MAKING THE MOST OF THE DATA WE HAVE:

A Five-Part Strategy for Challenging Times

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INTRODUCTION

Do what you can, with what you have, where you are.
– Theodore Roosevelt

Only weeks into its new term, the Trump administration has taken steps to lay off federally funded education research staff, cancel nearly $1 billion in contracts and dismantle the U.S. Department of Education. These moves have upended evaluations of federally funded education programs and threatened access to massive data sets that states, districts and schools rely on to make good decisions.

Even before Trump took office, education leaders have been navigating an era of resource constraints, shifting policy demands, and increased expectations for data-informed decision-making. In many cases, their challenge isn't a lack of data (although recent moves in Washington have made this more likely)—it's knowing how to use existing data effectively to drive meaningful change.

Given these challenges, education leaders need to arm themselves with new strategies to protect their data and use it effectively. In this paper, I'll describe five strategies that can help. I first shared these strategies in a blog. But while that piece focused on broader strategic adjustments, this paper takes a more practical, action-oriented approach, offering concrete steps that education leaders can take to make better use of the data they already have.

The Five Strategies for Maximizing the Power of Existing Data

1. **Making better use of existing data.** Schools and districts collect enormous amounts of data, but much of it remains underutilized or inaccessible. This strategy explores ways to extract deeper insights from existing datasets, integrate multiple sources for richer analysis, and apply practical techniques like data triangulation to drive decision-making at all levels.

2. **Refining—not rebuilding—reporting structures.** Many reporting systems are designed for compliance rather than actionable insights. Instead of overhauling data collection, we can refine how data are structured, communicated, and used—simplifying dashboards, emphasizing key takeaways, and making reports more user-friendly so that they create insights and drive action, rather than overwhelm educators and policymakers.

3. **Enhancing cross-system collaboration.** Data silos remain one of the biggest barriers to comprehensive, student-centered decision-making. This strategy highlights approaches for breaking down barriers between data systems, promoting collaboration between schools, districts, and agencies, and integrating datasets across education, workforce, and community sectors to develop a fuller picture of student success.

4. **Emphasizing local contexts.** While state and national data trends offer valuable insights, they often lack the nuance needed for local decision-making. This strategy focuses on customizing data reporting for individual communities, disaggregating information to highlight disparities, and ensuring that educators and families can see themselves in the data, making it more actionable and relevant.

5. **Building capacity for local data use.** Even the best data systems are ineffective if leaders, educators, and communities lack the skills or support to interpret and apply data. This strategy explores how to provide meaningful professional development, shift data use from compliance to continuous improvement, and empower school-based data leaders to ensure that data isn't just collected—it's used effectively to drive change.

Moving From Theory to Action

Whether you are a state policymaker refining accountability reports, a district leader seeking to integrate multiple data sources, or a school administrator trying to translate numbers into action, this paper is designed to help you maximize the value of your existing data and make it a tool for improvement, not just compliance.

By taking a pragmatic approach—one focused on improving reporting structures, collaboration, and local capacity-building—education leaders can make informed, fair decisions without requiring large-scale investments in new data systems.

Let's move beyond simply collecting data and use it effectively to drive change.

STRATEGY 1: MAKING BETTER USE OF EXISTING DATA

We are surrounded by data, but starved for insights.
– Jay Baer, marketing and customer experience expert

Imagine you're stuck at home in a big snowstorm. The roads are blocked, the grocery store is closed; you can't rely on your usual ways of getting fresh ingredients. Instead of panicking, you take stock of what's already in your kitchen. As you rummage through your pantry, you realize you have plenty of ingredients—rice, beans, something frozen, canned goods, and spices. With a bit of creativity, you can prepare a full meal without needing to buy anything new.

This is exactly how schools and districts can think about their existing data. Before searching for new assessments or additional data sources, they should first take stock of what's already available, ensuring it's well-organized, integrated in meaningful ways, and accessible to those who need it. Just like a resourceful cook can create a tasty meal with what's on hand, we can optimize existing data to make informed decisions and drive improvement—without relying on new, costly data collection efforts.

Most educational institutions and agencies have vast repositories of data collected over the years: assessment results, attendance records, student demographics, course enrollments, and more. But these data sets are often underutilized or disconnected from decision-making processes. Instead of viewing the lack of new data as a limitation, institutions can focus on unlocking the untapped potential of their existing data through improved organization, analysis, and application.

Making Existing Data More Actionable

Just as a well-stocked pantry can offer plenty of meal possibilities with a little creativity, schools and districts can find untapped value in their existing data. However, making the most of these resources requires a deliberate approach. Educators and policymakers must consider how to better organize, interpret, and apply data to inform decision-making. Below are five more specific actions to maximize the utility of the data already at hand.

