Use of Data Linked to Student Achievement in Urban Schools, Study of Teachers and Principals Shows

WASHINGTON, Sept. 19  – Researchers at the Council of the Great City Schools and the American Institutes for Research recently released a major new study that found that some aspects of classroom- and school-level interim-assessment data use are related to improvements in student achievement.

The new study — Charting Success: Data Use and Student Achievement in Urban Schools — suggests that the use of interim assessment data to modify classroom instruction and inform schoolwide policies and practices is positively and significantly related to higher student achievement in some grades and subjects.

A significant increase in data availability in recent years provides educators the opportunity to base decisions about academic instruction on student achievement data. Despite the increased opportunities for data-driven decision making in teaching and learning, little is known about how teachers and principals actually use student-performance data to improve instruction and whether and how data use is linked with higher student achievement.

The study, supported by The Bill & Melinda Gates Foundation, is believed to be the largest study of its kind on the use of interim assessment data, and the first major study to find a significant correlation between teacher and principal data use and student achievement on state assessments.

“The findings suggest that schools’ use of regular interim assessments to inform classroom instruction can improve student outcomes,” says Council Executive Director Michael Casserly, one of the authors of the study.

Specifically, the research study defined and measured key dimensions of data use and revealed that the more teachers and principals review, analyze, and instructionally respond to student data, the higher their students’ achievement on end-of-year state assessments in some grades and subjects. School-level supports for data use—including having appropriate data infrastructure, adequate time to review and discuss data, and professional development—were also linked with student achievement at the elementary and middle-school levels.

“The study is an exciting first step that documents the link between data use in classrooms and schools and improved student achievement in four urban districts. This research...
provides evidence – as previous studies suggested – that simply supplying teachers with data is not enough. Rather, teachers who are more engaged in the data-use process, including spending time with their students’ data and modifying their instruction in response, are the ones who see better academic outcomes for their students,” says Ann-Marie Faria of the American Institutes for Research and lead author of the final study report.

**New Evidence on the Promise of Data Use**

*Charting Success* is important new research because of the lack of such large-scale studies examining the relationship between the use of interim assessments, instructional changes and actual improvements in student academic outcomes. And the ramifications are substantial because of the dollar resources that school districts nationwide devote to these assessments. Up to this point, it was not clear that such investments paid any dividends.

Researchers examined the use of interim assessment data and student achievement in two major content areas — reading and mathematics — and two grade levels — elementary and middle — in which these assessments are most often used. They measured four key dimensions of interim assessment data use — context and data culture, supports for data use, working with data, and instructional responses — at three points during the school year with both teachers and principals.

The study found that teachers’ general data use based on all four key dimensions was related to student achievement in elementary-grades reading and middle-grades mathematics — the two areas where urban schools are improving the most nationally. As for more specific practices and perceptions, teachers’ direct work with data and instructional responses were positively associated with student achievement — again in elementary-grades reading and middle-grades mathematics.

“Our results indicate that teachers’ review of data and subsequent instructional responses were the data-related practices and perceptions most strongly linked to improved student achievement and can be a focus for intervention and improvement,” the study’s authors stress.

Principals’ general data use was also related to student achievement in middle-grades mathematics. There was no relationship in middle-grades reading and elementary-grades math and reading, but principals’ direct work with data and school-level instructional responses were positively related to students’ math scores in the elementary grades, and their perceptions of supports for data use were positively related to achievement in both elementary reading and mathematics.

The study suggests that data use by principals, in both elementary and middle schools may be as important as teacher data use.

“Findings in this study have implications for data use policies and practices in urban school districts, which is very important as the nation moves toward the Common Core State Standards and the assessment systems that will accompany them,” the Council’s Casserly emphasizes.

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The Washington, D.C.-based Council of the Great City Schools is the nation’s principal organization representing the nation’s largest urban public schools.

The Washington-D.C.-based American Institutes for Research is one of the largest behavioral and social science research organizations in the world.