

What goes in, must come out?

Initial Academic Achievement, College Value Added and Teacher Quality

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This paper studies the relationship between pre-college academic achievement and teacher performance using data on the population of applicants to teaching colleges in Chile from 1977 to 2011. We find a robust positive and concave relationship between precollege academic achievement and a variety of outcomes measures including probability of graduation, college exit exams, probability of employment, teacher evaluations, and test score value added. Using a regression discontinuity analysis building on institutional features of the centralized admissions system in Chile, we study whether some colleges prepare teachers better than others, potentially undoing initial deficiencies. We find no evidence that any particular teaching college help underachieving students systematically improve as teachers relative to others. These results suggest that while high performing teachers are hard to identify, low performing teachers are associated with low academic achievement prior entering college. To evaluate the policy relevant of a minimum standard for entering teaching colleges, we develop a model that clasifies potential teachers based on the rich set of precollege test information. This model provides feasible college specific cutoff rules that exclude students with 90% chance of being a low performing teacher. Partial equilibrium analysis shows that if implemented, these rules would have binded for 25% of students entering teaching colleges in 2016 and would have affected 20% of current teachers, including 87% of the worst performers based on government teacher evaluations.