1. Re-examine Existing Data Sets

Institutions should conduct a comprehensive review of the data they already collect. Analyzing past student performance data alongside attendance trends, for example, can help identify at-risk students before they fall too far behind (Allensworth & Easton, 2005). Schools can also conduct item-level analyses of past assessments to determine which concepts students struggle with the most and adjust curriculum pacing accordingly (Hamilton et al., 2009). Additionally, re-examining subgroup performance trends can highlight persistent achievement gaps and inform targeted intervention strategies (U.S. Department of Education, 2016, a reference whose irony doesn't escape me, since this paper was prompted by cuts in the availability of USED resources).

2. Enhance Accessibility and Educator Data Literacy.

Instead of focusing on broad reporting structure improvements (which we discuss in Strategy 2, below), this action emphasizes how educators and administrators access, interpret, and use data in real time. Investing in professional development for data literacy ensures that teachers and school leaders understand how to apply existing data in instructional decision-making (Wayman & Stringfield, 2006). For example, school districts can provide targeted training to interpret assessment data to support formative decisions by directing lesson planning or analyzing student behavior trends to develop intervention strategies (Black & Wiliam, 1998). Creating school-based data teams or communities of practice can further encourage meaningful data use (Lachat & Smith, 2009).

3. Integrate Data Across Systems

Many schools and districts collect data in silos—separate systems for assessment, attendance, behavior, and student services. Integrating these sources can provide a more comprehensive picture of student needs and trends (Jimerson, 2001). For example, linking assessment scores with student discipline records and attendance data may uncover patterns that indicate early warning signs for students at risk of disengagement (Balfanz, Herzog, & Mac Iver, 2007). Districts can also integrate social-emotional learning (SEL) data with academic performance to better understand the broader factors affecting student success (Osher et al., 2014).

4. Leverage Longitudinal Trends

While one-year snapshots of data can be useful, long-term trends often reveal deeper insights. Schools can analyze multi-year assessment trends, graduation rates, or student progression data to identify systemic challenges and successes (Reardon, 2013). For example, tracking cohorts of students from elementary to high school can help districts evaluate the long-term impact of curriculum changes or early intervention programs (Domina, et al, 2019) Schools can also compare historical proficiency levels with recent data to assess the effectiveness of policy shifts or instructional adjustments (Hanushek & Rivkin, 2010). There are a lot of insights to be uncovered with previous years' data that don't require additional data sets.

5. Train Educators on Data Use

Even the most robust data systems are ineffective if the people using them don't feel equipped to interpret and apply the information. Providing professional development opportunities focused on data literacy can empower educators to make more informed instructional decisions (Wayman & Stringfield, 2006). As mentioned previously, training workshops on analyzing assessment results can help teachers tailor lesson plans to address student weaknesses (Black & Wiliam, 1998). Additionally, school leaders can create data-driven professional learning communities where educators collaboratively analyze student data and share best practices for improving outcomes (Lachat & Smith, 2009).

The Call to Action, Strategy 1

While layoffs, contract cancellations and other moves in Washington present real challenges, they also reinforce the need for more strategic and efficient data use. Schools and agencies that optimize their existing data assets will be better positioned to navigate budget constraints while continuing to drive educational improvement. By enhancing accessibility, breaking down data silos, and fostering a culture of data literacy, educational institutions can ensure that every piece of collected information serves a purpose in supporting student success.

In the next sections of this paper, we'll explore additional strategies for creative data use, including refining reporting structures, fostering collaborative data sharing, and integrating diverse data sources.

Data systems are ineffective if the people using them don't feel equipped to interpret and apply the information.

STRATEGY 2: REFINING—NOT REBUILDING—EXISTING REPORTING STRUCTURES

Wherever you are is the entry point.
– Kabir, mystic and poet

One critical area where efficiency in data handling can be improved is in how data are structured, communicated, and used. Instead of collecting more data or rebuilding reports or reporting systems from scratch, a more sustainable and effective approach is to refine existing reporting structures. By making reports clearer, more accessible, and more actionable, educators, administrators, and policymakers can better utilize data to drive meaningful change.

The Problem: A Roadmap Without Directions

Imagine you're on a road trip to an unfamiliar destination. You have a detailed map, but it lacks key information routinely provided by GPS: there are no clear route recommendations, no turn-by-turn guidance, and no real-time warnings. You can reach your destination with this map, but it's tougher than being guided by GPS.

This is the challenge many educators and policymakers face with traditional data reports. Schools and districts collect massive amounts of data, but reports often fail to provide clear direction on what to do next. Just as a good GPS system translates a complex map into simple, actionable steps ("turn left in 500 feet"), well-designed reports should guide users by highlighting key takeaways, suggesting interpretations, and providing actionable next steps. By refining reporting structures, we

can ensure that data serves as a useful roadmap—one that not only shows where we are but also how to get to where we need to be.

