Creating a Data-Driven Culture: Leadership Matters

Eight steps to prepare a school district for accessing and integrating data to make informed, proactive decisions
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Lane B. Mills, PhD, is an Associate Professor in the Educational Leadership program at East Carolina University. Having served as Assistant Superintendent for Accountability and Technology Services for 10 years and trained as a school psychologist, Mills often refers to himself as a “geek with social skills.” In 2004, Mills was one of four finalists and award winners for Technology and Learning magazine’s EdTech Leader of the Year. In 2000, his school district was one of four national winners of the Ohana Foundation’s Technology and Education Leadership Awards. His professional publications include ongoing contributions to the technology leadership column for the American Association of School Administrators’ (AASA) The School Administrator magazine. Mills does extensive consulting for school districts in the area of data analysis and reporting of assessment data as well as the development and use of instructional management and formative assessment systems. Mills can be contacted at lanebmills@gmail.com.
Executive Summary

Educational leaders are recognizing the need for a shift in their district culture away from a unitary focus on data by a single person or department to one in which everyone in the district understands and applies the right data at the right time to the right issue. As school districts are faced with an ever-increasing ocean of information, the importance of establishing and maintaining a data-driven culture to improve student outcomes is real and cannot be overlooked.

Superintendents play a vital role in shifting to a data-driven culture. To introduce, implement and maintain a school district in which everyone is focused on data, leadership matters. Although a data-driven culture can be achieved regardless of a district’s resources, structure or size, it does require the vision, guidance and leadership of the superintendent and the commitment and trust of the executive team and staff.

This paper describes eight essential steps for this important transformation of a school district’s culture. From establishing the vision and gathering information, determining infrastructure and professional development needs, to ensuring buy-in from staff and specific leadership practices, creating a data-focused organization is within reach through these outlined strategic steps.

While specific strategies and tactics will help facilitate the process itself, real change will require more than an easy-to-read procedures manual. Everyone needs to share the knowledge and effort in today’s data-centric environment. Superintendents will need to model their vision in their daily work and provide reinforcement and support for others throughout the culture shift. With the increased emphasis placed on using insights from data to maximize efficiencies across all areas such as instruction, fiscal, personnel and operations, making sure that the superintendent leads the charge for a data-driven culture will be integral to improved outcomes and ongoing support for the change.

Using the strategic steps presented here, superintendents and their school districts can use data management, reporting and analysis to improve efficiency, performance and student outcomes.
Why a Data-Driven Culture?

The necessity of creating a data-driven culture can be seen in many forms in school systems regardless of size, location or demographics. Gone are the days when the superintendent and the board of education discussed a concise set of indicators at the end of the school year as a review of “how did we do?” Today's educational leaders face an environment that requires real-time decisions and accurate, reliable and timely data. Local media outlets, community groups, parents and legislative liaisons all seek access to a variety of data throughout the school year. Many times, these requests occur with daily deadlines looming or simply a need to know the answers to specific questions in real time.

As a result of this, educational leaders face a growing need to gather, analyze and monitor more data than ever before in their oversight of schools. From student accountability indicators to financial indices and all data points in between, superintendents are held accountable for all aspects of their district’s data.

The adage that schools are “data rich” and “information poor,” while ironic, is often true. School systems are flooded with data. Leading by assumptions and hunches from a single view of multidimensional issues does not ensure that one is focusing on the right issues at the right time in the right fashion.

Rather than guessing or hoping for the best, leaders can use data effectively to develop and foster a culture in which all members of the district understand, apply and manage data as a dynamic entity to support the district’s focus and improve outcomes for students, staffs and schools.

Superintendents are now front and center in the task of transforming data into knowledge and leading the charge for data-driven decision making across the district. However, the superintendent cannot be the lone data savant for their district. Not only is this model inefficient, it overlooks a school district's most valuable resources: its people. Everyone needs to share the knowledge and effort in today's data-centric environment.

While the process of creating a data-driven culture will be determined by the needs and resources of the district as well as the leader's own style, districts and leaders that achieve and foster this type of culture often achieve success using several key strategic steps, explained in this paper.
Eight Steps for Success

The following sections describe eight steps a superintendent can implement to create a data-driven culture that fosters the benefits of real-time intelligence, increased communication and fact-based decision making.

