Thesis Proposal

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An Analysis of the COVID-19-Induced Flexible Grading Policy at Duke University

Background and Motivation

In the wake of the COVID-19 pandemic, the Trinity College of Arts and Sciences at Duke University introduced academic policy changes. During the Spring 2020 semester, all courses were switched to Satisfactory/Unsatisfactory (S/U) grading as opposed to the traditional graded (A-F) scale. While this was the only semester where all courses were allowed to be S/U and count for all requirements, other policy changes during the pandemic regarding S/U still remain.

With the rollback of most pandemic-era policies such as masking and social distancing long gone, it is natural to wonder if and/or when S/U policy will be reverted. This thesis seeks to determine if the current S/U policy has long-term academic benefits for Duke undergraduates and should persist, or if the change in S/U policy has long-term academic harms.

Research Question

What is the likelihood that a student who completed a prerequisite course with Satisfactory/Unsatisfactory grading will succeed in the subsequent course(s)? How has this changed over time?

Methodology

In line with the analysis from Mostafa et al. (2023), I plan to use course-level data obtained from transcripts and student-level data obtained from administrative records.

For my study, I plan course-level variables such as course code to identify sequences, course subject to determine departmental trends, and course grade (whether graded or S/U) to determine academic success. Academic profile variables or their proxies such as graduation term

and intended major may also be used to note trends among student groups. Additionally, ACT/SAT scores if available will be used to control for covariates since it is reasonable to assume that students with higher standardized test scores are typically more academically successful.

I will use logistic regression (Hosmer et al., 2013) for modeling whether or not a student succeeded in a subsequent course (1 for success, 0 for failure). More specifically, grades D, F, U, W (withdrawal), and I (incomplete) will be designated as failing to succeed.

To capture differences between pre-COVID and post-COVID policies, I plan to build separate logistic models for each time period.

Data Access and Technology Needs

My data will be provided by Duke's Assessment Office. In order to access the data, I will follow all necessary precautions including but not limited to: being on campus, using Duke's VPN, using a virtual machine/container, and completing any necessary training.

In terms of technology, I will be using R for most tasks such as data cleaning and statistical modeling.

Ethical Implications

While I am accessing sensitive student data, it will be de-identified using id numbers instead of names. I also do not intend to use socio-demographic data such as sex, race/ethnicity, and income. Additionally, due to restrictions on this data, my results will be kept private and internal to Duke unless special permission is given to further reduce any privacy concerns.

Timeline

Since I plan to graduate in December 2025, my proposed timeline is as follows. By the end of May, I will submit my thesis proposal. Due to limitations for accessing my data, I will spend the summer continuing to refine my methodology and attempt to find practice data. In August, I will have access to my data such that I can get to know the dataset and perform preliminary data analysis. Additionally, I hope to submit a progress report in late August/early September. By September, I will begin implementing and evaluating my models. The focus of October will be on writing my paper, and I will present my thesis in November.

Target Conference or Publication

Due to the private nature of my data, it is unlikely that I will be able to present or publish my work outside of Duke's offices/faculty. I will work with the Assessment Office to determine possibilities for presentation.

Bibliography

Hosmer Jr, D. W., Lemeshow, S., & Sturdivant, R. X. (2013). *Applied logistic regression.* John Wiley & Sons.

Mostafa, S. A., Ferguson, R., Tang, G., & Ashqer, M. (2023). An Analysis of the COVID-19-Induced Flexible Grading Policy at a Public University. *Higher education policy*, 1–34. Advance online publication. https://doi.org/10.1057/s41307-023-00315-2