Another Problem: Reports That Overwhelm Us

Many schools and districts collect extensive amounts of data, yet much of it is underutilized. We frequently bury information in dense spreadsheets, dashboards with excessive data points, or static reports with limited guidance on interpretation. As a result, instead of empowering decision-making, reporting structures often create barriers to action. Research has shown that data-driven decision-making is most effective when reports are user-friendly and tailored to specific users (Hamilton et al., 2009). The goal should not simply provide data but present it in a way that facilitates insight and action.

Before diving into specific strategies for improving reports, we need to spotlight a crucial piece of the puzzle: who is supposed to do what with the information? Too often, reports are designed without a clear sense of audience, purpose, or intended use—leaving users lost in data with no clear path forward.

Purpose-Driven Reporting

Every report should begin with a clearly defined purpose. That means asking: What is this report trying to accomplish? Who is it for? What decisions should it help them make? How should they interpret the information, and what actions should it enable?

A well-designed report should not merely present data but guide the user toward a logical conclusion and actionable steps—much like a well-designed GPS system that not only shows where you are but also helps you navigate the best path forward. Research supports the idea that clear and structured reporting improves data interpretation and application in educational settings (Coburn & Turner, 2011).

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Reports should be structured to ensure that key messages are clearly communicated. If the goal is to improve student engagement, for example, the report should highlight trends in attendance, participation, and intervention effectiveness. If the focus is on academic performance, then the report should provide insights into student growth, achievement gaps, and instructional effectiveness.

By explicitly connecting data to decision-making, reports become more than just repositories of information—they function like turn-by-turn navigation, ensuring that users not only see where they are but also understand the best steps to take next. Effective reporting structures should provide users with clear, actionable insights that guide them toward meaningful decisions. Providing narratives that explain trends, suggesting evidence-based responses, and embedding opportunities for reflection can help users engage more deeply with the information and make informed decisions. That also means that reporting design needs to keep the user at the forefront, which can be done through the use of persona-based development (see Chang, Lim, & Stolterman, 2008).

Actions to Refine Reporting Structures

Once a clear purpose and audience are defined, the next step is to refine the reporting structure–or the way they are organized, formatted, and constructed–to ensure they facilitate meaningful decision-making. Effective reports do more than just present data—they provide clarity, context, and guidance for action. The following strategies focus on making reports more accessible, user-friendly, and actionable for educators, administrators, and policymakers.

1. Prioritize Clarity and Usability

Reports should be designed with the end user in mind. This means simplifying overly complex data presentations, using plain language, and emphasizing key takeaways. Visual elements such as charts, graphs, and infographics can highlight trends and disparities more effectively than raw numbers. Research on data visualization has shown that well-structured visual elements improve comprehension and engagement (Few, 2012). Additionally, organizing reports into clearly labeled sections with concise summaries can improve comprehension and usability.

2. Streamline Key Metrics for Decision-Making

Instead of overwhelming users with every possible data point, reports should focus on a core set of metrics that align with educational goals. For instance, a school improvement report should highlight progress on key performance indicators such as attendance rates, student growth measures, and intervention success rates. Studies indicate that focusing on fewer, meaningful indicators enhances decision-making efficiency (Marsh, Pane, & Hamilton, 2006). One effective strategy is to implement a tiered reporting system, where high-level summaries are provided first, with the option to explore deeper layers of data as needed.

3. Enhance Interactivity and Customization

Static reports often fail to meet the diverse needs of users. Interactive dashboards that allow users to filter, drill down, and compare data across different subgroups and time periods can improve data exploration and interpretation. Research has found that interactive dashboards enhance usability and promote data-driven decision-making (Mandinach & Gummer, 2016). For example, a school leader might need to see longitudinal attendance trends, while a teacher might focus on student performance within a specific classroom. Customizable reports can help educators and administrators focus on data most relevant to their needs, reducing information overload while maximizing utility.

4. Provide Context and Guidance for Interpretation

Data without context can lead to misinterpretation and misguided actions. Reports should include clear explanations of what the numbers mean, how they were calculated, and how they should be used. For example, instead of simply listing a school's chronic absenteeism rate, a report could include state benchmarks, trends over time, and recommended strategies for improvement. Studies on effective data use emphasize the importance of context in driving meaningful interpretation (Wayman & Stringfield, 2006). Additionally, narrative descriptions that accompany visualizations can help make reports more engaging and insightful.

Data without context can lead to misinterpretation and misguided actions.

