



Answering Questions About What Works in Improving Low-Performing Schools and Districts

By Molly Ryan
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The following research studies addressing school improvement are summarized below:

1. *Short Run Impacts of Accountability on School Quality*
2. *Race, Racial Concentration, and the Dynamics of Educational Inequality Across Urban and Suburban Schools*
3. *Review of Empirical Evidence About School Size Effects: A Policy Perspective*
4. *Best Policies and Practices in Urban Educational Reform: A Summary of Empirical Analysis Focusing on Student Achievement and Equity*
5. *Role of Districts in Fostering Instructional Improvement*
6. *School Turnarounds: A Review of the Cross-Sector Evidence on Dramatic Organizational Improvement*

Question: Do Accountability Mechanisms Drive Improvement?

Study #1:

Short Run Impacts of Accountability on School Quality

Jonah E. Rockoff and Lesley J. Turner, National Bureau of Economic Research Working Paper Series, Working Paper 14564, December 2008.

In 2006, the New York City Department of Education implemented a new accountability system, under which elementary and middle schools (grades 3-8) were assigned a letter grade (A to F) based on numeric scores derived from student achievement and other school environmental factors, such as attendance, and were linked to a system of rewards and consequences.

This study examines school-level data on student achievement from the 2006-07 school year to determine whether assigning such letter grades to schools in the fall of 2007 impacted student achievement in the early months of 2008.

Findings:

- The new accountability system had important effects in the months following its launch:
 - Schools receiving very low accountability grades (D or F) subsequently saw improved test scores in math and English, with larger effects in math.
 - Fairly strong survey evidence showed that satisfaction with academic quality rose significantly for parents and children in D and F schools (caveat: response rates on the surveys were "less than complete").
 - While the evidence suggests that schools may have improved test scores through greater use of student achievement data and direct instruction, it did not suggest that the schools cut back on offering instruction in non-tested subjects such as art and music.

- The findings do not show that the grades were related to the percentage of students tested, which implies that accountability can cause real changes in school quality and student achievement in a short time period.
- Although other forms of gaming cannot be ruled out, the results show no evidence that schools receiving low accountability grades tended to exclude more students from testing in the following year.

Policy recommendations

- Accountability can be an effective tool in driving real changes in school quality and student achievement in a short time period.
- Schools need not cut back on offering instruction in non-tested subjects such as art and music to raise student achievement.

Study #2:

Race, Racial Concentration, and the Dynamics of Educational Inequality Across Urban and Suburban Schools

Christy Lleras, University of Illinois at Urbana-Champaign, *American Educational Research Journal*, Volume 45, Number 4, December 2008, pp 886-912.

This study seeks to determine whether the influence of a student's race on the learning process varies by the characteristics of the schools the student attends — in particular, racial composition and school location. Using data from the National Educational Longitudinal Study (6,063 white and 650 African American students in 660 public middle schools and 667 comprehensive public high schools participated in the study), the researchers modeled educational inequity among three variables: opportunities to learn, academic engagement and achievement — as the student's career evolved over time in either a low-minority school (i.e., none to at most a modest-sized minority of African American students) or high-minority school (i.e., large minority to large majority of African American students).

Findings:

- Math course placement, engagement and student achievement positively affect one another over time, and these effects occur within both low- and high-minority schools.
 - Less desirable habits and lower skills in middle school translate into even greater gaps in skills, habits and achievement in high school.
 - Lower achievement by African American students compared to white students is almost entirely accounted for by difference in prior achievement, math course sequence and, to a lesser extent, current engagement.
 - The biggest predictor of math course-taking patterns in the first two years of high school is prior math achievement, except in predominantly African American, urban high schools, where the biggest predictor is prior 8th-grade math class (confirming prior research).
- The stability of achievement over time is weaker in urban high-minority schools.
- The 10th-grade gap in math achievement relates to both racial segregation and school urbanicity.

Policy recommendations:

- Address early gaps in skills, academic engagement and opportunities for learning as a way of reducing incremental inequality throughout the schooling experience.
- Reforms that increase the rigor of math courses within high minority schools as well as efforts aimed at desegregation are likely to reduce racial gaps in student achievement.

