

## Does the research cited in *Increasing the Odds* apply to teachers working in high-poverty, urban schools?

The answer is a resounding yes. A great deal of education research either focuses exclusively on or at least includes a significant proportion of urban schools. As an academic question, education researchers are most interested in high poverty schools, many of which are located in urban areas. Like educators, academics spend a lot of time trying to figure out how to overcome the deficits that poverty creates. Also, research projects that focus on high-poverty urban schools are far more likely to receive funding from private or public sources.

This document presents the relevant statements and supporting research that was cited in NCTQ's *Increasing the Odds*, including whether a study included teachers working in urban schools.\*

### ATTRIBUTE 1. MASTER'S DEGREES

**The evidence is conclusive that master's degrees do not make teachers more effective.**

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<b>Urban Schools Only</b>	<b>Includes Urban Schools</b>	<b>Does Not Include Urban Schools</b>	<b>Unknown</b>
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Hanushek, E., 1992. The trade-off between child quantity and quality. *Journal of Political Economy* 100: 84-117.

<b>Urban Schools Only</b>	<b>Includes Urban Schools</b>	<b>Does Not Include Urban Schools</b>	<b>Unknown</b>
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Hanushek, E., Kain, J., and Rivkin, S., 1998, revised 2002. Teachers, schools and academic achievement. NBER Working Paper No. 6691.

<b>Urban Schools Only</b>	<b>Includes Urban Schools</b>	<b>Does Not Include Urban Schools</b>	<b>Unknown</b>
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Harnisch, D.L., 1987. Characteristics associated with effective public high schools. *Journal of Educational Research* 80: 233-41.

<b>Urban Schools Only</b>	<b>Includes Urban Schools</b>	<b>Does Not Include Urban Schools</b>	<b>Unknown</b>
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Jepsen, C., & Rivkin, S., 2002. Class size reduction, teacher quality, and academic achievement in California public elementary schools. San Francisco, CA: Public Policy Institute of California.

<b>Urban Schools Only</b>	<b>Includes Urban Schools</b>	<b>Does Not Include Urban Schools</b>	<b>Unknown</b>
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Link, C. and Ratledge, E., 1979. Student perceptions, I.Q. and achievement. *Journal of Human Resources* 14: 98-111.

<b>Urban Schools Only</b>	<b>Includes Urban Schools</b>	<b>Does Not Include Urban Schools</b>	<b>Unknown</b>
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Monk, D., 1994. Subject area preparation of secondary mathematics and science teachers and student achievement. *Economics of Education Review*, 12 (2):125-145.

<b>Urban Schools Only</b>	<b>Includes Urban Schools</b>	<b>Does Not Include Urban Schools</b>	<b>Unknown</b>
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Summers A., and Wolfe, B., 1977. Do schools make a difference? *The American Economic Review* 67 (4): 639-652.

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\* Some studies that were cited in the report were omitted here because they were meta-analyses (reviews of multiple studies) or because they had been included in the report as examples of flawed or substandard research on this topic.

**Some studies have even shown that master's degrees have a slightly *negative* impact on student achievement**

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown

Ehrenberg, R. and Brewer, D., 1994. Do school and teacher characteristics matter? Evidence from high school and beyond. *Economics of Education Review* 14: 1-23 (Ehrenberg and Brewer found that an increase in the percentage of teachers with master's degrees was associated with lower gains among white students but higher gains among black students).

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown

Murnane, R., 1975. *The impact of school resources on the learning of inner city children*. Cambridge, MA: Ballinger.

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools **Unknown**

Kiesling, H., 1984. Assignment practices and the relationship of instructional time to the reading performance of elementary school children. *Economics of Education Review* 3 (4) 341-50.

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown

Rowan, B., Correnti, R., and Miller, R.J., 2002. What large-scale, survey research tells us about the teacher effects on student achievement: Insights from the Prospects study of elementary schools. *Teachers College Record*, Vol. 104, No. 8, pp. 1525-67, <http://www.cpre.org/Publications/rr51.pdf>.

**For instance, one study found that having a master's degree modestly improved student achievement in grades 1 through 7 but had no impact in grades 8 through 12.**

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown

Ferguson, R., 1991. Paying for public education: New evidence on how and why money matters. *Harvard Journal on Legislation* 28: 465-498.

