

Dissertation Proposal

The Economics of Education Program Evaluation

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Friday, April 26, 2013

9:30 AM

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My dissertation evaluates education programs at district, classroom, and curriculum levels. The work shows that within-district school choice policies are an effective retention tool and that students can improve their math abilities significantly when offered the chance to use a software-based tutor.

My first essay examines the enrollment, achievement, and behavioral effects of magnet programs in a large urban district in the US. Students apply for the magnet schools of their choice. There are no entrance requirements and applicants to oversubscribed programs are randomly permitted entry or not depending on the results of a lottery. The paper shows a novel econometric technique, in the spirit of Manski, for dealing with selective attrition from this initially randomized design in order to bound the treatment effects. The magnet programs are shown to be an effective mechanism for keeping students enrolled in the public school district. While results on achievement are largely insignificant (though generally positive), magnet students are shown to improve over their control group peers on a number of behavioral measures, including offenses and suspensions at the elementary school level and absences and tardies at the high school level.

My second essay evaluates the impact of a software based math curriculum in Chilean middle schools. The Cognitive Tutor Bridge to Algebra program complements traditional classroom lectures with a personalized, computer-aided learning environment. Students are able to proceed at their own pace, ask for hints, and receive extra problems on concepts with which they struggle. The Bridge to Algebra program was implemented in seven schools and the students there significantly improved their national standardized exam scores over peers in seven control schools. Further, students who completed more of the Bridge to Algebra curriculum saw their test scores increase the most.

My proposed third essay includes more findings on the Cognitive Tutor. It incorporates data from other countries and evaluates the hint-seeking behavior of students.