

Handout 3: Preliminary Data Use Scans

The purpose of this preliminary scan was to review and summarize literature to answer the Cross-State partnership's research question 2 (RQ2): What skills, structures, and supports do district and state leaders need to create a culture of data-driven decisionmaking? The research staff examined the literature to find resources related to leaders' data use, identify instruments that assess data use, identify tools and guides to support data use, and summarize potential topics and constructs of interest for the partnership. This handout summarizes the literature and provides citations for future reference when activities related to RQ2 begin. Note that this scan may be updated in the future to include specific populations such as higher education.

Resources from the preliminary scan fall into three categories: research on data use, resources/tools to support data use, and instruments to measure data use. A summary of each category and list of the resources follows.

1. Research on Data Use

The research showed that common types of data used in decisionmaking are student achievement data, teacher evaluation and teacher effectiveness data, attendance records, discipline records, dropout and graduation data, and surveys of students, teachers, and parents. Leaders primarily relied on state assessment tests for student data, although some studies found that local assessment data and district benchmark assessment data are becoming more common. Key themes concerning leaders' data use are the actions leaders take with the data and the factors that contribute to their capacity to use data.

Reasons for leaders' data use vary depending on the school/district goals and vision, as well as the data they have access to. Some common reasons for using data are improving curriculum

and instruction, informing professional development opportunities and student placement, meeting accountability reporting requirements, improving organizational operations, measuring the effectiveness of outreach, and shaping school and district goals. Leaders' ability to use the data for the intended purposes may vary depending on whether a culture of data use has been established, the expectations that are set, and whether data are accessible and aligned with system-wide goals.

Datnow, A., Park, V., & Wohlstetter, P. (2007). *Achieving with data: How high-performing school systems use data to improve instruction for elementary students*. Los Angeles: University of Southern California Center on Educational Governance. Retrieved from <http://www.csai-online.com/sites/default/files/resource/imported/AchievingWithData.pdf>

Dougherty, C. (2015a). *Use of data to support teaching and learning: A case study of two school districts*. ACT Research Report Series. Retrieved from <https://eric.ed.gov/?id=ED558033>

Dougherty, C. (2015b). *How school district leaders can support the use of data to improve teaching and learning*. ACT Research & Policy Brief. Retrieved from <http://www.act.org/content/dam/act/unsecured/documents/Use-of-Data.pdf>

Farrell, C. C. (2015). Designing school systems to encourage data use and instructional improvement: A comparison of school districts and charter management organizations. *Educational Administration Quarterly*, 51(3), 438–471. <http://journals.sagepub.com/doi/abs/10.1177/0013161X14539806>

Gill, B., Borden, B. C., & Hallgren, K. (2014). *A conceptual framework for data-driven decision making*. Princeton, NJ: Mathematica Policy Research. Retrieved from <https://www.mathematica-mpr.com/our-publications-and-findings/publications/a-conceptual-framework-for-data-driven-decision-making>

Gottfried, M., Ikemoto, G., Orr, N., & Lemke, C. (2011). *What four states are doing to*

support local data-driven decisionmaking: Policies, practices, and programs (Issues & Answers Report, REL 2012–No. 118). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Mid-Atlantic.

<https://eric.ed.gov/?id=ED526135>

Grissom, J. A., Rubin, M., Neumerski, C. M., Cannata, M., Drake, T. A., Goldring, E., & Schuermann, P. (2017). Central office supports for data-driven talent management decisions: Evidence from the implementation of new systems for measuring teacher effectiveness. *Educational Researcher*, 46(1), 21–32.

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Honig, M. I., & Venkateswaran, N. (2012). School-central office relationships in evidence use: Understanding evidence use as a systems problem. *American Journal of Education*, 118(2), 199–222. <https://eric.ed.gov/?id=EJ970815>

Jimerson, J. B. (2015). How are we approaching data-informed practice? Development of the survey of data use and professional learning. *Educational Assessment, Evaluation, and Accountability*, 28(1), 61–87. <https://eric.ed.gov/?id=EJ1097321>

Makkonen, R., Tejwani, J., & Venkateswaran, N. (2016). *How are teacher evaluation data used in five Arizona districts?* (REL 2016–142). Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory West.

<https://eric.ed.gov/?id=ED565834>

Marsh, J. A., Pane, J. F., & Hamilton, L. S. (2006). *Making sense of data-driven decision making in education: Evidence from recent RAND research*. Santa Monica, CA: RAND Corporation. Retrieved from

https://www.rand.org/pubs/occasional_papers/OP170.html

Means, B., Padilla, C., & Gallagher, L. (2010). *Use of education data at the local level: From accountability to instructional improvement*. U.S. Department of Education, Office of Special Education Programs. Menlo Park, CA: SRI International.

