



Charter Schools and Achievement

by JULIAN R. BETTS AND Y. EMILY TANG

Policymakers, funders, and the general public need to know how U.S. charter schools are performing nationally. But because charter school studies are typically conducted in small numbers of states or in particular schools, it is not always easy for researchers to give a good answer. In a detailed paper prepared for the Center on Reinventing Public Education (CRPE), we assessed the literature on student achievement in charter schools.¹ This essay summarizes our findings.

Researchers have tried to answer the broad question about charter schools and achievement through a variety of approaches. Although some studies have found large positive effects of charter schools, for instance in New York and Boston, more generally studies have painted a pessimistic story: charter schools generally perform about the same as other public schools or results are “mixed,” with some charters performing much better than others. These kinds of findings might leave policymakers wondering why they should expend political capital to pass a charter law for the first time, expand a state cap on charters, or invest more money to support the growth of charters. They might ask themselves, if charter school policies do not contribute to overall better student achievement or at least help close the achievement gap, why bother?

But it is premature for policymakers to believe that charter schools are weak or ineffective. In fact, based on our analysis, there is reason for optimism that, despite great variation in results, charter laws can be effective policy tools. A growing base of rigorous research can help inform those policies.

PAST CHARTER RESEARCH TELLS US LITTLE

The volume of research on charter schools and achievement has mushroomed in the last half decade. However, most of these studies have used relatively unsophisticated “snapshots” of student achievement at a single point in time. Or these studies have looked at changes in test scores in a given grade over time without accounting for the fact that a school enrolls different students in that grade in different school years. Such methods can be misleading, because charter schools do not attract “typical” students, and the demographic background of schools’ populations can fluctuate from year to year. A number of studies, both national and statewide, suggest that charter schools disproportionately attract students from less affluent and minority backgrounds. Without taking these differences into account, academic studies may be prone to understating the benefits of attending charter schools.

1. Julian R. Betts and Y. Emily Tang, *The Effect of Charter Schools on Student Achievement: A Meta-Analysis of the Literature*, National Charter School Research Project (Seattle, WA: Center on Reinventing Public Education, October 2011).

CRPE's Charter School Achievement Consensus Panel documented these patterns, and argued that these "snapshot" approaches are unlikely to produce unbiased estimates of the causal effect of attending a charter school on a student's achievement.² The Panel suggested that two different approaches promised to provide more accurate results. The first would be to compare those who win and those who lose lotteries to attend a given charter school. Eight papers have used this approach to date, and the total number of charter schools studied in these papers is just under 100. The Consensus Panel argued that the next best approach would be to use one of several variations of value-added models. These models follow individual students over time and examine improvement in test scores over time. This approach is helpful because it takes into account a student's past academic history.

This review focuses only on studies using these two high-quality approaches. Focusing on only high-quality studies increases the likelihood that conclusions will be valid. However, the most rigorous studies are not always fully representative of all charter schools. Most of the studies we reviewed include just a sample of charter schools from a particular city or state—or perhaps across a few states. Because different states have vastly different charter school laws and methods of implementation and oversight, findings from one city or state rarely tell us anything meaningful about what is going on elsewhere.

OUR APPROACH

With that caveat in mind, we explored both approaches—randomization based on lotteries, or taking into account a student's past achievement through value-added modeling. These studies make up a subset of perhaps one-third of the literature. Some readers may find it

disappointing that we excluded two-thirds of charter studies, but there is strong evidence that weaker methods of study produce inaccurate findings by failing to take into account the relatively disadvantaged backgrounds of students who attend charters.³

We used a variety of methods to assess whether charter schools do or do not outperform their traditional public school counterparts. For a complete description of the methods used and results, see the complete paper, *The Effect of Charter Schools on Student Achievement: A Meta-Analysis of the Literature* (available at www.crpe.org).

Our analysis was designed to produce estimates of overall effect of charter schools on reading and math achievement using meta-analytic methods.

FINDINGS

The review indicates that it is wrong to say that charter school performance is simply "mixed" or on par with traditional public schools. When we look only at the studies using methods powerful enough to give valid results we learn that:

- ✓ Despite considerable variation among charter schools, there is ample evidence that charter elementary schools on average outperform traditional public schools in both reading and math, and that charter middle schools outperform in math.
- ✓ The magnitude, or effect size, of the results at the elementary charter schools in reading and math is estimated at 0.022 and 0.049 respectively. These effect sizes indicate the proportion of a standard deviation in test score gains that a student would experience after one year enrolled in a charter school. These are positive but modest results. Cast in a more familiar light, these effect sizes suggest that attending an

2. Charter School Achievement Consensus Panel, *Key Issues in Studying Charter Schools and Achievement: A Review and Suggestions for National Guidelines*, NCSRP White Paper Series, No. 2 (Seattle, WA: Center on Reinventing Public Education, May 2006).