- Schools may also be able to impact educational trajectories by creating academic and social environments that foster both academic and behavioral development among students. Universal preschool and the expansion of Head Start may help in this effort.

Question: Should the Size of Schools Be Limited?

Study #3:

Review of Empirical Evidence About School Size Effects: A Policy Perspective

Kenneth Leithwood and Doris Jantzi, Ontario Institute for Studies in Education, University of Toronto, *Review of Educational Research*, Volume 79, Number 1, 2009, pp 464-490.

This study examines the impact of school size on a variety of student and organizational outcomes by analyzing 57 post-1990 empirical studies of the effects of school size. Most of the studies are based on evidence collected from large samples and all are published in refereed journals, reporting original evidence and including explicit descriptions of their research methods.

Findings:

- *Smaller schools generally are better for most purposes.* Smaller is a relative term and does not necessarily mean "really small." For example, in districts with secondary school size exceeding 2,500, smaller can mean as many as 1,500.
- *One size does not fit all purposes.* Some evidence supports larger schools for nurturing the achievement of academically successful senior high school students, yet many other student outcomes seem to develop best in smaller schools.
- *Student background matters.* Students who struggle in school, such as students from disadvantaged social and economic backgrounds, are the major benefactors of smaller schools. Smaller schools do not seem to be an impediment to the learning of more advantaged and/or high-achieving students if those students have access to the specialized instruction they need to master complex subject matter.
- *Breadth of curriculum is no longer a justification for large schools.* Breadth of curriculum is achievable in schools as small as 500 to 600 students.
- *Cost-efficiency is no longer a justification for large schools.* Contemporary studies have concluded that small schools can be more efficient or cost-effective. This reversal of opinion is the result of taking high school graduation rates into account. Small secondary schools manage to graduate a significantly larger number of students than their larger counterparts.

Although the research supports transforming large schools into much smaller organizational units, this would be an enormously expensive move on a large scale and unrealistic in an environment already challenged with inadequate financial support. **A more realistic approach would be for larger schools to adopt mechanisms accounting for student success more often associated with small schools.** Included in this effort would be a sense of community for both teachers and students, providing teachers with opportunities to know individual students well, and students' sense of identification with the school.

Policy recommendations: Regarding the optimal school size, the authors suggest:

- Elementary schools largely serving student populations from diverse and/or disadvantaged backgrounds should be limited in size to no more than 300 students.
- Elementary schools serving relatively advantaged students should be limited in size to about 500 students.
- Secondary schools serving student populations from diverse and/or disadvantaged backgrounds should be limited in size to about 600 students or fewer.

- Secondary schools serving relatively advantaged students should be limited in size to about 1,000 students.

Study #4:

Best Policies and Practices in Urban Educational Reform: A Summary of Empirical Analysis Focusing on Student Achievement and Equity

Jason J. Kim and Linda M. Crasco, Systemic Research, Inc., *Journal of Education for Students Placed at Risk*, Volume 11, Number 1, 2006, pp 19-37.

Under the sponsorship of the National Science Foundation (NSF), 4.5 million students from 22 urban school districts have been involved in a long-term education reform through the Urban Systemic Initiative (USI) program since 1994. The NSF's six drivers of systemic reform provide a visionary direction for system-wide reform for most of the USI districts. The six drivers include: four process drivers (standards-based curriculum, instruction and assessment; policy; resources; and broad-based support) and two student outcome drivers (student achievement and improvement of historically underserved students). This paper seeks to link the reform rubric to best policies and practices in education reform focusing on student achievement in math and science. The student data are from the school years 1993-94 to 1999-2000 and included data from the Key Indicator Data Collection System (KIDS), school district document reviews, interviews and surveys.

Findings:

- The findings confirm a positive linkage between the use of policy implementation rubrics (such as the NSF model) and student outcomes, as assessment test results show that USI students made gains in science and mathematics achievement while reducing achievement gaps among racial and ethnic groups. For example, passing rates in 8th-grade science assessment tests improved in 15 of 16 sites with data available. Seven of these sites also exhibited a narrowing of the passage rate gap between underrepresented minorities and white students.
- Increasing numbers of 11th- and 12th-grade students taking college entrance exams indicate more students have aspirations of pursuing post-secondary education. These trends are most notable in the districts with the longest participation in the USI program.
- "Open access" policies show a positive relationship with student enrollment in gate-keeping and higher-level science courses.

