THERE IS NO I IN TEAM: PEER EFFECTS IN ENGINEERING

Presenter: Amanda Griffith (Wake Forest University)
Co-Author: Joyce Main (Purdue University)

Peer effects are often difficult to estimate causally in the post-secondary setting due to a lack of randomization in the college classroom. In this study we use data on first-year engineering students that were randomly assigned to four-person teams in a first-year class to examine how increased diversity of gender, race/ethnicity, or ability on a team can impact individual outcomes. Our findings indicate that for female students, having an all-female team impacts field of engineering chosen. For male students, an increase in gender diversity on the team also improves persistence and impacts field choice. For minority students there is some evidence of a negative impact of additional minority students on a team. Ability diversity also impacts grades and persistence, but the effects differ by demographics. Our results indicate that there are gains to increased gender diversity, both for male and female students, which could be particularly important in a field like engineering where there is currently low representation of women.

THE EFFECTS OF NATIONWIDE TUITION FEE ELIMINATION ON ENROLLMENT AND ATTAINMENT

Presenter: Robert Garlick (Duke University)

I study the effects on education outcomes of nationwide primary and secondary school fee eliminations in South Africa. This policy shifted education financing from a mixed user fee and government transfer system to a pure transfer system. This mirrors policy debates in developed and developing countries about the optimal mix of school fees, (subsidized) loans, and transfers to finance primary, secondary, and tertiary education. I find that fee elimination increases enrollment in the early grades of secondary school but decreases both enrollment in the final grade and the number of students passing graduation exams. The latter result may reflect negative effects of fee elimination on school quality, by increasing class sizes and reliance on part-time and temporary teachers. The general pattern of results is consistent with early enrollment decisions being driven by the option value of high-return secondary school graduation, with the option value decreasing as students enroll in higher grades but fail to progress. My results show that demand-side subsidies may have limited ability to increase education participation when quality is low. They also highlight that fee elimination, and other demand-side subsidies, can be very expensive relative to the effects on education enrollment when demand is this price inelastic.
DOES TAKING A BREAK MAKE STUDENTS (UN)PRODUCTIVE?

Presenter: Kathryn Rouse (Elon University)
Co-Author: Steven Bednar (Elon University)

Cognitive fatigue has been shown to cause academic performance to deteriorate over the course of the school day for students of all ages. We rely on random placement of physical education classes to test the effect of a break from classroom learning on academic achievement for adolescent students. We find support for a simple model that suggests a break can help students rebound from cognitive fatigue later in the day, but removing students who are actively engaged from the classroom can disrupt the flow of learning earlier in the day and decrease achievement.

DUAL-CREDIT COURSES AND THE ROAD TO COLLEGE: EXPERIMENTAL EVIDENCE FROM TENNESSEE

Presenter: Steven Hemelt (University of North Carolina, Chapel Hill)
Co-Authors: Nathaniel Schwartz (Tennessee Department of Education) and Susan Dynarski (University of Michigan)

Dual-credit courses aim to smooth the transition from high school to college. We partnered with the Tennessee Department of Education to conduct the first randomized controlled trial of the effects of a dual-credit math course on a range of high school and college outcomes. We find that the dual-credit advanced algebra course alters students’ subsequent math course-taking trajectories during late high school, reducing the likelihood of enrollment in remedial math and boosting rates of enrollment and success in Advanced Placement (AP) math courses. We fail to detect an effect of the dual-credit math course on overall rates of college enrollment, but find that the course tilts students’ choices away from in-state public two-year colleges and toward in-state four-year universities. Finally, we see suggestive though ultimately inconclusive evidence of improvements in early math performance during college due to the dual-credit high school math course.

PUBLIC INVESTMENTS IN EARLY CHILDHOOD EDUCATION AND ACADEMIC PERFORMANCE: EVIDENCE FROM HEAD START IN TEXAS

Presenter: Esra Kose (Bucknell University)

Do early childhood investments for low-income children narrow the academic achievement gap in elementary school? I study this question in the context of the largest federal early childhood program in the U.S., Head Start (HS), by leveraging variation in HS funding expansions across local communities during the 1990s. Using student-level data from Texas, I find that exposure to more generous HS funding during childhood led to a 15% reduction of the test score gap between Hispanic and white low-income students. Hispanics benefited from early childhood investments through increased access to the HS program and improvements in program inputs during early childhood. These advances, in turn, led to enhancement in their language proficiency and reduction in their likelihood of special education needs during elementary school.