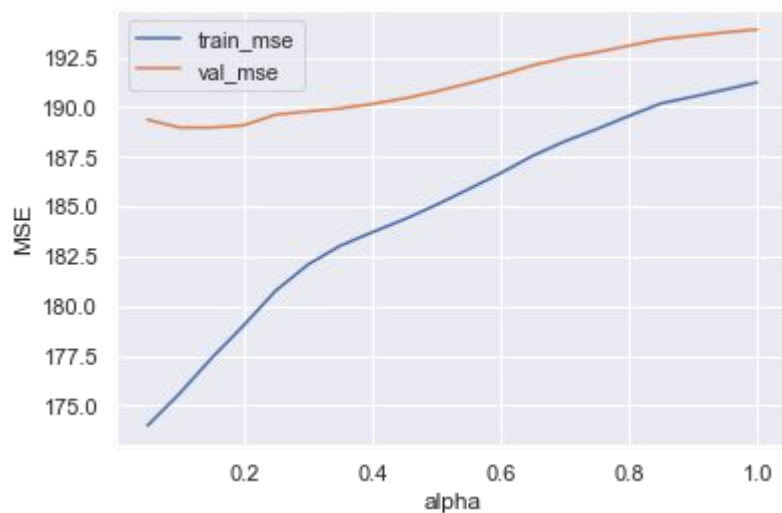
Linear Regression - .48 R Squared



- .48 R Squared
- 189 MSE

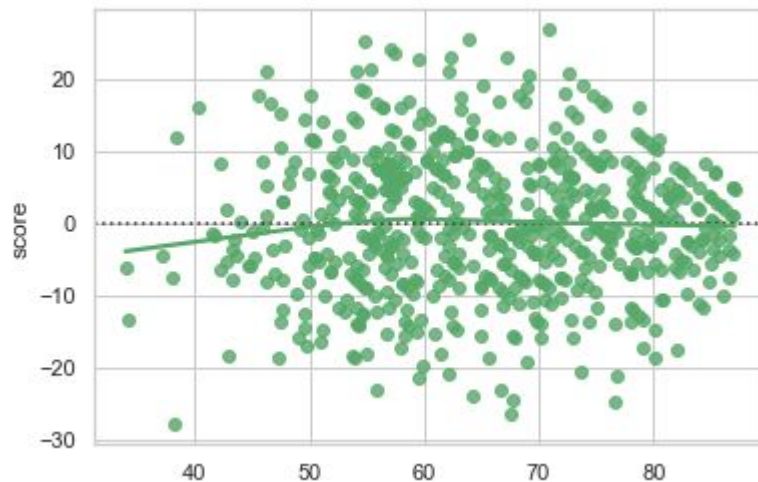
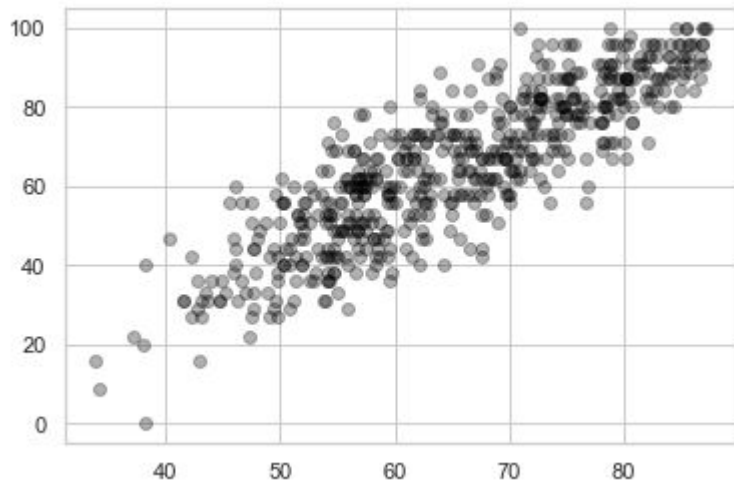


Lasso Regression - .48 R Squared





Gradient Boosting Regressor



- .68 R Squared
- 115 MSE



Next Steps

- Statistics to measure for the test
 - Pass Rate
 - Final Exam Score
- Design the strategy to communicate studying objectives to students
 - Email Campaign
 - On Screen Popup
 - Objective Progress Bar
- Implement and Measure