1. Establish a Clear Vision

The superintendent needs to set a clear vision for the district on data and its specific uses. Establishing this clear vision is critical to bringing about a culture focused on data and results. It is not enough to have the vision; the superintendent must also consistently evangelize the vision. One method is to personalize this vision by putting a “face” on the issue through symbols such as slogans and pictures.

The superintendent must present the vision to the school board, community and staff by providing the overarching rationale for this shift in culture and its benefits, setting the stage for the work ahead. A primary focus at this point may be to clarify misconceptions about creating a data-centric culture versus simply using an isolated set of tools or reports to provide information (e.g., Don’t we already use a data warehouse?). These discussions are rich with opportunity to establish a common vision and mission and often provide a sense of relief to staff as they gain focus.

2. Research and Learn from Others’ Successes

Once the vision is established and communicated, it is important to learn from similar districts that have successfully made the transition to being data-driven. Conversations with their key leaders and staff can provide a wealth of information. Observations and discussions might involve learning of potential pitfalls and their solutions, discussing strategies and processes, or simply getting a firsthand feel of the climate. This approach can often lead to a clearer picture of the undertaking and how a district can model successes and best practices and address potential roadblocks.

Questions to ask peers may include:

- What criteria were used to create performance targets or identify areas for focus?
- How were budgetary issues addressed for infrastructure or application needs?
- Which professional development opportunities created the biggest impact?
- What mixture of group composition (e.g., leadership team members, school-based staff, experienced principals, data and technology power users, etc.) facilitated the best conversations, ideas and results?
3. Examine Infrastructure for Effective Data Use

Creating a successful data-driven culture also requires the infrastructure to support it. At the beginning of the process, establishing a strategic relationship between the superintendent and the senior technology leaders provides valuable insight given their expertise on the systems’ data architecture and routines. With the continued emphasis on using technology to maximize instructional and administrative efficiency, it is critical that district technology leaders have a seat at the decision makers’ table. Many technology leaders can share horror stories where district leadership failed to involve them in the discussion, planning or implementation stages of a project until it was too late to ensure success.

It is necessary to conduct a critical review of current data and infrastructure. This analysis should include an examination of existing data, database systems (e.g., human resource, financial, administrative applications, etc.), data warehouse applications, analytical tools and legacy systems that might provide needed data. There should also be an analysis of the informational, operational and strategic needs and goals so that the development of the decision-making process can address these. While this process can be lengthy and time-consuming, it is important to thoroughly evaluate current and future data needs, as this information can prevent many future barriers to the change process.

Questions to ask during the review of existing infrastructure may include:

- What data do we have now?
- What is the quality of our data?
- Is the current data format appropriate for analysis?
- How often is the data collected and by whom?
- How do we currently store and access the data?
- How will we make the data readily accessible?
- What reports are needed on a daily basis, and do we have the information to support them?
- Who are the people/companies that can help us with this change?
- What data do we need that we do not collect now?

Information from this type of self-review and analysis can aid districts in answering the most important question of an infrastructure: “Do we have what is needed to make this change happen?” A strategic plan then needs to be put in place that addresses the current data situation and the future needs for reporting and analysis.
Superintendents should also consider involving reputable IT industry leaders, as their expertise can be valuable with planning and provide options regarding applications, product families and strategic support. Technology partners’ experience and expertise will also ensure that decisions concerning data and its access are based on realistic timelines, processes and support needs.

4. Ensure Buy-In, Commitment and Trust

The next phase revolves around ensuring ongoing commitment to the process from others in the system. Involving others in your vision and process is important given the impact that the momentum from large numbers of staff and constituents can have on the outcome. As others begin to embrace the vision and take an active and equal part in its implementation, tasks may become more manageable and barriers due to individual resistance can often be resolved through relationships and buy-in with peers.

Changing a culture in this manner is not as simple as announcing a new way of doing business and expecting compliance. A key step in the culture change will be to reinforce trust among staff and seek collaboration regarding the specific steps in the process, desired outcomes and methods for implementing the change process. Instigating a shift in culture will likely create a sense of fear or hesitancy about its impact on individuals’ roles, responsibilities, statuses or workloads. Perhaps the existing climate is one in which a few individuals are the gatekeepers of the district’s data and guard it carefully or one in which each department and school functions as its own data silo – creating, managing and applying its own data without consulting with others. Transitioning to a system that views data across all areas and invokes group sharing and ownership will require honest discussion of the change process and the superintendent’s vision in open dialogue with all parties – not just the “data experts.”