5. Improve Timeliness and Accessibility

Data loses its value if it is not available when decisions need to be made. Refining reporting includes ensuring that key metrics are updated in a timely manner and delivered in accessible formats. Automating certain data processes can reduce lag time and ensure that users receive the most current insights without waiting for annual or semi-annual reports. Additionally, ensuring that reports are available in mobile-friendly formats or integrated into educator portals can improve access and usability. Research underscores the importance of timely data delivery in effective decision-making (Datnow & Park, 2014).

Structuring Reports for Action: An FAQ Approach

To bridge the gap between data presentation and actionable insights, reports should not only provide numbers but also guide users in determining their next steps. One effective way to structure reports for action is to include a Frequently Asked Questions (FAQ) section. This section can help users interpret key findings and make informed decisions by answering common questions such as:

- What does this data mean in practical terms?
- How do I know if my school/district is on track?
- What are the key indicators I should focus on?
- What steps should I take if the data indicates a problem?
- What resources or strategies are available to address these challenges?

Research suggests that structuring reports around user needs, such as through an FAQ format, improves engagement and interpretation of data (Wayman & Stringfield, 2006). Embedding FAQs directly within reports allows users to connect data insights to decision-making processes, reinforcing the theory of action for reporting. By aligning the FAQ structure with the intended claims and goals of a report, educators and administrators can more effectively translate data into meaningful action, ensuring that reports serve as a bridge between insights and strategic decision-making.

For instance, if a report shows a decline in student attendance, the FAQ section could suggest potential interventions, such as implementing early-warning systems, engaging families, or adjusting school policies. By providing structured guidance, reports become more than just informational tools—they become action-oriented resources that empower users at all levels.

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The Call to Action, Strategy 2

Refining existing reporting structures does not require a complete system overhaul; only a commitment to making data more user-friendly, relevant, and actionable. By prioritizing clarity, streamlining key metrics, enhancing interactivity, providing context, and improving timeliness, educational agencies can position data as a catalyst for meaningful change rather than just an informational resource. Investing in better reporting structures ultimately empowers educators and administrators to act on insights more effectively, leading to improved student outcomes and more strategic resource allocation.

STRATEGY 3: ENHANCING CROSS-SYSTEM COLLABORATION

Working with other people just makes you smarter; that's proven.
– Lin-Manuel Miranda, actor, composer and lyricist

Educational data systems and the decisions they support are increasingly complex and comprehensive. We often isolate tremendous amounts of information that span students, schools, and districts in different platforms, departments, or agencies. This isolation impedes us from making meaning from data and perpetuates fragmented solutions.

Instead, collaborating across systems can improve data sharing, integrating data sets, and coherent decision-making horizontally among users and across different educational system layers. This coordination can lead to more efficient operations, a more holistic understanding of teaching, learning and performance, and ultimately improve adults' behaviors to support students. Let's explore how to break down the silos we've created and use all the information we have to support students, schools and districts.

The Problem: Data Silos Restrict Insights and Action

Data silos in education hinder our ability to make informed decisions and limit cross-functional collaboration (National Forum on Education Statistics, 2021). Integrating data across systems improves student outcomes by enabling early intervention strategies and more personalized learning pathways (Means et al., 2011).

Imagine trying to complete a puzzle where each piece is locked away in a separate room. Even if each piece contains valuable information, the full picture remains incomplete until all the pieces are combined. This is precisely the challenge posed by data silos in education.

Consider the following types of data: performance, attendance, behavioral data, course-taking patterns, course performance, teacher effectiveness, and school climate surveys. These are often housed in many separate systems, making it difficult to analyze connections among them.

As a result, silos can create adverse effects and consequences, which include

- redundancies in data collection and analysis
- missed opportunities to identify and address systemic challenges
- misallocation or Inefficient use of resources due to lack of coordination and
- barriers to understanding the cause of student progress, acceleration, or stagnation.

In order to break down these silos, users, designers, and practitioners need to collaborate and invest in processes, policies and structures that promote data sharing and interoperability.

Building a Culture of Collaboration

Enhancing cross-system collaboration is not just a technical challenge but a cultural one. States, districts and schools need to support protecting personally identifiable data and identifying trusted partners within and across organizational lines to maximize their utility.

A good example of this comes from the Kentucky Center for Statistics, which developed a secure, cross-agency data-sharing framework that allows K-12, higher education, and workforce development agencies to share data while protecting personally identifiable information. By implementing clear governance

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structures and data use agreements, KYStats has been able to track student pathways from high school to postsecondary education and into the workforce, helping policymakers make data-driven decisions about education and economic development. This case makes a strong argument for a unified central center for governance that then guides other partner agencies (KYStats, 2023). KYSTATS is able to function as "a neutral broker that attends to the privacy, legal, and technical considerations required while also…providing access to P-20W data to policymakers, researchers, the public, and individuals" (p.2, DQC, 2023). Other examples can be found in Data Quality Campaign's (2023) state recommendations and examples document.

