A proposal for the Learning Analytics Fellows Program

Evaluating the Teaching Effectiveness of Principles of Microeconomics Instruction at the IU Bloomington Campus Relative to Other Institutions

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Abstract:
Enrollments in the College of Arts and Sciences at IU are continuing to shrink as, among other reasons, more and more incoming students choose to transfer into IU credits taken at other institutions, in particular from community colleges such as Ivy Tech. This transfer of credits applies to classes such as E201 Principles of Microeconomics. As community colleges and Research 1 Universities like IU employ different pedagogies, e.g. different class sizes and different teaching personnel, teaching effectiveness may well vary across these two institutions.

As E201 Principles of Microeconomics is a prerequisite for E321 Intermediate Microeconomics effective teaching in E201 is crucial. Inadequate teaching in E201 may cause problems in upper level classes like E321 and result in low grades, grades of W or DFW.

The aim of this study is to investigate if or to what extent students who are transferring in credit to IU for E201 are (in)adequately prepared for higher level courses such as E321.

Project Description

Purpose:
Having studied how overall enrollments trends at Indiana University – Bloomington as well as Economics majors have changed in Paul’s previous studies, we are planning to compare the outcomes in E321 among students who took E201 here at IUB versus those who transferred it in form other institutions, while correcting for a variety of factors. We would like to continue using Tableau to illustrate the results of this study.

Significance:
It appears some students who take E201 outside of Indiana University-Bloomington do not perform in E321 as well as students taking E201 at IUB. Our hypothesis is students transferring in credit for E201 from outside institutions will not fare as well in E321 as students who took E321 here at IU. The legal framework that allows such transfers does not serve students well in that case. The information provided by this research may thus be used to change the legal framework to the benefit of students.

Anticipated Outcomes:
We expect the effect of having taken E201 elsewhere, rather than at IU, may have different effects along the skill distribution of students. We will use quantile regressions to study these kinds of treatment effects across the skill distribution of students.

Research Methodology:
We plan to run a regression of the grade received in E321 on whether the student took E201 here at IUB or transferred it in form other institutions. Of course we will correct for a variety of factors such as SAT score, race, gender, the average grade in the E321 class, etc., as well as possibly of class time, instructor, class GPA, and the instructor syllabus to determine the class pedagogy.
Means to Measure Success:
For robustness purposes we will consider several measures of E321 learning outcomes such as grades or the probability of receiving a particular grade, especially a W or DFW.

Previous Research Results:
Based on over 3,451 students who took Intermediate Microeconomics (E321) at Indiana University Bloomington from the fall semester of 2006 to fall semester of 2015 (28 semesters), the average grade distribution remained relatively consistent each semester with an overall average grade of 2.35 in E321. However, there were a few surprises. Notably, there was a significant negative grade penalty (received a lower grade) of -0.55 in E321 compared to the other courses student took the same semester as E321 and students grades were 0.32 points lower in E321 than in E201.

The most significant finding was students who transferred E201 and E202 credit into IU-Bloomington performed worse in E321. In particular, students who transferred E201 and E202 from Ivy Tech in Bloomington on average earned a 2.08 in E321 compared to 2.52 for students who took E201 and E202 at IU-Bloomington. Furthermore, of the 3,135 students who took E321, 20% (610) withdrew from the course. Interestingly, only 17.8% students transferring E201 and E202 and 15.0% of students earning Advanced Placement (AP) credit withdrew from E321.

In conclusion, we would like to continue this study to better illustrate whether students taking E201 outside of IUB perform differently in E321 compared to students taking E201 at IUB.

Thank you for your consideration and attention in this matter.

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