

# Achieving with Data

*How high-performing school systems use data to improve instruction for elementary students*

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## EXECUTIVE SUMMARY

*Imagine an afternoon when a teacher can sit down at a computer desktop and quickly sort through reams of data she'll use to plan lessons for the next day.... She'll compare every student's achievement against state standards to decide which students need review and which ones are ready to move on.... That technological capability can only be found in the rare classroom today, but some experts say that such a data-rich approach to instruction will soon be common place (Hoff, 2006, p. 12).*

Using data to improve decision making is a promising systemic reform strategy. However, there is a dearth of rigorous research conducted thus far on this practice. Recently, NewSchools Venture Fund in San Francisco set an agenda to help fill this research gap. As part of a study of data-driven decision making, we were fortunate to visit schools and districts where practices, such as the one depicted in the above quote, are indeed becoming commonplace. In this report, we capture the work of four school systems that were identified as leaders in data-driven decision making. Our study included two mid-size urban school districts and two nonprofit charter management organizations (CMOs). All of these school systems have records of improving student achievement over time.

As we show in our case studies of these performance-driven school systems, the gathering and examining of data is merely a starting point to developing a culture and system of continuous improvement that places student learning at the heart of its efforts. Our study reveals that there is not one way to be a performance-driven system. All of these schools and school systems approached data-driven decision making differently — and all achieved successes in the process. At the same time, the school systems we studied had many features in common that seem to support the effective use of data. In this report, we highlight the choices and tradeoffs made by these schools and school systems, so that educators, policymakers, researchers, grantmakers and others can learn from their experiences.

### Key Strategies of Performance-Driven School Systems

#### *1. Building a Foundation for Data-Driven Decision Making*

Before implementing strategies for data-driven decision making, these school systems invested time and resources in building a solid foundation for system-wide improvement efforts. Integral to this process was establishing specific, measurable goals at the system, school, classroom, and individual student levels. Once such goals were established, school system leaders concentrated on developing and monitoring the implementation of a system-wide curriculum. A

coherent curriculum got educators on the “same page” and moving in the same direction, which was essential in helping them gather, organize, discuss, and act on data about student achievement.

## 2. *Establishing a Culture of Data Use and Continuous Improvement*

Establishing a culture of data use was a critical component of each system’s efforts. Leaders within the school systems created explicit norms and expectations regarding data use, and principals followed through at the school level by reinforcing system expectations. Through their efforts to build data-driven cultures, school systems also attempted to foster mutual accountability between schools and the central office, which helped to build a commitment to continuous improvement.

## 3. *Investing in an Information Management System*

All of the school systems we studied were data-rich, but they had to grapple with organizing data in an accessible format and presenting it a comprehensible manner. First, they had to invest in a user-friendly data management infrastructure that would grow with their needs. Options for such data systems have grown in recent years, and each system we studied used a different data management system to meet their needs. Second, the school systems utilized various personnel at the district and school levels to assist in data management and use. Most of these school systems had a dedicated individual or team responsible for supporting data analysis and use by both central office and school personnel. In addition, most schools designated well-respected staff (generally principals or lead teachers) as the local experts to whom the teachers turned first. Finally, school system leaders made data timely and accessible, which was an integral part of ensuring that the data that were gathered would be put to use.

## 4. *Selecting the Right Data*

All four of these school systems grappled with selecting the right data that would best inform the work of teachers and administrators. While student assessment data were an integral part of the data-driven decision-making process, school systems drew upon many different types of information — student achievement data, instructional practice data, and goal implementation data — to help guide improvement efforts. Common across all school systems were data from system-wide interim assessments aligned to standards. In designing their information systems with a mix of data, school systems were able to use the information for multiple purposes—including instructional, curricular, resource allocation and planning decisions.

### 5. *Building School Capacity for Data-Driven Decision Making*

The school systems we studied worked hard to build capacity by empowering educators to use data to inform instruction at the school level. The key strategies they undertook to empower educators were (1) investing in professional development, (2) providing support for staff in how to use data and modeling data use and data discussions, (3) providing time for teacher collaboration, and (4) connecting educators across schools to share data and improvement strategies. Some of them also offered rewards and incentives for improved achievement that arose out of data-driven decision making.

### 6. *Analyzing and Acting on Data to Improve Performance*

In addition to building capacity and creating structures to foster data-driven decision making, school system leaders developed tools and processes to help principals, teachers, and other staff members to act on data. All four school systems provided immediate feedback to schools on student achievement and progress toward meeting their goals. All the school systems also created explicit data analysis protocols and goal-monitoring reports for administrators, teachers, and in some cases for students as well. Examples of the tools are provided throughout the report.

## **Areas for Further Development and Next Steps**

Although all four of these school systems made great strides in the area of data-driven decision making, they identified areas for further development. Managing and prioritizing data continued to be a challenge. All four also identified the need to expand the types of data collected and used for school improvement efforts. System and school leaders also acknowledged that helping staff members to use data thoughtfully was an ongoing effort. In other words, sustaining a culture of continuous improvement through the use of data-driven decision making requires a continual investment in data management resources, including both human and social capital.

The strategies, tools, and case study examples in the full report provide a starting point for both regular public school districts and charter school developers that are interested in either becoming performance-driven or fine-tuning their existing efforts. We hope that the lessons learned will also be useful to policymakers, researchers, grantmakers, and others interested in creating performance-driven school systems.

In addition, this study lays the groundwork for future investigations of the role of the central or home office in supporting data-driven decision making. The findings

of this study convince us that school system leaders play a critical role in supporting schools in using data, and there is still much to learn about their work in this area. First, we suspect that the process of data-driven decision making in elementary and secondary schools will be different. Secondary schools are typically much larger and more organizationally complex than elementary schools and therefore face additional challenges in using data for decision making.

Second, we believe it is important to further examine how school systems grapple with educators who are resistant to using data. The schools we focused on in this study were those in which most educators were excited about using data, but all system leaders acknowledged that there were other schools that were less enthusiastic. Third, we think it is important to gather more information on how school systems garner board, community, and union support for data-driven decision making. By virtue of their unique histories, the districts and CMOs we studied did not face major challenges in these areas; however, we suspect a lot could be gained by examining school systems with more difficult political circumstances.

Finally, we believe that further research is sorely needed on how teachers use data to differentiate instruction. This study indicated that teachers are indeed differentiating instruction in response to data that shows which students need additional support and in which areas; however, we did not have sufficient opportunity to gather data on the details of this process. A study that focused on the differentiated instructional techniques that arise out of data-driven decision making would be useful.