This example highlights a shift from siloing data to strategically sharing it in ways that respect privacy while increasing its utility. Organizations can use data more meaningfully by fostering trust, aligning objectives, and investing in infrastructure. Districts and state agencies implementing clear data-sharing agreements and governance structures see better cross-institutional cooperation and improved educational outcomes (Data Quality Campaign, 2021). Below are key actions that can help build a culture of collaboration:

1. Establish Clear Data Governance Policies.
Collaboration starts with well-defined policies on data sharing, ownership and security (Wayman & Jimerson, 2014). States and districts need to establish data sharing agreements that outline who has access to what data and for what purpose. A strong data governance framework can support ethical and transparent cross-system collaboration. Policies should also address compliance with privacy laws (such as FERPA) while ensuring that data is accessible to those who need it for decision-making.

2. Develop Interoperable Data Systems
Many data silos exist because we don't often design systems to communicate with each other. Investing in interoperable platforms—where assessment data, student support records, and educator performance measures can be linked—allows for more comprehensive analysis (Piety, 2013). Standardized data formats and APIs (application programming interfaces) can facilitate secure data exchange between institutions. While the maintenance of common data standards such as Ed-Fi and the Common Education Data Standards (CEDS) are at risk, local agencies can use those frameworks as guides to improve interoperability with vendors and each other.

3. Facilitate Cross-sector Partnerships
Education does not exist in a vacuum. Partnering with workforce development organizations, health services and community-based programs can provide a fuller picture of student needs and outcomes (Annenberg Institute for School Reform, 2008). For example, linking K-12 and postsecondary data can help educators understand how high school experiences translate into college and career success. Schools can also collaborate with local health agencies to analyze how student well-being impacts academic performance, leading to more targeted interventions. Again, while federal funding supporting these efforts is at risk, states may wish to advocate for these appropriations to connect longitudinal data in an effort to understand the long-term impacts of state-level policy (DQC, 2014).

Effective collaboration requires that those who work with data understand how to interpret and apply it.

4. Encourage Data Literacy Among Educators and Administrators
Effective collaboration requires that those who work with data understand how to interpret and apply it. Training educators and administrators in data literacy can help them ask the right

questions, draw meaningful conclusions and advocate for necessary policy changes based on evidence (Mandinach & Gummer, 2016). Professional development should include practical exercises on interpreting dashboards, identifying trends and using data for instructional decision-making. This can be supported by modeling analysis and interpretations, providing recommended next steps or creating decision trees around reports. Structurally, building a "data champions" network within schools and districts can further support sustained capacity-building efforts.

5. Use Technology as Leverage to Improve Accessibility

Even with shared data, accessibility remains a challenge. Interactive dashboards, automated reporting systems, and role-based access to information can ensure that relevant data is available to those who need it when they need it (Datnow & Park, 2014). Technology solutions should prioritize user-friendly interfaces that empower decision-makers rather than overwhelm them. Additionally, striving to integrate data systems with existing workflows (e.g., teacher planning tools and student intervention systems) will help embed data use into daily practice rather than making it an additional burden.

The Call to Action, Strategy 3

Education leaders must move beyond a fragmented approach to data and embrace collaboration as a core principle. By breaking down data silos, institutions can improve efficiency, enhance student support systems, and drive better decision-making. This requires technological improvements and a commitment to cultural and policy shifts that promote transparency and shared responsibility.

STRATEGY 4: EMPHASIZING LOCAL CONTEXTS

Every data point [education policymakers use]
comes from a decision in the school or classroom.
– Brook Meiller, CEO, Building Capacity EDU

In education, large-scale data systems often focus on state and national trends, but meaningful decisions happen locally. Users need data that reflect their context and challenges. Without an emphasis on local context, broad policy decisions can feel disconnected from the realities on the ground. By prioritizing localized data analysis and interpretation, education leaders can ensure that the information they provide is relevant, actionable, and responsive to the needs of their communities.

How do we ensure that communities see themselves in the data? How do we make state and district reports more meaningful at the school and classroom levels? Let's think about how to increase relevance in a meaningful way.

The Problem: Data That Lacks Local Relevance

I live in the world's most tornadic place in the world–Oklahoma's Tornado Alley. This makes me think about the weather. A lot. I'd go nuts if my weather report provided only national trends; I need local data to help me understand whether I should expect rain, hail or tornadoes, and how soon they will arrive. Likewise, statewide education data trends give local education leaders a broad sense of what's happening, but they need precise, localized data to make timely and effective decisions.

The challenges of de-contextualized data include:

- overgeneralized findings that don't address community-specific needs,
- reports that provide little guidance for localized decision-making,

- limited engagement from educators and families who don't see how data applies to them, and
- policy decisions that miss key nuances of individual schools and student populations.