<https://eric.ed.gov/?id=ED511656>

Seager, A., Madura, J. P., Cox, J., & Carey, R. (2015). *A district's use of data and research to inform policy formation and implementation*. Washington, DC: U.S. Department of Education, Institute of Education Sciences, National Center for Education Evaluation and Regional Assistance, Regional Educational Laboratory Northeast & Islands.

<https://eric.ed.gov/?id=ED562070>

Supovitz, J. A., & Klein, V. (2003). *Mapping a course for improved student learning: How innovative schools systematically use student performance data to guide improvement*. Philadelphia: University of Pennsylvania, Consortium for Policy Research in Education. Retrieved from https://repository.upenn.edu/cpre_researchreports/39

Wohlstetter, P., Datnow, A., & Park, V. (2008). Creating a system for data-driven decision-making: Applying the principal-agent framework. *School Effectiveness and School Improvement*, 19(3), 239–259. <https://eric.ed.gov/?id=EJ810526>

2. Tools and Guides to Support Data Use

This section provides examples of tools, guides, and other resources to support the use of data. These resources include frameworks for building a culture of data use, examples of ways state and district leaders have implemented data-driven decisionmaking strategies, and two protocols for district leaders to use as they plan and implement their own strategies. Also listed is the Data for Decisions: Tools & Resources website, which houses several additional resources for data use planning at state and local levels.

Coburn, C. E., & Turner, E. O. (2011). Research on data use: A framework and analysis.

Measurement: Interdisciplinary Research & Perspective, 9(4), 173–206.

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Gerzon, N., & Guckenbug, S. (2015). *Toolkit for a workshop on building a culture of data*

use (REL 2015–063). Washington, DC: U.S. Department of Education, Institute of

Education Sciences, National Center for Education Evaluation and Regional Assistance,

Regional Educational Laboratory Northeast & Islands. <https://eric.ed.gov/?id=ED555739>

Hamilton, L., Halverson, R., Jackson, S., Mandinach, E., Supovitz, J., & Wayman, J. (2009).

Using student achievement data to support instructional decision making (NCEE 2009-

4067). Washington, DC: National Center for Education Evaluation and Regional

Assistance, Institute of Education Sciences, U.S. Department of Education. Retrieved

from https://ies.ed.gov/ncee/wwc/Docs/PracticeGuide/dddm_pg_092909.pdf

Jones, J., & Southern, K. (2011). *Getting state education data right: What we can learn from*

Tennessee. Alexandria, VA: CNA Education. <https://eric.ed.gov/?id=ED555563>

Player, D., Kight, M., & Robinson, W. (2014). The state's role in supporting data use to drive

school turnaround. In *The state role in school turnaround: Emerging best practices* (pp.

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WestEd. (2018). Data for decisions: Tools & resources [Website].

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WestEd. (n.d.). *Planning to use data for instructional improvement: District and state levels*.

Doing What Works. Retrieved from <https://dwwlibrary.wested.org/resources/744>

WestEd. (n.d.). *Protocols to support data use*. Doing What Works. Retrieved from

<https://dwwlibrary.wested.org/resources/722>

3. Instruments to Measure Data Use

Listed here are instruments that measure data use. The first one (P3DMI) measures the frequency of principals' data use, data accessibility, and data analysis skills. It also addresses school vision, instruction, organizational operation and moral perspective, collaborative partnerships, and the larger context including politics. The Scales of Data Quality, Accessibility, and Analysis Skills (SDQAAS) also address contextual factors that could influence data use such as district requirements for data-driven decisionmaking and school administrators' education and experience. The Strategic Use of Data Rubric provides a self-assessment for organizations to understand their data use for program and major initiatives (including strategic planning), performance management, and resource allocation and budgeting.

Principal Data-Driven Decision Making Index (P3DMI), as used in Mingchu, L. (2008).

Structural equation modeling for high school principals' data-driven decision making: An analysis of information use environments. *Educational Administration Quarterly*, 44(5), 603–634. <https://eric.ed.gov/?id=EJ818930>

Scales of Data Quality, Accessibility, and Analysis Skills (SDQAAS), as used in Mingchu, L. (2008). Structural equation modeling for high school principals' data-driven decision making: An analysis of information use environments. *Educational Administration Quarterly*, 44(5), 603–634. <https://eric.ed.gov/?id=EJ818930>

The Strategic Use of Data Rubric. Center for Education Policy Research, Harvard University. (2014). Retrieved from https://hwpi.harvard.edu/files/sdp/files/sdp-rubric_1.pdf