

What does it mean for a school reform to work?

A “Medical Model” for Education Research

Focus on rigorous evaluations that can reliably establish cause and effect.

All Evaluations Seek to Make “Apple-to-Apple” Comparisons

We want to compare two groups who are alike on all dimensions, except for receipt of an intervention.



The “Gold” Standard: Random Assignment Experiments

Random assignment helps to ensure that the group that receives an intervention and the control group are alike.

This increases our confidence that any observed change is the result of the intervention.



Example: Effectiveness of Oversubscribed Boston Charter Schools

| | Effect on Achievement |
|------|-----------------------|
| Math | 0.26* |
| ELA | 0.14* |

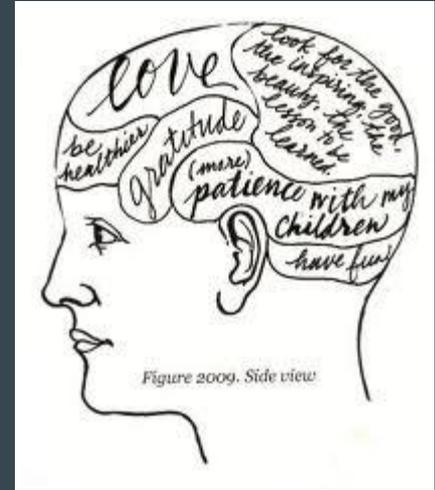
These effects equate to students scoring 12 percentage points higher in math and 6 percentage points higher in ELA after just one year.

Source: Cohodes, Setren, Walters, Angrist, and Pathak (2013)

Not The “Gold” Standard: Quasi-Experimental Studies

Quasi-experimental approaches attempt to “mimic” the experimental method by statistically controlling for differences across groups, to make them more alike.

The problem is there we aren’t able to control for all the relevant factors and there are often good reasons to believe that *unobservable* factors shape the outcome of interest.



How Might a Non-Experimental Approach Affect the Results?

| | Effect on Achievement | |
|------|-----------------------|-------------------|
| | Gold Standard | Not Gold Standard |
| Math | 0.26 | |
| ELA | 0.14 | |

Source: Cohodes, Setren, Walters,
Angrist, and Pathak (2013)

How Might a Non-Experimental Approach Affect Boston's Results?

| | Effect on Achievement | |
|------|-----------------------|-------------------|
| | Gold Standard | Not Gold Standard |
| Math | 0.26 | 0.30 |
| ELA | 0.14 | 0.19 |

Quasi-experimental analysis of the same schools reveals upwards bias in the estimate of Boston charter schools' effectiveness.

Source: Cohodes, Setren, Walters, Angrist, and Pathak (2013)

Generalizing From The Gold Standard

| | Oversubscribed charter schools | | Undersubscribed charter schools |
|------|--------------------------------|-------------------|---------------------------------|
| | Gold Standard | Not Gold Standard | Not Gold Standard |
| Math | 0.26 | 0.30 | |
| ELA | 0.14 | 0.19 | |

Source: Cohodes, Setren, Walters,
Angrist, and Pathak (2013)

Generalizing From The Gold Standard

| | Oversubscribed charter schools | | Undersubscribed charter schools |
|------|--------------------------------|-------------------|---------------------------------|
| | Gold Standard | Not Gold Standard | Not Gold Standard |
| Math | 0.26 | 0.30 | 0.02 |
| ELA | 0.14 | 0.19 | 0.02 |

Source: Cohodes, Setren, Walters,
Angrist, and Pathak (2013)

New research says research is valuable; researchers glad

Associated Press

UW-Madison Chancellor Donna Shalala and researchers are pleased with a new report that reaffirms the value of research that may not pay off until years after taxpayers have paid for it.

Shalala said the report by the National Science Board Commission on the Future of the National Science Foundation reinforced the foundation's commitment to so-called basic research in science and the social sciences.