**One found that students of high school math teachers with a master's degree in mathematics performed slightly better than those of teachers without an advanced degree or a degree in a subject other than mathematics.**

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown

Goldhaber, D., and Brewer, D., 1997. Evaluating the effect of teacher degree level on educational performance. In W. Fowler (Ed.), *Developments in school finance*. Washington, D.C.: U.S. Department of Education.

**However, this same study did not find similar effects from master's degrees in other subject areas.**

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown

Goldhaber and Brewer 1998.

**Only one study looked at the impact of elementary teachers earning master's degrees in a subject area, and it found no effect.**

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown

Rowan, Correnti, and Miller 2002.

## ATTRIBUTE 2. EXPERIENCE

**In general, *some* experience does have an impact on student achievement...but it is not as clearly important as most policies and pay structures indicate. Experience has less of an impact on student achievement than other measurable teacher attributes.**

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<b>Urban Schools Only</b>	Includes Urban Schools	Does Not Include Urban Schools	Unknown
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Hanushek 1971.

<b>Urban Schools Only</b>	Includes Urban Schools	Does Not Include Urban Schools	Unknown
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Hanushek 1992.

Urban Schools Only	<b>Includes Urban Schools</b>	Does Not Include Urban Schools	Unknown
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Hanushek, E., 1996. A more complete picture of school resource policies. *Review of Educational Research* 66: 397-409.

Urban Schools Only	<b>Includes Urban Schools</b>	Does Not Include Urban Schools	Unknown
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Rowan, Correnti and Miller 2002.

**The preponderance of research has found that the benefits of experience are realized after only a couple of years in the classroom.**

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Hanushek, Rivkin and Kain 1998.

Urban Schools Only	<b>Includes Urban Schools</b>	Does Not Include Urban Schools	Unknown
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Rivkin, S., and Hanushek, E., 2003. How to improve the supply of high quality teachers, in Diane Ravitch (ed.), *Brookings Papers on Education Policy* 2004, Washington, DC: Brookings Institution.

**However, a well-designed recent study has found that teacher effectiveness continues to improve for closer to four or five years.**

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Urban Schools Only	Includes Urban Schools	<b>Does Not Include Urban Schools</b>	Unknown
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Rockoff, J., 2004. The impact of individual teachers on student achievement: Evidence from panel data. *American Economic Review*, 94 (2), May 2004: 247-252.

**In either case, after this initial learning curve, there isn't much evidence that teachers become more effective each year they are in the classroom**

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<b>Urban Schools Only</b>	Includes Urban Schools	Does Not Include Urban Schools	Unknown
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Murnane 1975.

**Others found that teacher experience never has a discernible effect on student achievement**

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Urban Schools Only	<b>Includes Urban Schools</b>	Does Not Include Urban Schools	Unknown
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Ferguson and Ladd 1996.

Urban Schools Only	<b>Includes Urban Schools</b>	Does Not Include Urban Schools	Unknown
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Goldhaber and Brewer 1998.

**Yet another found that lower achieving elementary students actually did better with inexperienced teachers**

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Summers and Wolfe 1977.

### ATTRIBUTE 3. PRESERVICE EDUCATION COURSEWORK

One massive study by Bradford Chaney looked at the standardized test performance of 24,000 eighth graders to determine if students did better in mathematics and science if their teachers had a degree in education. The study found that an education degree had no impact on student scores.

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown  
Chaney 1995.

Another study by economists Dan Goldhaber and Dominic Brewer found that students actually did worse on science achievement tests if their teachers had a degree in education

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown  
Goldhaber and Brewer 2000.

Another study indicates why it is important to rely on the findings of more than one study and to not assume that what is true for one group of teachers is equally true for another. Richard Monk found that students did better on a math test if their teachers had taken courses in math education as opposed to pure mathematics. On the other hand, Monk found the reverse was true in science; teachers who took pure physical science courses as opposed to science education courses were more effective.

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown  
Monk 1994.

### ATTRIBUTE 4. CERTIFICATION STATUS

Economists Dan Goldhaber and Dominic Brewer got into a heated debate with certification advocate Linda Darling-Hammond when they published a study of 2,400 math and science teachers. This study found that students whose teachers had emergency certification performed just as well as students whose teachers had standard certification. Darling-Hammond maintained that the emergency certified teachers had taken a lot of education courses anyway.