Policy Recommendations:

- The foundation of reform is the "belief system" that all students can and must learn challenging mathematics and science content and must be held to the same high standards.
- Policies to support science and mathematics achievement and equity are key to ensuring that teachers, administrators and staff throughout the system provide the same services and resources to all students.

Question: How Can Districts Help Schools Improve?

Study #5:

Role of Districts in Fostering Instructional Improvement: Lessons from Three Urban Districts Partnered with the Institute for Learning

Julie A. Marsh, Kerri A. Kerr, Gina S. Ikemoto, Hilary Darilek, Marika Suttorp, Ron W. Zimmer and Heather Barney, RAND, (The) *Role of Districts in Fostering Instructional Improvement*, 2005.

This paper presents findings from a three-year study analyzing three urban districts' efforts to improve instructional quality and performance and the contributions to these efforts made by an intermediary organization, the Institute for Learning (IFL). The authors collected and analyzed data from: (1) extensive field interviews and focus groups conducted over the 2002-03 and 2003-04 school years; (2) RAND-developed surveys of principals and teachers at elementary, middle and high school levels; (3) district and IFL documents; and (4) demographic and student achievement databases.

Findings:

- Districts benefited from focusing on a small number of initiatives. District success also was tied to the degree to which the initiatives:
 - Were aligned with other existing or new programs
 - Enabled multiple stakeholders to engage in reform
 - Found an appropriate balance between standardization and flexibility
 - Were enforced by local accountability incentives for meaningful change to instructional practice.
- The capacity of the intermediary organization and its alignment with district needs greatly affects partnership success.
 - Without a match between capacity and needs, intermediary organizations risk being relegated to vendor status and seen as tangential to the district's core reform efforts
 - Practical tools are needed that are considered relevant and legitimate to the district's local context.
 - Multiple types of "scale-up" strategies can be relevant to system wide change efforts (top-down and bottom-up).

Policy Recommendations:

- *Instructional improvement* – Institute local accountability policies that create incentives for meaningful change. Design instructional improvement efforts to reinforce one another and communicate this intended alignment to school staff.
- *Leadership* – Remove all structural barriers to achieving new leadership vision. Consider investing in strategies that free up principals' time to engage in instructional leadership practices or redefine job descriptions and responsibilities so that other individuals share responsibilities for leading the school. For example: (1) reduce off-site meetings and paperwork requirements, (2) assign assistant principals or office managers to student discipline and administrative tasks, and (3) make coaching available.
- *Coaching* – Create clearly defined, site-specific coaching positions to promote school-level instructional capacity. Invest in the professional development of central office staff to enhance their capacity to lead instructional reform.
- *Curriculum* – Involve teachers in the development and revisions of curriculum guides. Offer more support to help teachers analyze and interpret data and identify strategies to address diagnosed problems (e.g., focused teacher training; task individuals to work with teachers to "filter" data or make them easier to interpret). Districts also might consider investing in assessments that yield more frequent and timely data that teachers perceive to be valid, useful and not time-consuming.
- *External partnerships and/or intermediary organizations* – Evaluate whether intermediary staff provide sufficient scaffolding — training, follow-up, mentoring and concrete tools — to enable administrators and teachers to translate intermediary ideas and theory into deep meaning and practice; build relationships with superintendents and other top- and mid-level administrators to develop trust and a shared sense of responsibility.

Study #6:

School Turnarounds: A Review of the Cross-Sector Evidence on Dramatic Organizational Improvement

Lauren Morando Rhim, Julie M. Kowal, Bryan C. Hassel and Emily Ayscue Hassel, Public Impact for the Center on Innovation & Improvement, *School Turnarounds: A Review of the Cross-Sector Evidence on Dramatic Organizational Improvement*, 2007.