"You cannot have technology unless you have basic research," said

short-term research should be done to solve specific, immediate problems such as AIDS or the economy.

The report said improving the industrial strength of the United States must be a priority, but maintained that changing the National Science Foundation would not accomplish such goals.

"Failures in the marketplace have not been the result of slow transfer of academic science to industry," the report said. "In fact, American firms have been the first to commercialize virtually all innovative products but have lost market share to competitors with

neering. The foundation doles out about \$2.5 billion for research projects.

The report pleased administrators and professors at UW-Madison, where an estimated 80 percent of the research could be considered basic or long-term.

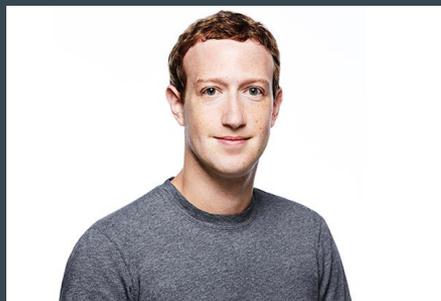
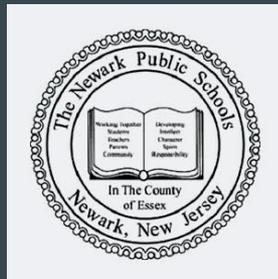
John Wiley, dean of the graduate school, said the attempt to distinguish between basic research and applied research was "wrong-headed and counterproductive."

"If people 100 years ago had worked only on how to make better horseshoes, who would have done the work leading to cars?" Wiley

Evidence and School Reform: The Case of Newark

School Reform in Newark

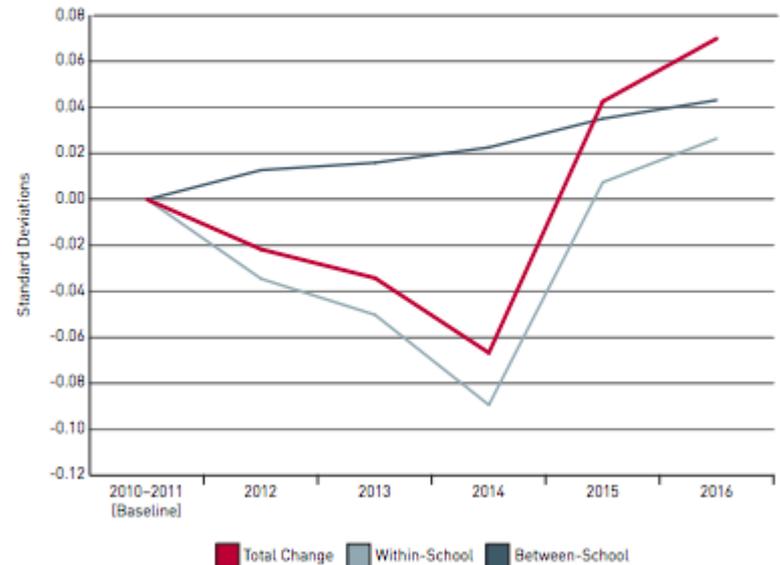
Aided by \$200 million in private philanthropy, city and state leaders launched a major school reform effort in Newark, New Jersey.



Did it work?

Researchers from Harvard examined the effectiveness of the two reform strategies. They found, after an initial decline in student achievement gains, Newark's students were gaining an additional 0.07 standard deviations more per year. About 62% of the improvement in achievement gains can be attributed to "between-school" changes, such as growth in charter enrollments, while 38% can be attributed to "within-school" reforms, like new curriculum.

Figure 1. Change in Newark's Student Achievement Growth in English Relative to Similar NJ Students and Schools Since 2010-2011



Did it work?



Joe Siedlecki @JoeatMSDF · Oct 16

Yet another study proving common sense: Move kids from failing schools into better schools and kids learn more. [@NeeravKingsland](#) [@smarick](#)

Civic leaders should embrace strategies that maximize the expansion of the best schools and close the worst schools.