Developing understanding and buy-in is anything but an overnight shift. The superintendent will need to continually emphasize the importance of the change in culture and its ongoing nature. Regular opportunities to address obstacles and concerns and celebrate successes need to be built into district and school meetings, school visits and interactions with all staff and the community. In fact, the conversation and work on the transition needs to be a daily function for the superintendent in all arenas. Keeping the conversation going and providing momentum is required to establish that the change is not a passing fad from the district office.
5. Foster Professional Development

Districts often talk of “growing their own” leaders or programs, and this focus fits the needs of the system at this stage of the change process. Care and consideration must be given to allow staff to prepare for this new way of doing business. Professional development, rather than simple training, is an ongoing process that focuses on gathering and increasing knowledge as much as specific skills. It is paramount to the success of the culture change that the development offerings occur early and often. Feedback and interactions during development opportunities early in the process offer insight into the current mindset regarding the shift, allowing for quick intervention or clarification by leaders regarding any misinformation, fears or potential attitudinal barriers. Also, hands-on training early on with the district’s own data can serve as a great equalizer of status in the group, as everyone is starting from the same point with the same tools. Professional development offerings or specific training focused on the various data components that will be monitored and evaluated, as well as how to use this data appropriately, all must align with the district’s plan.

In addition to developing their skills, staff will need time to create their own understanding of this culture. One-shot or “drive-by” training sessions or information meetings will not provide sufficient focus. The staff needs consistent access to development resources to build a strong foundation of comfort with the new culture. The focus on training and familiarity with the data will also help them work through issues regarding past practices and changes from “the way that we have always done things.” Further, they need to see themselves as part of the solution as they begin to create their own mindset and data culture identity.

6. Lead by Example and Encourage Data Utilization

A simple and effective method to encourage initial buy-in regarding the nurturing and development of a data-driven culture is readily available to all leaders and costs nothing to implement: Superintendents need to model the data-driven behaviors and approaches within their district. While most are familiar with the old adage “walk the walk and talk the talk,” the superintendent needs to implement the practices that mirror and extend the shift toward a data-driven culture. This sends a powerful message of its importance and permanence to stakeholders.

An initial strategy in this step should involve increasing the staff’s capacity to implement the processes and thinking to promote successful outcomes. Anyone who has ever tried to change their behavior (e.g., exercising to lose weight) knows that habits are often hard to break. The superintendent needs to help the district build habits that encourage data use. This will provide additional momentum for the changes. Examples could be as simple as starting meetings with a review of district indicators or simply making the data easy to use and access through professional development and the availability of the right tools.
Another approach is to begin by choosing a limited number of data indicators for staff to focus on and implement into their daily work, so they are not overwhelmed by the massive amounts of different data that is available. Then, as they become more comfortable with using those data indicators, the initial set can be expanded with appropriate training on the new added data sets and how they translate into important knowledge for their role. Not only does shrinking the change help reduce the initial fears of being able to manage new processes and acquire skills, it also allows an organization to better absorb any unforeseen technical or procedural “hiccups” that might have been overlooked (e.g., additional licenses for accessing data simultaneously, network capacity, data preparation time, etc.).

A key role of the superintendent at this stage is to encourage and emphasize successes. Being able to articulate and demonstrate to all groups how the data is being used and its impact will assist in the spread of actions that support the changes.

Real-life stories from staff are a powerful means of showing positive outcomes. Simply allowing time at meetings for these discussions or sharing them through district communications addresses this step. As the district continues to gain momentum for the changes, it will be easier for everyone to pile on the bandwagon as they can see the successful products of their hard work.

### 7. Establish Data Meetings

Establishing regular data meetings is of great importance. The major focus of these data meetings is to assess current levels of performance insofar as how the district is doing, where it needs to be and how it will get there. These meetings provide opportunities to monitor progress and barriers, reinforce the focus of the change and introduce new ideas and goals. Discussing the district dashboard of key indicators at the beginning of each meeting, for example, relays the message that the leadership staff is monitoring progress and the process has value. These gatherings and their discussions offer opportunity to celebrate incremental successes, dissect and overcome barriers and increase the contribution of other staff toward areas of need and strategies for improvement. Also, the leadership staff must have a say in the discussions of setting the parameters for what is considered good, average or “needs improvement” for whatever indicators are being targeted for change.

