Positive Data Culture

District data literacy may be viewed as collecting, examining, analyzing, and interpreting data to inform a decision (Mandinach and Gummer, 2015). The key areas identified by Gerzon (2015, p. 1) for teacher effective use of data include “communicating professional expectations for data use; providing resources and assistance to make meaning form data; participating in the flow of information for data use; providing professional development on data use knowledge and skills; and providing leadership to nurture a culture of data use.” District data use should not only include data from the NYSED assessments but also data from within the district such as benchmark assessments, behavior reports, curriculum embedded assessments, and teacher grades. Whether data contribute to improved student achievement “depends a great deal on how these data are actually used to inform decision making” (Datnow and Hubbard, 2015, p. 2).

Data Culture

The development of a positive data culture depends upon leadership, effective school based data teams, teacher access to appropriate data reports, and professional development focused on data. District leaders and school leaders play a critical role in developing and supporting a culture of data use. Data leaders may be persons in formal or informal leadership positions.

Leaders need to develop structures that allow for uninterrupted time for teams to collectively reflect on data (Marsh, Bertrand, and Huguet, 2015). They need to guide staff to use data “in thoughtful ways that inform action rather than promoting the idea that data in and of themselves drive action” (Datnow, and Hubbard, 2015, p. 5).

Benefits of a positive data culture include improved teacher instructional dialogue, a higher teacher comfort level with data, and improved student outcomes (Gerzon, 2015). When schools have a positive culture of data use, teachers do not feel that they are drowning in data.

Teams

When teachers meet as teams, they share individually held knowledge to construct a clear, commonly held set of ideas. This process develops over time in a stable group. When organizations learn, facts are turned into knowledge that is shared and can be acted upon (Ingram, Louis, and Schroeder, 2004). Effective teams are efficient, adaptive, error correcting, and continually creating improvement.
The use of data by instructional teams within a building may vary with some teams using data to focus deeply on teaching and learning while other teams use data in ways that shut down dialogue and promote form over substance (Gerzon, 2015). Some teachers may perceive data use as an important and necessary tool for improving classroom practice, others may view data as meeting accountability demands and view team meetings as a bureaucratic task to be completed (Datnow, and Hubbard, 2015).

Team members need to be confident that the conversations about data and the data themselves will not be used against them. Effective data teams focus on evaluating current instructional practices based on evidence. The conversations need to focus on improving student learning. If teams are only focusing on data for struggling students, then there may be an issue of equity. (Datnow, and Hubbard, 2015)

Professional Development

Teachers and leaders develop the capacity to use data over time and that capacity must be continuously nourished. Educators need to develop the skills for interpreting data and developing solutions based on the data. Teachers need to be encouraged to implement those solutions in their classroom. Teams need both content and data expertise. “Teams with limited expertise can misinterpret data, or they can work together to perpetuate poor classroom practice” ((Datnow, and Hubbard, 2015, p. 6).

Professional development needs to be provided to insure that teachers have strategies for data analysis, assessment literacy, and applying data to instructional change (Gerzon, 2015; Datnow, and Hubbard, 2015). This professional development should be differentiated so that teachers are building on prior knowledge. Rather than data-related professional learning opportunities being isolated events, opportunities should be planned as a connected set of capacity-building opportunities. Teachers may need professional development to develop skills for (Jimerson, and Wayman, 2015):

- Asking appropriate questions of the data.
- Identify the data needed to answer the question
- Focus the investigation
- Navigating various data systems
- Access data
- Contextual to teacher needs
- Print appropriate reports
- Data literacy
- Make appropriate decisions
- Understand different measures such as raw scores and scale scores
- Connecting data to day-to-day practice
- Adjust lesson plans and curriculum
- Align assessment, data, and instructional response
- Learning protocols for data meetings

The benefits of data for improving instruction may not be realized because teachers restrict their response to the data (Marsh, Bertrand, and Huguet, 2015). Teachers may reteach content, identify particular students for in-class or out-of-class support, or make other procedural changes to practice. Teachers may teach test taking skills or engage in ‘gaming’ practices that do not lead to deeper student learning. Teachers need to be open to adjusting instructional design at the whole-class, small group, and individual levels. They need to be open to altering curriculum and content sequencing.
When coaches provide guidance to support data analysis in peer dialogue groups, teachers better understand their role in improving student achievement. Coaches may be content specialists with training in data interpretation and application to instruction or coaches may be data specialists. Content coaches are able to offer on-site and on-going support for teachers. The data coach will focus on making sound inferences from the data. Research seems to indicate that a coach is more effective if the coach is skilled at cultivating relationships (Marsh, Bertrand, and Huguet, 2015). Coaches often provide a broader perspective that fosters long-term change in delivery. They may be interacting with administration on policy as well as working with multiple teachers across multiple grades. The role of the coach may be supportive such as providing resources and demonstrating lessons. The role may also be unsettling such as analyzing the teacher’s practice, asking the teacher to be reflective, or asking questions that are outside of the teacher’s comfort zone.

If a professional learning community (PLC) focuses on data-driven reform, the group may be referred to as an inquiry team or data team. The PLC is a collaborative peer group guided by a lead teacher or facilitator. Ideally, the PLC is a group of teachers who trust each other and have diverse expertise to enrich the conversations and analysis process (Marsh, Bertrand, and Huguet, 2015). Research seems to indicate that teachers in a collaborative data team are more likely to make instructional improvements. When PLCs discuss instruction and plan lessons together, there is a higher chance that delivery of instruction will change. Just discussing data does not seem to change instruction. Ideally, PLCs will not limit their instructional changes to discrete strategies but consider broader curriculum and instruction issues.

Data Access

In districts with a positive data culture, the data provided to teachers have been prepared to allow efficient analysis and interpretation. The data presented is chosen to answer important questions for teaching and learning issues. In these districts there is a two-way flow of information between the district office and schools with schools requesting data that will serve instructional purposes and applications.

Data Wise

The Data Wise Project at Nassau BOCES is a professional development program based on a model developed at Harvard. Data Wise develops data literacy through teamwork, coaching, experiencing data work, applying data to one’s own context, and reflecting on action.


Gerzon, N. (April 2015). Structuring professional learning to develop a culture of data use: Aligning knowledge from the field and research findings. Teachers College Record, 117, 040307.


As always, IDW personnel are available to provide telephone assistance and in-district training for any district seeking to learn more about this newsletter or about other best practices for the IDW. Call Fred Cohen at 608-6640 or Meador Pratt at 608-6612 to schedule a training session or to discuss any Instructional Data Warehouse questions.