3. Julian R. Betts, Y. Emily Tang, and Andrew C. Zau, *Madness in the Method? A Critical Analysis of Popular Methods of Estimating the Effect of Charter Schools on Student Achievement* (San Diego, CA: University of California, San Diego, 2007).

elementary charter school for one year would boost a student who was originally at the 50th percentile of the math and reading test score distributions to rise to about percentiles 50.4 and 52 after a year. (A student at the 52nd percentile would rank ahead of 52 out of every 100 students on average.) Middle school effect sizes are 0.011 and 0.055 for reading and math respectively. This is enough to boost a student from the 50th percentile to about percentiles 50.2 and 52 after one year. For comparison purposes, reducing class size by 5 students is generally thought to produce an effect size of .01 to .015 standard deviations. The results of studies of one kind of charter school cannot and should not be generalized to all charter schools.

- ✓ At the high school level, there is no overall significant effect of charter schools. But results vary by locality: in some locations charter high schools are outperforming, while in others they are underperforming.
- ✓ KIPP schools appear to have a statistically significant and very positive influence on both reading and math achievement, with the effect size for math being twice as large as for reading. Estimated effect sizes for reading and math in KIPP schools are 0.096 and 0.223 respectively. These impressive effect sizes are enough to move a student initially at the 50th percentile to the 54th and 59th percentiles in a single year.
- ✓ Effect size estimates are almost always higher in studies of urban charter schools than in the overall sample, suggesting that urban charters may be more effective than suburban or rural charters, especially at the middle and high school levels.
- ✓ The number of studies that disaggregate results for various types of students is too small to produce meaningful results in this analysis, but if we had to rank the positive effects by student racial/ethnic group, the ranking would be: black students, followed by Hispanic, Native American, and finally

white students. There are some signs of positive results of attending charter schools for students with special needs and English language learners.

Examining all of these results as separate parts of a whole, charter schools look to be serving students well, at least in elementary and middle schools, and probably better in math than in reading. There appears to generally be more variation in the results for math than in reading.

Although the results cannot tell us why some charter schools perform better than others, it is likely that state laws and implementation influence outcomes. Boston, Idaho, San Diego, New York City, and Delaware demonstrated some of the larger positive effect sizes for math and reading in certain grade spans. These are programs that are getting good results and they are worth paying attention to and replicating. Such promising efforts are important for another reason as well: they point to areas where states or authorizers can ask charter schools to improve and where they can make strategic investments to help. Charter schools in Ohio and North Carolina produced fairly consistent negative effects. Studies of Texas charter schools show both negative and positive effects, depending on the subject area.

While these results are intriguing and carry with them potentially important implications, the literature needs to be treated with some caution. Researchers have conducted rigorous value-added or lottery-based studies of charter schools in only a small number of states and major cities, although that number has increased rapidly in the past several years. Even among the relatively rigorous studies we examined, the quality of the data and analysis vary. The findings reported here should be considered preliminary and suggestive, a launching point for further investigation rather than a confirmation or nullification of the value of charter school policies.

IMPLICATIONS

The mission of charter schools is to use their autonomy to develop distinct strategies for improving curricula and teaching methods. The finding of considerable heterogeneity among charter schools probably reflects this spirit of experimentation. In the long run, the variation we see in charter school achievement may shrink or grow.

Over time, it is possible that the number of weaker charter schools will diminish or close due to market forces, while the number of stronger charters expands. Hanushek, Kain, Rivkin and Branch (2007) provide fascinating evidence from Texas that parents are more likely to pull their children out of ineffective than effective charter schools, i.e., out of charter schools that

boost students' test scores by less than average.⁴ This is from just one state, but the finding suggests that in the long run, heterogeneity in quality could lead to uniformly higher school quality in the charter sector.

Armed with more information that shows where their own charter schools are strong or weak academically (and which states are producing successful outcomes), policymakers could go one step further. They could decide to improve state laws and support structures to attract higher-quality charter operators and place pressure on authorizers to close low-performing charter schools. Philanthropic and government agencies should support more widespread and high-quality studies to make that possible.

4. Eric A. Hanushek, John F. Kain, Steven G. Rivkin, and Gregory F. Branch, "Charter School Quality and Parental Decision Making with School Choice," *Journal of Public Economics* 91 (2007): 823-48.

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ABOUT NCSR

The National Charter School Research Project (NCSR) brings rigor, evidence, and balance to the national charter school debate. NCSR's goals are to 1) facilitate the fair assessment of the value-added effects of U.S. charter schools, and 2) provide the charter school and broader public education communities with research and information for ongoing improvement.

For more information and research on charter schools, please visit the NCSR website at www.ncsrp.org.

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