Andy Smarick @smarick · 23h

This & DC/NOLA experience argue systemic reform (seed/feed/weed) is working cepr.harvard.edu/evaluating-new... [@NeeravKingsland](#) [@chrisbarbic](#) [@tussof](#)

Questions for Discussion

What can you conclude about the effectiveness of Newark's reform strategy?

What additional evidence would you want to understand whether Newark's reform strategy worked?

Based on the evidence presented in the study, would you recommend Newark's reform strategy to other cities?

If yes, what cautions would you offer to would-be reformers?

If no, what would you do differently?

Understand how evidence can inform debates over school reform

Your boss asks you to summarize the evidence on school choice. What do you tell her based on the research we've reviewed today?

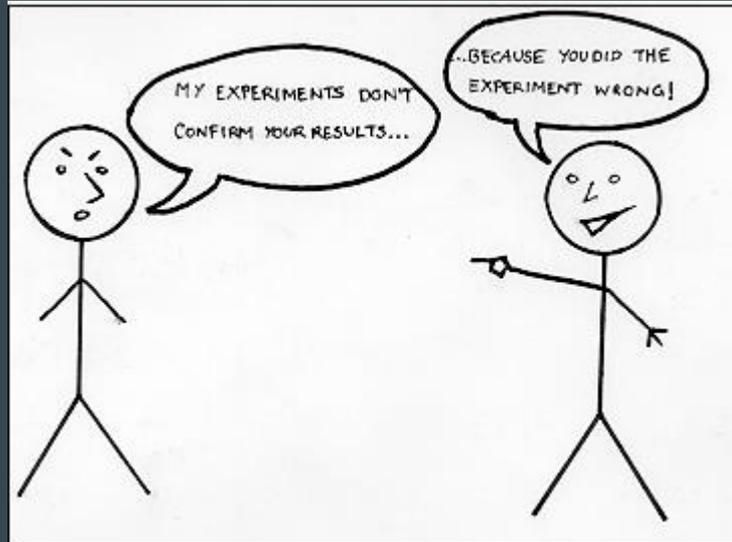
What cautions would you offer to a state legislator interested in a passing a school choice initiative?

Lessons learned on the role of evidence in school reform

- **Use caution:** evidence is rarely definitive, often inconclusive, and cannot resolve values-based questions
- **Recognize the tradeoffs:** between different research designs, outcomes, and reform strategies
- Don't ignore issues of policy design and implementation: the effects of any policy or program depends as much or more on *how* it's carried out as *whether* it's carried out

Limits Of The “Medical Model”

Many of the reforms that interest education researchers are complex - they hinge as much or more on *how* something is done as *whether* it is done.



Competing Claims on the Value of the Gold Standard

“If [the highest quality randomized control trials] shows the ‘vaccine’ to work, then [policymakers] should assume it also works in their town.”

- Jay Greene, University of Arkansas

“Simply selecting an evidence-based program does not ensure that similar results can be achieved in different settings and systems.”

-Ash Vasudeva, Carnegie Foundation for the Advancement of Teaching

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When the reform has a meaningful effect on the outcome of interest.

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What is a meaningful effect?

What is the right outcome?

What if the reform helps some people but harms others?

Research, on its
own, can't
address these!

What Newark Did

Within school reforms sought to improve existing schools through new curriculum, professional development, and changes to data and accountability.

Between school reforms sought to facilitate the movement of students from less effective schools toward more effective ones, including school closures, investments in the charter sector, and the introduction of a universal choice system.

The Work Wasn't Without Controversy

Program to turn around Newark's struggling schools embroiled in controversy

The ugly reform mess in Newark public schools – by a top Newark education official

Newark student protesters declare victory after 4-day sit-in against superintendent

As Newark school budget calls for layoffs, union fights back

Cami Anderson, Picked by Christie, Is Out as Newark Schools Superintendent