Major Improvement Strategy Guide

Data Driven Instruction

Introduction of Strategy

Data-Driven Instruction encapsulates a robust set of ongoing practices that focuses on assessing student learning, analyzing assessment data and adjusting instruction in response to the assessment data in intentional cycles (daily, weekly, etc). Research has shown that the following components are necessary for an effective data system and data culture. It is important to note that while there is evidence to demonstrate the effectiveness of each component (see research following each component), these components are most effective when implemented together. For instance, if a school or district decides to implement collaborative structures for teachers but does not have a robust suite of assessments and does not have protocols to structure meetings to guide collaborative time, implementing collaborative structures will likely yield limited results. The following components are derived from various articles and research that articulate what a data culture should include:

1. **Create and implement a standards-based assessment plan.**
2. **Ensure educators have access to the data.**
3. **Provide ongoing professional development on data use.**
4. **Ensure educators collaborate regularly to learn about effective instruction and students' progress.**
5. **Ensure collaborative meetings and expectations for data use are clearly communicated and implemented.**
6. **Monitor teachers' use of data by conducting classroom observations.**

Evidence Base

The research on Data-Driven Instruction that is cited here meets the definition of Level 1 research. The research cited focused on the impact on changing teacher practices when all Data-Drive Instruction components were implemented. In addition, substantial research meeting levels 1-4 have been completed; they found that when implemented to a high level, Data-Driven Instruction had an impact on teachers' instructional practices and student achievement. *Full research list to be found at the bottom of this strategy guide.*

Considerations

Possible Root Causes include inadequate, inconsistent or ineffective...

- Assessment practices
- Data Analysis practices
- Instructional planning
- Progress monitoring
- Lack of data culture

Is this strategy a good fit for your district/school?

- Does this major improvement strategy focus on a priority performance challenge and associated root cause(s)?
- Are the expected outcomes of this major improvement strategy highly valued?
- Do key leaders support this major improvement strategy? Do key leaders have the capacity to lead the strategy ongoing?
- What are the skills and competencies needed to implement this major improvement strategy with fidelity? What support/professional development do staff members need to implement this strategy effectively?
- Are the time, effort and resources needed for implementation feasible for the staff involved?

Considerations for Strategy Implementation

- Before implementing strategies for effective data-driven decision making, is the school or district in a place where it can invest time and resources in building a solid foundation for system-wide change?
- Is the school system in a place where clear, grade-by-grade or competency based curricula can or has been adopted system-wide to include high-quality materials that are aligned to curriculum and pacing guides that clearly describe breadth and depth of content being taught are readily available?
- Is the school system able to create explicit norms and expectations regarding data use at the system and school levels?
- Is staff prepared to shift priorities in time to focus on data in terms of assessment building, lesson planning, collaborating, etc.?
- Does the school system have an assessment system that is user-friendly, comprehensible, easily accessible, quick with results, and able to grow with school and system needs?
- Is the school system able to invest in professional development on data-driven instruction and provide ongoing training when necessary?
- Is the school system able to create processes to help monitor progress toward goals for schools and for individual teachers?

Implementation Guide

Core Component 1: Intentionally Assess Student Learning

Action Steps	Description
Select/Create Assessments	In order to implement a data culture, assessments must first be administered that will provide the right set of data to improve student performance.
Implement Assessments Regularly	Employ a regular cycle of interim assessments to gather data on student performance.

Core Component 2: Data Analysis Structures and Routines

Action Steps	Description
Select and Implement Data Management software/system	“Data must be easily accessed, coordinated, filtered, and prepared in ways that allow educators to quickly and efficiently analyze and interpret data to answer key questions and address important teaching and learning issues.” Ensure that data management software is user-friendly and that all educators understand the expectations for storing data. Please see CDE's policies on data privacy and security. Link in resources.
Plan and Implement ongoing professional development on data analysis and data-driven instruction	Ensure all teachers receive professional development on data use. Differentiate professional development based on teacher experience and comfort utilizing data.
Build time into staff schedules to analyze and respond to data	Providing educators with protected time on a regular basis to analyze data is essential in creating a data culture. Meetings need to have a clear and persistent focus on improving student learning and achievement.
Articulate and communicate expectations for data-focused team structures.	Ensure meetings are structured and facilitated effectively by establishing group norms and using protocols to guide collaborative meetings. Determine who will facilitate meetings, the norms teams by which will abide, the protocols to utilize, the expectations for what to bring and do during these meetings, and what the outcomes should be.

Core Component 3: Monitor Impact of Data on Instruction

Action Steps	Description
Build time into leaders' schedules to consistently monitor teachers' use of data.	In order to ensure teachers are adjusting instruction based on assessment results, routinely observe classrooms. Provide feedback to teachers individually and to collaborative teams, as needed, to ensure continuous improvement.

