The Impact of Charter Schools on Student Learning Outcomes in the United States

Researchers:

Joshua Angrist

Susan Dynarski

Thomas Kane

Parag Pathak

Christopher Walters

Sector(s): Education

Location: Lynn, Massachusetts, United States of America

Sample: 457 students in two school systems

Target group: Students Urban population

Outcome of interest: Student learning

Intervention type: School choice

AEA RCT registration number: AEARCTR-0001209

Partner organization(s): KIPP Massachusetts, Massachusetts Department of Elementary and Secondary Education

Charter schools have been both praised and criticized as an innovative alternative to the public school system, but there are few rigorous studies documenting their effects on learning outcomes. Proponents claim they provide students with better and diverse education options, but critics say these schools focus on relatively high achievers at the expense of students facing the greatest barriers to academic success. Researchers examined the impact of time spent at a charter school on students' learning outcomes in Lynn, Massachusetts. Results suggest that enrollment at a charter school significantly improved students' test scores in both math and English language arts, with more pronounced learning gains for students with low baseline achievement levels.

Policy issue

Charter schools—independently run, publicly funded elementary and secondary schools—have been a controversial attempt to improve the quality of education for lower-income students and students of color. In exchange for flexibility and autonomy, charter schools are accountable for producing certain results and performance indicators set forth in each school's charter. Proponents claim that this flexibility allows educators to develop new and innovative learning strategies, providing students with better and diverse education options. But critics say that charter schools often focus on relatively high achievers at the expense of students who face the greatest barriers to learning, including students with disabilities, English language learners, or students with low baseline achievement levels. Anecdotal evidence suggests positive achievement effects of charter schools, but there are few rigorous studies documenting their impact. This paper summarizes a randomized evaluation of the impact of a charter school on student learning outcomes in the United States.

Context of the evaluation

The United States' largest network of charter schools is the Knowledge is Power Program (KIPP), with 80 schools operating or slated to open soon. Targeting low-income students and students of color, KIPP schools feature longer school days and years, selective teacher hiring, and strict behavior norms, and encourage a strong student work ethic.

KIPP Academy Lynn is the only KIPP school in New England. Opened in the fall of 2004, it is a middle school that serves about 300 students in grades 5-8 in the low-income city of Lynn, Massachusetts. Most KIPP Lynn students live in Lynn and would otherwise attend a school in the Lynn Public Schools system. The population of Lynn is more than two-thirds white, but 70 percent of the 13,000 students in the Lynn Public School system are students of color; Lynn Public School and KIPP Lynn students are predominantly Hispanic and black. The average class of fifth graders, the entry grade level at KIPP Lynn, is 57 percent Hispanic and 24 percent black. Roughly 19 percent of students at KIPP Lynn receive special education services, and about a fifth have limited English proficiency (LEP.) KIPP Lynn is unusual as a charter school in its enrollment of such a high proportion of Hispanic students, English language learners, and students receiving special education services.



A young student focused on a hands-on task in a school laboratory.

Photo credit: Shutterstock.com

Details of the intervention

Statewide regulations require Massachusetts's charter schools to use a lottery to determine admission when oversubscribed. Researchers used the 2005-2008 KIPP Lynn admissions lotteries to estimate the impact of the charter school on students' learning outcomes. Of the 457 students in the lottery analysis sample, 69 percent were offered a spot at KIPP Lynn and 54 percent enrolled. Those who were not offered a spot (the lottery losers) served as a control group.

Lottery winners and losers were matched to the Massachusetts Student Information Management System (SIMS), a database with demographic and other information for all public school students in the state. Applicants' SIMS records were then matched to fifth-eighth grade scores on the Massachusetts Comprehensive Assessment System (MCAS) tests given in the spring of 2006-2009. By the time they were tested, lottery winners had spent an average of 1.2 years more at KIPP Lynn than the control group.

Results and policy lessons

Lottery winners enrolled in KIPP Academy Lynn performed better on both math and English tests than lottery losers, with particularly large gains in math. For each year at KIPP Lynn, student math scores increased by about 0.35 standard deviations and English scores increased by 0.12 standard deviations.

Critics of charter schools charge that the schools often ignore or have been unsuccessful with Hispanic populations. However, researchers demonstrated that the effect of KIPP Lynn on learning outcomes were reasonably similar for Hispanic and non-Hispanic students. Hispanic lottery winners' math scores increased by 0.35 standard deviations for every year at KIPP Lynn, while non-Hispanic lottery winners' scores increased by 0.33 standard deviations.

Charter school critics also argue that while some students can benefit from charter school attendance, students facing serious barriers to learning can lose out. Researchers found that KIPP Lynn actually raised achievements more for students facing barriers to learning. Students with baseline scores half a standard deviation below the applicant mean experienced an additional 0.06 standard deviation boost in scores for every year spent at KIPP Lynn.

Angrist, Joshua D., Susan M. Dynarski, Thomas J. Kane, Parag A. Pathak, and Christopher R. Walters. 2010. "Inputs and Impacts in Charter Schools: KIPP Lynn" American Economic Review: Papers & Proceedings 100.