For instance, some universal indicators that should be discussed at such data meetings are: achievement results with special emphasis given to gaps among groups of interest; attendance (both student and staff); discipline and safety measures; financial indices; and overall district climate. These areas of interest and focus are specific to a district, and the analysis and determination should involve everyone at the table. A great strategy to ensure active participation is to have the leadership staff come to the meetings prepared with the data to discuss how their schools are performing and what strategies they are putting in place to address any issues that have surfaced.
CREATING A DATA-DRIVEN CULTURE

It will be important to inform staff at all levels that their efforts to lead and learn with data will likely uncover some disappointing results about current practices and performance. Rather than glossing over or minimizing these findings, staff members need to know that it is safe and expected to bring this information to the attention of the district. Acknowledging and addressing negative information is part of a healthy data-driven culture and should lead to team collaboration on strategies that can offer improvement. At first this may be difficult; however, over time, staff comfort levels and their appreciation of the data will increase.

8. Remove or Modify Barriers to Effective Data Use

With the previous steps having increased support for data use, the superintendent can center efforts on minimizing barriers to further expansion and development. Making the shift to a data-driven culture may often necessitate the realignment of staff and resources, changes in policies or procedures, capital outlay issues or a host of activities that require the superintendent’s stamp of approval and delivery. These adjustments may focus on people or practices, but regardless, it is paramount that the superintendent monitor and intervene at this stage.

Another area to address is review of the district policies and practices. Are there processes and rules in place that do not support the shift in culture? For example, is access to information stores blocked because departments or schools manage their “own” information, or does policy allow only senior-level administrators to access certain reports of district-level information? Perhaps existing reports are school-specific and comparison data is not provided because schools do not want their information to be public within the district. Addressing these barriers may often create the necessary change (e.g., eliminating static, paper reports or data silos). The district leadership team and principals need to weigh in on these types of issues from their areas of responsibility and schools to further align the work and remove possible roadblocks.

The superintendent should also play a key role in supporting the leadership teams and building staff as they begin to encounter the informal gatekeepers of information in their district and the resulting power struggles over data access. Often, as new processes or practices that relate to data access are implemented, there is a resultant shift in who controls the information or its flow within the district. Many times these changes upset the informal power structure among staff previously “in charge” of the data. The superintendent needs to stress the continued openness regarding information and access and quickly squelch turf battles regarding data access and reporting.
Conclusion

Creating and sustaining a data-driven culture is a necessary function for educational leaders in today’s information-driven climate. Achieving this goal is not a random act – leadership does matter. Regardless of the resources, structure or size of the school district, educational leaders need to address the strategies discussed in this paper to ensure their district is successful at turning data into useful knowledge.

Beginning with a clear vision that is communicated to all and building momentum with trust and commitment requires leaders who recognize the importance of facilitating buy-in among staff, learning from others who have successfully navigated the change process, and providing focused professional development and collaborative meetings that reinforce goals and respond to issues. Leading the vision to reality also requires technical preparation to remove barriers to effective data usage and to ensure a sound IT infrastructure. A key indicator that distinguishes a successful shift to a data-driven culture from yet another central office requirement is having a leader that demonstrates their expectations of data usage in their own work. Putting data and data-driven leadership to use in every conversation, meeting and interaction sends the message that this approach is valued and expected.

Effective superintendents continue to advocate for a data-driven culture by further expanding and developing their data infrastructure to ensure future successes. While managing and mastering the data that determines and influences outcomes for students and school districts will always be a work in progress due to its changing nature and sheer volume, successful educational leaders recognize and act on their role with sustained and committed leadership in creating a data-driven organization.

About SAS

Commitment to Education. Since our beginning 35 years ago as a research project at North Carolina State University, SAS has remained committed to partnering with education to deliver software and services for both academics and administration. Each year, SAS donates millions of dollars as a means of improving the educational process. SAS® solutions help education improve learning, services and management and are licensed and implemented at more than 3,000 educational institutions worldwide. Learn more about SAS K-12 data-driven decision making solutions at: www.sas.com/dddm.

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