To be clear, state-level data, like large-scale standardized assessments, aren't designed to support instructional decisions. They can be used, however, to inform insights at the local level, so long as they are supplemented by additional local information (see strategy 3). To make data more meaningful, education leaders must consider local priorities, demographics and historical trends. This requires refining how data are collected, analyzed and reported at all levels of the system.

Actions That Emphasize Local Contexts

Ensuring that data are relevant and useful at the local level requires prioritizing community-specific insights. Instead of relying solely on broad averages, education leaders and designers should focus on disaggregated data, comparative benchmarks (where available) and real-world applications. The following actions can help districts, schools, and communities use data more effectively to inform decisions and drive improvements focused on fairly supporting students.

1. Disaggregate Data to Highlight Community-Specific Trends

Large-scale reports should not just present averages—they should provide breakdowns by student groups, school types, and geographic regions. Schools and districts need to analyze data at granular levels to understand disparities and strengths within their specific contexts. For example, instead of presenting overall graduation rates, districts can examine trends among different racial and socioeconomic groups to tailor outreach efforts accordingly (Ladson-Billings, 2006). When schools disaggregate achievement data by income and race, they are better able to identify gaps and implement targeted support programs (Reardon, 2013). At the state level, agencies can also help identify similar schools using statistical matching methods to identify schools that have demonstrated improvements and connect them to others who may look similar but are still struggling.

2. Contextualize State and National Trends for Local Decision-making

Data should not be presented in isolation. Reports should include comparisons to similar schools, districts, or statewide benchmarks to help contextualize findings (Means et al., 2010). If a school's literacy scores are below the state average, understanding how they compare to demographically or statistically similar schools can help educational leaders determine whether targeted interventions or localized policy changes are needed. For example, when districts use peer comparisons, they are better able to identify which strategies work for similar communities and apply those lessons locally (Data Quality Campaign, 2021).

Data alone do not tell the full story; numbers need context.

3. Integrate Community Voices in Data Interpretation

Data alone do not tell the full story; numbers need context. Engaging those who use data—educators, families, local organizations—ensures that interpretations reflect the social and historical realities of the community. Schools or districts can host community data nights or feedback sessions where users look at results together and co-develop action plans based on lived experiences. When families and educators jointly analyze school data, schools are more likely to adopt culturally responsive interventions that directly benefit students and communities (Ishimaru, 2019). I recognize time is a precious commodity, but we can try to limit activities that may not yield impact and replace them with others that do.

4. Provide School-Level Flexibility in Data Use

Schools are remarkably diverse, even within the same zip code, let alone the same district or state. Data reporting systems should allow for flexibility so that local leaders can prioritize the most relevant metrics for their schools. This requires that the state build in space and structure to empower schools and districts to let the reporting reflect their lived experiences. States can support this flexibility by designing modular reporting templates, allowing districts to supplement with local data, and ensuring interoperability between state and local data systems. For example, urban schools may need to focus more on chronic absenteeism and their engagement strategies, while rural schools might prioritize access to shared sites and innovations in transportation. Providing schools with customizable dashboards or tailored reports can help make data more reflective of the school and ultimately more actionable for the user. Schools need to have control over how they interact with data *and* how they present their data enabling reporting to align with local needs and priorities (Mandinach and Gummer, 2016).

5. Break the Prediction: The Ethical Use of Localized Early Warning Systems

In supporting schools, it's important to use leading and lagging indicators (link) mindfully. State-level indicators like standardized test scores are typically lagging indicators, providing insights too late to drive immediate action. Districts should focus on leading indicators—such as attendance patterns, behavioral or disciplinary trends, and course failure rates—that can identify at-risk students early. These are also known as the ABCs of an early warning system. Local early-warning systems based on these factors can provide insights that allow educators and leaders to intervene proactively rather than reactively. Schools that use early-warning systems typically see significant reductions in dropout rates due to the use of targeted intervention strategies to address academic and behavioral issues before they grow (Balfanz & Byrnes, 2012). We must take care, however, to recognize that these early-warning systems are built on historical trends and that our job is to intervene before the prediction becomes an outcome.

The Call to Action, Strategy 4

Data are at their most powerful when they become relevant and lead to action at the local level. Education leaders can better engage educators, families and policymakers in meaningful decision-making by building reports that reflect community-specific contexts. Emphasizing local contexts means moving beyond broad averages to focus on the specific needs of students and schools. It requires a commitment to disaggregated analysis, community engagement and flexible reporting systems that empower decision-makers at every level.

STRATEGY 5: BUILDING CAPACITY FOR LOCAL DATA USE

Through learning we re-create ourselves. Through learning
we become able to do something we never were able to do.
– Peter Senge, systems scientist

The value of data in education is not just in its collection but in its use. Too often, school and district leaders are handed reports filled with numbers but little guidance on what to do next. Data are useful when those with access to it have the ability to interpret and apply it effectively. Building local capacity for data use is critical to ensure educators, administrators and communities can make informed decisions that support students in meaningful ways.