This evidence review updates and analyzes a 2006 study that synthesized cross-sector (i.e., education, public, nonprofit and private sectors) successful turnaround literature from 1990 to 2005. The review further identifies a set of conditions and actions that have been shown to influence implementation of turnaround initiatives in schools and other kinds of organizations. The review does not provide a rigid blueprint for successful turnarounds, but rather is intended to serve as a foundation for subsequent research on actual school turnarounds.

Findings:

- Multiple environmental factors outside of the actual organization influence its ability to turn around:
 - *Timetable* – A year of planning is important. Schools that make major staff and leadership changes over a summer often struggle with chaos and poor results the following year. The literature points to environmental pressure for speedy results as one key factor in successful turnarounds. Fast, focused results during the initial year are important, in part, to help establish credibility, create momentum for change and break down resistance.
 - *Freedom to Act* – Schools undertaking significant school reform appear to have a higher chance of success when the district allows as much freedom as possible from regulation. Examples of freedoms include, but are not limited to, scheduling, transportation, discipline and curriculum. Authority to hire and fire personnel or, alternatively, alter their working conditions was identified in multiple cases as an important freedom that influences effective turnaround.
 - *Support and Aligned Systems* – Most organizations in which turnarounds are successful have a supportive governing body that provides assistance to new management while giving the organization freedom to initiate real change. A weightier bulk of documented, successful turnarounds across sectors (including, notably, public turnarounds) suggests that existing resources can support necessary change if they are concentrated on the factors that are most in need of change and offer the biggest possible pay-offs.
 - *Performance Monitoring* – Research suggests that external performance expectations characteristic of current accountability systems alone are insufficient to spur substantial school improvement in many schools. As a result, additional research is needed regarding what kinds of performance monitoring could contribute to the success of turnarounds.
 - *Community Engagement* – The key lesson from prior turnaround efforts across sectors is to engage teachers, parents and the surrounding community in a way that encourages them to become part of the changes in the school, rather than critical observers who watch from the sidelines. The resulting support appears to provide the school with a better chance of success for turning its performance around.
- Although effective turnaround leaders likely have different pre-existing capabilities from leaders who are successful in more general realms of organizational leadership, turnaround leaders appear to take a common set of actions during successful turnarounds:
 - *Leader actions* – Successful turnaround leaders use speedy, focused results as a major lever to change the organization's culture. This stands in contrast to research about incremental (or

"first order") change leaders, who focus on a broader process of culture change to improve long-term results.

- *Analyze and problem solve* – Successful turnarounds typically are marked by vigorous analysis of data, identification of key problems and selection of strategies that hold promise to address these central challenges. One action is concentrating on **big, fast payoffs in year one**. Two others are: 1) **collecting and personally analyzing** organization performance data and 2) making an **action plan based on data**.
- *Drive for results* – Several recurring elements were observed regarding a drive for results: (1) Implement strategies even when they deviate from established organizational practices; (2) Require **all staff to change**, rather than making it optional; and (3) **Make necessary but limited staff replacements**, replacing those staff who cannot or do not make needed changes. Research further suggests that leaders in successful turnarounds act in relentless pursuit of goals, rather than touting progress as ultimate success.
- *Influence inside and outside* – The successful leader: (1) communicates a positive vision for future results; 2) helps staff personally see and feel the problems their "customers" face; 3) gets key influencers to support change; and 4) silences change naysayers indirectly by showing speedy successes.
- *Measure and report* – Successful turnarounds typically are marked by measuring and reporting data frequently and publicly. One specific tactic in this category is gathering staff in frequent open-air meetings, requiring all involved in decisionmaking to disclose results and problem solve.
- *Leader capabilities* – There has been no rigorous research, in schools or other sectors, to identify the specific capabilities that distinguish more effective turnaround leaders from less successful ones. However, the work of turnaround leaders is a **hybrid of the classic manager role** (including that of traditional principal) **and start-up leader role**. Similar to classic managers, they must operate within an existing larger organization, where access to resources and forgiveness to try something new is determined by webs of relationships upwards, sideways and down. But as with start-up leaders, they are expected to produce critical results such as improved student achievement scores with lightning speed, or face the consequences.

Policy Recommendations

- The field needs more rigorous research on the factors that influence the success of turnarounds, specifically in the public school setting.
- The field needs more on-the-ground experimentation with and evaluation of turnaround approaches.

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