Academic Studies Leading to ESSA Rating

Bambrick-Santoyo, Paul. Driven by Data: A Practical Guide to Improve Instruction. San Francisco, CA: Jossey-Bass, 2010.
Bambrick-Santoyo, Paul. Leverage Leadership: A Practical Guide to Building Excellent Schools. San Francisco, CA: Jossey-Bass, 2012.
Berry, Barnett, Alesha Daughtrey, and Alan Wieder. Collaboration: Closing the Effective Teaching Gap. Carrboro, NC: Center for Teaching Quality, 2009. Print.
Boudett, Kathryn Parker., Elizabeth A. City, and Richard J. Murnane. Data Wise: A Step-by-step Guide to Using Assessment Results to Improve Teaching and Learning. Cambridge, Mass.: Harvard Education Press, 2005.
Gerzon, N., and Guckenburg, 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. Retrieved from http://ies.ed.gov/ncee/edlabs.
Carbaugh, Beverly, Robert Marzano and Michael Toth. School Leadership for Results: Shifting the Focus of Leader Evaluation. West Palm Beach, FL: Learning Sciences International, 2015. Print.
Cosner, Shelby. Supporting the Initiation and Early Development of Evidence-Based Grade-Level Collaboration in Elementary Schools: Key Roles and Strategies of Principals and Literacy Coordinators. Urban Education. 46.4 (2011): 786-827. Print.
Cromey, A., and M. Hanson. An Exploratory Analysis of School-Based Student Assessment Systems. North Central Regional Educational Laboratory: Learning Point Associates, February 2000. Print.
Datnow, A., V. Park, and P. Wohlstetter. Achieving with Data: How High Performing School Systems use Data to Improve Instruction for Elementary Students. University of Southern California: Center on Educational Governance, 2007. Web.
DuFour, Richard, Rebecca DuFour, Robert Eaker and Thomas Many. Learning by Doing: A Handbook for Professional Learning Communities at Work. Bloomington, IN: Solution Tree Press, 2006. Print.
Foley, E., et al. Beyond Test Scores: Leading Indicators for Education. Providence, RI: Annenberg Institute for School Reform at Brown University, ND. Print.
Fullan, Michael. The Principal: Three Keys to Maximizing Impact. San Francisco, CA: Jossey-Bass, 2014. Print.
Guskey, Thomas, Patricia Roy and Valerie von Frank. Reach the Highest Standard in Professional Learning. Thousand Oaks, CA: Corwin and Learning Forward, 2014. Print.
Halverson, R. School Formative Feedback Systems. Peabody Journal of Education 85.2 (2010): 130-146. Print.
Ingram, Debra, K. S. Louis, and Roger G. Schroeder. Accountability Policies and Teacher Decision Making: Barriers to the use of Data to Improve Practice. Teachers College Record 106.6 (2004): 1258-87. Print.
Jimerson, J. B., and J. C. Wayman. Helping Educators "do" Data: Toward a Framework for Data-Related Professional Learning. University Council for Educational Administration. New Orleans, LA. 2010. Print.
Knight, Jim. The Impact Cycle: What Instructional Coaches Should Do to Foster Powerful Improvements in Teaching. Thousand Oaks, CA: Corwin, 2018. Print.
Lachat, M. A., and S. Smith. "Practices that Support Data use in Urban High Schools." Journal of Education for Students Placed at Risk 10.3 (July 2005): 333-349. Print.
Leithwood, K., et al. How Leadership Influences Student Learning. New York, NY: Wallace Foundation, 2004. Web. March 20, 2011.
Louis, K. S., H. M. Marks, and S. D. Kruse. Teachers' Professional Community in Restructuring Schools. American Educational Research Journal 33 (1996): 757-98. Print.
Marzano, R. J., T. Waters, and B. McNulty. School Leadership that Works: From Research to Results. Alexandria, VA: Association for Supervision and Curriculum Development, 2005. Print.
Means, B., et al. Implementing Data-Informed Decision Making in Schools: Teacher Access, Supports, and use. Washington, D.C.: U.S. Department of Education, Office of Planning, Evaluation, and Policy Development, 2009. Print.
Means, B., et al. Evaluation of Evidence-Based Practices in Online Learning: A Meta-Analysis and Review of Online Learning Studies., 2009. Web.
Park, V., and A. Datnow. Co-Constructing Distributed Leadership: District and School Connections in Data-Driven Decision-Making. School Leadership and Management 29.5 (2009): 477-494. Print.
Vescio, Vicki, Dorene Ross, and Alyson Adams. A Review of Research on the Impact of Professional Learning Communities on Teaching Practice and Student Learning. Teaching and Teacher Education 24.1 (2008): 80-91. Print.