How do we make sure those who are closest to students—teachers, school leaders and local policymakers—have the tools and support needed to interpret and act on data? How do we move from compliance-based data use to meaningful engagement with data that drives continuous improvement? Let's explore how to build sustainable data capacity at the local level. (And capacity isn't just about ability; it's also about having the time, support and resources to use the data available.)

The Problem: Data Without Context or Support

Imagine receiving a new appliance with no instructions. While it may be exactly what you wanted, its usefulness is limited unless you know how to use it. Sure, you could fumble your way to mastery, but a user's guide and the confidence to use it will help you maximize its potential. This is the reality people face when handed dense reports or dashboards without training. Data are only as valuable as the ability to understand, trust, and apply them.

What happens when we provide data without the support to use them? Users can feel overwhelmed or intimidated, struggle to access and analyze relevant data, and struggle to interpret and analyze data. We risk creating a culture of compliance rather than one of improvement.

Actions for Building Local Data Capacity

Helping people use data requires more than just giving them access to reports. It requires investments in training, support systems and infrastructure. Below are five key actions to help schools, districts, and communities build sustainable data capacity.

1. Provide Meaningful Professional Development in Data Literacy

Research consistently shows that educators are more likely to use data meaningfully when they have regular opportunities to build confidence and fluency (Mandinach & Gummer, 2016). Rather than treat data use as a one-time training event, districts can take a tiered approach to support professional learning:

- **Begin by assessing current levels of data literacy.** Use surveys or interviews to surface gaps in comfort, confidence, and application.
- **Offer targeted, hands-on training.** Design workshops that allow educators to work with real or simulated data relevant to their roles—identifying trends, generating hypotheses, and exploring instructional implications.
- **Build ongoing support structures.** Establish peer learning communities and assign data coaches to provide just-in-time support and create space for reflection and collaboration.

Just as teachers receive ongoing training in instructional practices, they should also receive dedicated support to build fluency with data tools and decision-making.

2. Shift From Compliance to Continuous Improvement

Too often, data is viewed as a compliance requirement—something to report up, rather than a tool to reflect and adapt (Datnow & Park, 2014). Moving toward a culture of continuous improvement requires intentional shifts in language, expectations, and leadership practices:

- **Reframe the purpose of data.** Facilitate district- or school-level sessions that model how data can inform learning, not just accountability. Elevate examples where thoughtful data use led to improvement.
- **Create safe spaces for inquiry.** Use non-evaluative protocols that encourage open exploration of data patterns and questions. Emphasize learning over judgment.
- **Make data a routine part of instructional decision-making.** Embed data conversations into PLCs, department meetings, and teacher planning cycles to normalize use.

This shift doesn't happen overnight—but by modeling curiosity and rewarding evidence-informed adjustments, leaders can signal a different relationship with data.

3. Ensure Access to Timely and Relevant Data

Even the best professional learning won't matter if data isn't accessible, timely, or relevant. When information is outdated or difficult to navigate, it limits opportunities to act (Means et al., 2010). Leaders can improve access in several ways:

- **Identify which data points matter most.** Narrow the focus to indicators that educators can act on, such as attendance trends, behavior data, or formative assessments.
- **Streamline dashboards for clarity.** Design tools that foreground trends and patterns rather than overwhelm users with excess information.
- **Enable real-time insights.** Invest in systems that flag potential concerns early—such as dips in engagement or spikes in absenteeism—so educators can respond proactively.

Ultimately, the goal is to put the right data in front of the right people at the right time.

4. Develop School-Based Data Leadership Roles

Just as schools benefit from instructional coaches, they can also benefit from dedicated staff who lead data conversations and support instructional use (Wayman & Jimerson, 2014). These roles help build continuity between district analytics and classroom practice:

- **Identify potential data leaders.** Look for staff with strong analytical thinking, relational trust, and a commitment to improvement.
- **Clarify roles and expectations.** Ensure these individuals have the authority and resources to facilitate learning, not just compliance.
- **Create a network of practice.** Connect data leads across schools to share tools, surface challenges, and refine practices together.

These roles help bridge the gap between data availability and data application—turning systems into support structures.

5. Build Community Partnerships for Data Use

Districts don't have to build capacity alone. Community partners—including higher ed institutions, research organizations, and advocacy groups—can expand expertise and bring new insights (Ishimaru, 2019):

- **Engage partners with aligned expertise.** Universities, for example, can support educator learning, help design studies, or co-lead analysis sessions.
- **Formalize reciprocal relationships.** Use MOUs or data-sharing agreements that establish shared goals and outline roles clearly.
- **Host public learning forums.** Invite families and community members into data conversations—not just to be informed, but to co-create strategies that respond to their lived experience.

