CAPTURING STUDENT EFFORT AND ESTABLISHING ITS RELATIONSHIP TO PERFORMANCE WITH AN ONLINE COURSE MANAGEMENT SYSTEM

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ABSTRACT

This paper reports on the innovative use of the Blackboard course management system as the principal deliverer of course content and collector of data used to investigate the relationship between student effort and academic performance. We measure student effort by tracking the number of times students access educational resources that have been placed on the Blackboard system. Then, using these proxies for student effort, we examine whether more frequent accessing of the educational resources is related to better performance. In addition we examine whether the timing of when the resources are accessed has an effect on students' exam performance.

INTRODUCTION

The prominent Blackboard course management system was used to provide further insights into the relationship between students' effort and academic success. In this study, Blackboard was used both as the primary method to deliver course content and to measure the effort of students enrolled in an undergraduate finance course.

EFFORT AND PERFORMANCE IN FINANCE COURSES

A limited number of studies have investigated the effects of students' efforts on their academic performance in finance courses [1] [3] [2] [4]. Unlike these prior studies that utilized self-reported data or required researcher classification judgments, the measures of student effort used in this study are based on objective observations recorded by Blackboard's statistics tracking feature. The tracking feature records every time a student accesses an educational resource placed out on the system. Instructor produced educational resources of PowerPoint lectures made with Adobe Presenter, recorded instructor calculator entry and excel spreadsheet lectures made with Adobe Captivate could only be viewed online via the university's Blackboard course management system. We believe that the number of times students viewed the educational resources before each exam provides a viable, objective measure of the students' study effort.

DATA ANALYSIS

Our sample data was based on the efforts of 158 students enrolled in a financial institutions and markets course. Through Blackboard we were able to observe when and how often students viewed each of the primary study resources over the course of the semester. We tracked the number of times each of the study resources that were relevant for the upcoming test was viewed by each student. Four equally weighted and evenly spaced tests were administered during the semester. Although the course content and study resources were delivered online, test were administered in the classroom.

Three different study period measures were examined. First, we tracked how many times each student viewed the resources for each test from the day following the previous test (or start of semester with test 1) and the date of the test. This time period was roughly 25 to 30 days for each of the four tests. We used the number of views the ten days prior to each test as a second measure of the study period and the number of views two days prior to each test as the third. Ten days prior might be viewed as a more realistic studies period while the prior two days might be viewed as a "cram" period. Demographic information available on each student that reflected common characteristics such as cumulative grade point average, academic class and major, gender and the current semester course load were also included in our analyses.

The students' mean overall final course grade was 73.46 and ranged from a low of 49.63 to a high of 95.55. Total views of the educational resources between tests over the semester averaged 47.27 with a low of 2 (he flunked) and a high of 156. The sum of the number of views over the ten days preceding each test for the semester averaged 34.12 with a low of 0 and a high of 100. The sum of the views during the 2 days preceding each test over the semester averaged 17.38 with a low of 0 and a high of 41. From these numbers, roughly 72% of the total views occurred during the ten days preceding each test with 36% of the total views occurring the two days preceding each test. The mean cumulative grade point average was 3.03 with a minimum of 1.78 and a high of 4.00 out of a 4.00 grading scale. Most of the students were seniors with only one sophomore. Together finance and accounting majors made up 86% of the sample and male students represented 76% of the sample. The credit hours being taken during the semester averaged 14.97 hours with a minimum of 3 hours and a maximum of 21 hours.

Pearson correlation analyses and ordinary least squares regressions were the primary statistical tools used to investigate the relationship between the students' efforts and the grades they earned on exams. In summary, the results of our study provide evidence and additional insights that students' performance is positively influenced by the effort they put forth. A full description of the research methodically employed, the analysis and results, the limitations, the inferences and future areas of research are provided in the full version of this paper – contact the authors if interested.

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