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Supporting Effective Data Use

This brief focuses on **supporting effective data use.**

Data-driven decision making has been a catchphrase in education for the past decade. Everyone is for it, and who could object? Most agree that decisions from the classroom to the central office and the state education agency should be informed by good data. In practice, however, it is all too easy for data to leave educators and policymakers unmoved—or, worse yet, to drown them in extraneous information, rather than drive decisions that will improve classroom instruction, school performance, and student achievement.

This series of briefs offers recommendations and strategies for state officials, district-level staff, and system developers who seek to promote effective data use by decision makers and educators at any level of the education system. This brief focuses on supporting effective data use. The other two briefs focus on developing a coherent plan for effectively using data and on considerations for developing or enhancing a data system.

INTRODUCTION

Having a coherent theory of action for how a particular type of data can lead to improved educational decisions and improved student outcomes is critical. But even though a theory of action is necessary for informed educational practice, it may not be sufficient on its own. Supports are needed to ensure that the theory of action is realized, part of the institutional culture, and readily applied by educators and decision makers who have the skills to analyze and use data effectively. In particular, these supports should help develop the organization's analytic capacity and a culture of data-driven decision making, which are both essential to promoting effective data use. This brief focuses on building support in these areas.

TAKING ACTION

Adopting the following three recommendations can help support effective data use:

1. **Customize data for the user.** User-centered design takes into account the needs and limitations of the end users of the data product. For example, agencies may create user-specific access portals with data dashboards that match data users to data sources. These dashboards can display student-, school-, teacher-, and district-level data, but different users will see different metrics. An assistant superintendent might see only school-level data for the schools she oversees. A principal might see his teachers' ratings on observation rubrics or value-added measures. A teacher might see her students' performance in different curricular domains and progress over time. The goal is to match data to users who can incorporate them in decision making. When creating user-centered designs for displaying data, such as dashboards, agencies can ask the following questions:

> **1.** Customize data for the user.
>
> **2.** Increase staff capacity for data analysis.
>
> **3.** Use outside providers where needed.

- Who will use the data display?

- What is the user's capacity and level of comfort with data?

- Which metrics are most important for each audience?

- What decisions will be made using each type of data?

- Can multiple variables—such as teacher effectiveness measures or Early Warning System rubrics—be collapsed into single, simpler indicators?

- How often will the data be updated?

2. **Increase staff capacity for data analysis.** Despite agencies' efforts to provide data to those who can use them, staff are often not comfortable or confident in using the data to make instructional changes or strategic decisions. These staff may be skilled practitioners who know how to implement programs in schools, but have little experience in evaluating program effectiveness or making data-driven decisions.

As a result, state or district agencies often struggle to improve data capacity beyond a core group of analysts. Helpful training to build staff capacity might include the following topics:

- Types of data available, where they are stored, and the systems used to access them

- Modeling the process of analyzing data for decision making, including structured discussion protocols and facilitation strategies

- Confidentiality requirements and privacy standards for accessing student and educator data

- Routine analysis tasks using Excel or other easily accessible software

- Project management assistance for tracking progress on goals

- Accessing the state's data systems, interpreting the data, and using the data in the classroom

- Current policies for using teacher evaluation data in human capital decisions

DATA SOURCES

Promoting staff capacity is not just about formal training. It should also involve ongoing support systems. For example, at the classroom level instructional coaches who are experts at observing instruction could provide feedback to teachers and show them how to analyze student achievement data. Moreover, data analysis is not limited to student achievement data. In the context of classroom instruction, the collection and analysis of data on instructional practice (by coaches, administrators, or peers) is important for the improvement of practice. Another system that some districts are putting into place involves certification in particular skills. Just as data collected by observers can help classroom teachers improve, the observers can improve their own practice if they are subject to rigorous processes certifying their ability to produce valid and reliable observation data. This kind of certification is important not only for ensuring the value of the feedback provided by the observers, but also for ensuring the fairness of measures of teacher evaluation.

3. **Use outside providers where needed.** Making correct inferences from data tends to become increasingly difficult for decision makers at higher levels of the hierarchy, farther removed from the classroom. For a classroom teacher, raw data on student achievement is often enough to diagnose students' academic strengths and weaknesses and modify instruction accordingly. In contrast, distinguishing a teacher's contribution to student achievement from factors outside the teacher's control is much more difficult analytically. Identifying effective principals is even harder than identifying effective teachers. Most districts—and indeed, many state agencies—lack the technical capacity to conduct the sophisticated statistical analyses that are needed to address these questions well. Therefore, contracting with outside organizations that have the specific technical expertise can help districts use data effectively for such purposes. A principal who tried to evaluate a teacher using raw student achievement results could end up being seriously misled, and might incorrectly identify a highly effective teacher as ineffective. In the context of very challenging inferential questions like teacher value-added, using an outside provider with strong technical expertise may be essential to ensuring that the data lead the decision maker in the right direction.

THINKING AHEAD

Even a well-constructed data system, based on a sound theory of action, requires a variety of support activities in order for it to be used effectively. If data-driven decision making is to be sustainable, it will require changes in the way the full spectrum of educators—from classroom teachers to state commissioners of education—work with data. New data systems must be designed with their end users firmly in mind, and all levels of staff should be thoroughly trained on the structure of the data systems and the procedures for using them. Technical support and assistance must be an ongoing process, not a one-time event. The synergy of informed staff, well-designed data systems, and effective, structured processes for discussion, analysis, and decision making, can make data-informed educational practice a reality.

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