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown  
Goldhaber and Brewer 2000.

A study of California's class size reduction program using data on all public elementary schools in the state found that teachers' certification status had very little impact on student achievement

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown  
Jepsen and Rivkin 2002.

One well-designed study found that 41 teachers who were all part of the same alternative certification program were just as effective as 41 teachers who were all traditionally trained and certified.

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Urban Schools Only Includes Urban Schools Does Not Include Urban Schools **Unknown**

Miller, J., McKenna, M., and McKenna, B., 1998. A comparison of alternatively and traditionally prepared teachers. *Journal of Teacher Education* 49 (3): 165-176.

**A recent study from Mathematica Policy Research found that first and second year Teach For America teachers produced slightly higher math gains and equivalent reading gains as more experienced, traditionally certified teachers in the same schools.**

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Urban Schools Only Includes Urban Schools Does Not Include Urban Schools Unknown

Decker, P., Mayer, D. and Glazerman, S., 2004. *The Effects of Teach For America on Students: Findings from a National Evaluation*. Mathematica Policy Research, Inc. Princeton, New Jersey, [http://www.teachforamerica.org/documents/mathematica\\_results\\_6.9.04.pdf](http://www.teachforamerica.org/documents/mathematica_results_6.9.04.pdf).

#### ATTRIBUTE 5. RACE

**One study of a large school district in the late 1980's found that having a black teacher did not affect the scores of black 7<sup>th</sup> and 8<sup>th</sup> graders.**

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Urban Schools Only Includes Urban Schools Does Not Include Urban Schools Unknown

Farkas, G., Grobe, R., Sheehan, and D., Shuan, Y., 1990. Cultural resources and school success: Gender, ethnicity, and poverty groups within an urban district. *American Sociological Review* 55 (1): 27-42.

**A study using longitudinal data of 8<sup>th</sup>, 9<sup>th</sup>, and 10<sup>th</sup> graders across the United States found no effect of the teacher's race on scores for white, blacks, or Hispanics**

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Urban Schools Only Includes Urban Schools Does Not Include Urban Schools Unknown

Ehrenberg, R., Goldhaber, D., and Brewer, D., 1994. Do teacher's race, gender, and ethnicity matter? Evidence from the National Education Longitudinal Study of 1988. *Industrial and Labor Relations Review* 48: 547-61.

**A study done in the early 1970's looked at the gains of 1<sup>st</sup> through 3<sup>rd</sup> graders and found that black teachers, in particular relatively young black teachers, produced significantly higher gains among black students than white teachers**

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Urban Schools Only Includes Urban Schools Does Not Include Urban Schools Unknown

Murnane 1975.

**A recent study on this issue found that both black and white elementary students in Tennessee benefited significantly from being assigned a teacher of their own race.**

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Urban Schools Only Includes Urban Schools Does Not Include Urban Schools Unknown

Dee, T., 2004. Teachers, race and student achievement in a randomized experiment. *The Review of Economics and Statistics* 86(1), February 2004, pages 195-210, <http://www.swarthmore.edu/socsci/tdee1/Research/restat04.pdf>.

**One recent study found that the academic performance of black students assigned to at least one black teacher in the early grades was actually worse relative to those black students who had not been assigned to any black teachers**

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Urban Schools Only Includes Urban Schools Does Not Include Urban Schools Unknown

Fryer, Roland G. and Levitt, Steven D., 2004. Falling behind, New evidence on the black-white achievement gap. *Education Next* 4(4), Fall 2004: 64-71.

#### ATTRIBUTE 6. SUBJECT MATTER KNOWLEDGE

**Many studies have found that strong preparation in mathematics makes high school math teachers more effective.**

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Chaney, B., 1995. Student outcomes and the professional preparation of 8 <sup>th</sup> grade teachers. <i>NSF/NELS:88 Teacher transcript analysis</i> . Rockville, MD, Westat.			

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Goldhaber, D., and Brewer, D., 1996. Why don't schools and teachers seem to matter? Assessing the impact of unobservables on educational productivity? <i>Journal of Human Resources</i> 32: 503-23 ERIC: ED400237.			