By extending capacity beyond the school walls, systems can better respond to the layered factors that influence student success.

The Call to Action, Strategy 5

Building capacity to use data is not just about technology—it's about people. We must invest in the skills and create a culture that helps make meaning from data so adults can turn that meaning into action. Leaders can empower those who are closest to the students by focusing on professional development, shifting data use away from compliance, and promoting access to relevant insights.

REFLECTIONS AND KEY TAKEAWAYS

In this paper, we've explored five strategies designed to help education leaders make better use of existing data—not by collecting more, but by refining how data is structured, analyzed and applied. While each strategy offers specific insights and recommendations, their true power comes from how they work together to create a more effective and sustainable data ecosystem.

Too often, education leaders feel overwhelmed by the sheer volume of data available but lack the tools, structures, and support needed to use it effectively. Data use should not be about compliance or reporting for reporting's sake—it should be about driving meaningful improvement at the local, district and state levels.

In closing, I highlight key takeaways, show how these five strategies intersect and provide practical next steps for education leaders looking to apply these ideas in their own contexts.

The Five Strategies: Key Lessons and How They Intersect

STRATEGY	KEY LESSON	CONNECTION
1. Making Better Use of Existing Data	Schools and districts already collect massive amounts of data, but much of it remains underutilized. By leveraging multiple sources and triangulating insights, leaders can extract greater meaning from what they already have.	Without maximizing the use of existing data, improvements in reporting, collaboration, and local capacity-building will have a weaker foundation.
2. Refining Instead of Rebuilding Reporting Structures	Many reporting systems prioritize compliance over actionable insights. By refining reports to focus on key takeaways, visualization, and user-friendliness, data becomes a more effective tool for decision-making.	Clearer reports support better collaboration, local engagement, and improved capacity for data use by ensuring that information is digestible and useful.
3. Enhancing Cross-System Collaboration	Data silos between schools, districts, and state agencies limit holistic understanding. Collaborative partnerships—both within education systems and across sectors—help create a more complete picture of student success.	Collaboration strengthens reporting by aligning key metrics across systems, and it expands the availability of relevant data for local decision-makers.
4. Emphasizing Local Contexts	Broad, generalized data often overlooks the realities of individual communities. By ensuring that data is disaggregated, tailored, and responsive to local needs, education leaders can make data more relevant and actionable.	Localized data requires clear reporting, strong collaboration, and a deep understanding of existing datasets to ensure accuracy and usability.
5. Building Capacity for Local Data Use	Even the best data systems are ineffective if educators and administrators lack the training and support to use them effectively. Schools must invest in professional development, data coaching, and leadership structures to strengthen capacity.	Without strong data literacy, even well-refined reports and collaborative efforts will fall short.

Bringing It All Together: A More Effective and Sustainable Data Ecosystem

Each of these strategies strengthens the others, creating a comprehensive framework for improving education data use. For example, imagine a district leader working to improve early-warning systems for students at risk of dropping out. They:

1. leverage existing data sources (Strategy 1) to identify key risk factors.
2. refine reporting systems (Strategy 2) to ensure early-warning indicators are clearly communicated.
3. collaborate across departments (Strategy 3) to ensure interventions are aligned with student needs.
4. emphasize localized data (Strategy 4) to tailor interventions to their community.
5. train educators on how to use the system (Strategy 5) so they can act on the insights effectively.

Without any one of these components, the system would be less effective. Data must be clear, actionable, shared, localized, and understood to truly drive change.

Final Recommendations: Moving from Reflection to Action

1. **Assess Current Data Use Practices.** Identify where gaps exist in reporting, collaboration, or training. Determine whether data is being used for compliance only or for real decision-making.
2. **Prioritize One or Two Strategies to Implement First.** Schools and districts don't need to overhaul everything at once—focus on the highest-need areas first. Ask: *Where is the greatest opportunity for impact? Where are the most significant barriers?*
3. **Build Partnerships with Partners.** Engage educators, families, and agencies in shaping data reforms. Ensure local voices help drive decisions about what data is collected and how it is used.
4. **Commit to Continuous Improvement.** Data systems should evolve as schools and districts learn what works. Regularly assess, adjust, and refine strategies based on feedback and outcomes.

Final Thoughts: Using Data for Improvement, Not Just Compliance

Education leaders have a tremendous opportunity to move beyond data collection for compliance and towards data use for real impact. By treating data as a tool for continuous improvement rather than just an administrative requirement, schools and districts can create more responsive, equitable, and student-centered education systems.

The five strategies outlined in this paper provide a roadmap for making that happen. Now it's time to put them into action.

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