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Goldhaber and Brewer 1998; Goldhaber, D., and Brewer, D., 2000. Does teacher certification matter? High school certification status and student achievement. <i>Educational Evaluation and Policy Analysis</i> , 22: 129-145.			

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Monk 1994.			

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Rowan, B., Chiang, F., and Miller, R.J., 1997. Using research on employees' performance to study the effects of teachers on students' achievement. <i>Sociology of Education</i> 70 (October): 256-284.			

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Wenglinsky, H., 2000. <i>How Teaching Matters: Bringing the Classroom Back Into Discussions of Teacher Quality</i> . Princeton, NJ: Educational Testing Service, <a href="http://www.ets.org/research/pic/teamat.pdf">http://www.ets.org/research/pic/teamat.pdf</a> .			

**Similar results have been found for high school science teachers who are well- prepared in their field**

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Chaney 1995.			

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Goldhaber and Brewer 1998.			

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Monk 1994.			

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Rothman, A., 1969. Teacher characteristics and student learning. <i>Journal of Research in Science Teaching</i> 6(4): 340-348.			

Urban Schools Only	Includes Urban Schools	Does Not Include Urban Schools	Unknown
Wenglinsky 2000.			

Some limited evidence suggests that there may be a ceiling effect from the impact of coursework. One study found that the positive impact from content coursework diminished after four to six courses were taken

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Monk 1994.

#### ATTRIBUTE 7. TEACHER LITERACY

These summary findings [on teacher literacy] were based on numerous robust studies spanning many decades that looked at the impact of literacy on student achievement, all finding that a teacher's level of literacy is a strong predictor of student achievement\*

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Ferguson 1991;

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Ferguson, R., and Ladd, H., 1996. How and why money matters: An analysis of Alabama schools. In H. Ladd (ed.), *Holding Schools Accountable*. Washington, D.C.: Brookings Institution: 265-298;

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Hanushek, E., 1971. Teacher characteristics and gains in student achievement: Estimation using micro-data. *The American Economic Review* 61 (2): 280-288;

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McLaughlin, M., and Marsh, D., 1978. Staff development and school change. *Teacher College Record* 80 (1): 69-94;

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Murnane 1975;

Urban Schools Only	<b>Includes Urban Schools</b>	Does Not Include Urban Schools	Unknown
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Strauss, R., and Sawyer, E., 1986. Some new evidence on teacher and student competencies. *Economics of Education Review* (5) 41; Winkler 1975.

One such study found that teachers who are highly literate improved student achievement .2 to .4 grade levels more than teachers who were the least literate\*

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<b>Urban Schools Only</b>	Includes Urban Schools	Does Not Include Urban Schools	Unknown
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Hanushek 1971.

A recent study of National Board teachers in North Carolina found that the teacher attribute that most consistently distinguished Board-certified teachers from other teachers was how literate they were. Board-certified teachers had significantly higher average scores on standardized tests such as licensing exams and the SAT and GRE.

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown  
Goldhaber, D., Perry, D., and Anthony, E., 2004. *NBPTS certification: Who applies and what factors are associated with success?* University of Washington, Center for Reinventing Public Education, working paper, [http://www.urban.org/UploadedPDF/410656\\_NBPTSCertification.pdf](http://www.urban.org/UploadedPDF/410656_NBPTSCertification.pdf).

#### ATTRIBUTE 8. SELECTIVITY OF COLLEGE

One study compared the academic performance of hundreds of middle and high school students in Philadelphia and found that students made greater gains when assigned to teachers who had attended higher rated colleges. Interestingly, African-American and low-income students assigned to these teachers posted the highest gains.

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown  
Summers and Wolfe 1977.

A massive study of 30,000 high school students also found a strong positive relationship between the selectivity of teachers' college and student academic gains.

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown  
Ehrenberg and Brewer 1994.

A study of roughly 800 middle schoolers in California found that when a school had a larger percentage of teachers who graduated from one of the top 100 rated institutions in the nation, student achievement was higher.

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Urban Schools Only **Includes Urban Schools** Does Not Include Urban Schools Unknown  
Winkler, D., 1975. Educational Achievement and School Peer Composition. *Journal of Human Resources* 10: 189-204.