Data Driven Decisionmaking in Southwestern Pennsylvania School Districts

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Summary

This report describes the capacity of school districts in Southwestern Pennsylvania (SWPA) to use data and analysis to inform instructional, policy, and evaluation decisions in support of improving student achievement. Specifically, it examines current practices of a sample of school districts in SWPA with respect to the following three research questions.

1. How do school staff members use data to make classroom- and school-level decisions about improving instruction to reflect diagnosed student needs?
2. How do district staff members use data to evaluate the effectiveness of schools, teachers, and programs?
3. How do district staff members use data to create reports for external stakeholders, including the state and federal government and the local public?

For each of these facets of data-driven decisionmaking (DDDM), the report also investigates factors that help or hinder the use of data. These include the human capital, technology, and other resources that are available for DDDM; the roles of education support organizations such as the regional agencies in Pennsylvania known as Intermediate Units (IUs); and state policies that shape the needs and demands for DDDM and influence what data are available and when the data become available.

Finally, informed by the findings regarding existing capacity, needed supports, and obstacles, the report recommends actions that schools, districts, and other stakeholders can take to improve DDDM in SWPA.

This study began in Spring 2004 after the Heinz Endowments and the Grable Foundation approached RAND Education, offering to sponsor an investigation of these DDDM topics in their region of focus, Southwestern Pennsylvania. The foundations indicated they are interested in helping to support the development of DDDM capacity in SWPA, and requested this study to provide strategic guidance to funding agencies and other stakeholders on the most productive uses of support resources.

Data collection and methods

The study employed a qualitative case study approach, sampling six school districts and one independent charter school in Southwestern Pennsylvania that represent a wide range in terms of capacity for using data to inform decisionmaking, and that vary according to other demographic factors. Within districts, the study sampled schools to target for site visits. In each district, researchers interviewed the district superintendent and district office staff members with responsibility for data and technology issues; and at each school, the researchers interviewed the principal and approximately three teachers representing a mix of grade levels and, especially in the case of high schools, a mix of subject areas taught. District staff and principal interviews were approximately 30 minutes in length, and teacher interviews ranged from 20 to 30 minutes in length.
In addition, to gather information on the policy context and important state and regional issues impacting DDDM in Pennsylvania districts and schools, the research team conducted telephone interviews with officials at the Pennsylvania Department of Education (PDE) and local IUs with special knowledge of, or responsibility over, matters pertaining to DDDM. In addition, the study team interviewed a DDDM consultant to several schools and districts in the region. Finally, RAND administered a written survey for district superintendents in Southwestern Pennsylvania, designed to collect much the same information gathered during the interviews with superintendents, but intended for a larger number of superintendents whose districts were not included in the case study sample.

In sum, the research team interviewed more than 100 individuals, including teachers, principals, superintendents and other district office staff, IU representatives, state officials, and consultants; and surveyed 26 superintendents.

**Limitations of the study**

The study presents a snapshot of the status of DDDM in a sample of SWPA school districts during the 2004-05 school year. DDDM is a rapidly evolving field, and the snapshot will become less accurate over time. Further, conclusive statements about all districts in Southwestern Pennsylvania cannot be made on the basis of the small number of districts visited (6) or surveyed (26). These 32 districts comprise about 30 percent of the 108 school districts in the SWPA region.

For the case studies, a group of districts was selected that varies in terms of locale, enrollment, racial composition, socioeconomic status of the student population, and capacity for DDDM. However, districts that have placed a relatively high priority on pursuing DDDM were deliberately chosen. Thus, conclusions from this study may not apply to districts with relatively little interest in DDDM. It is worth noting, however, that based on interviews with state and local education officials and consultants, virtually all districts in Pennsylvania are becoming increasingly interested in DDDM, largely because of the accountability requirements of the federal No Child Left Behind Act.

Superintendents who responded to the survey were attendees at a semi-annual two-day professional development program. Attendance at such an intensive program may indicate a strong commitment to improvement, and may be correlated with strong interest in DDDM. If so, the respondents may represent districts that are at a relatively advanced stage of DDDM compared to other districts in SWPA. Caution is warranted in generalizing the responses from this sample of districts.

**Conclusions**

Given the study’s limitations, several broad conclusions can be drawn. First, the case study districts have a strong interest in DDDM, and district leadership has made DDDM a high priority. Nevertheless, the schools and districts in the study are generally in the early stages of systematically using data to drive decisionmaking.
Second, most teachers and principals also value data and are actively seeking ways to use data to improve instruction. However, many of them lack sufficient data analysis skills and a process for systematically using data. In addition, because most of these districts do not have comprehensive, integrated data systems, teachers and principals lack easy access to all of the existing data.

Third, schools and districts are using data to evaluate and adjust curriculum and programs, but generally not for evaluating teachers. They are taking significant steps to align their curricula and instruction with the state standards and improve their performance on Pennsylvania’s standardized achievement test, the Pennsylvania System of School Assessment (PSSA). DDDM plays a large role in these activities. Districts have made less progress in offering a sufficient amount of professional development or training in DDDM, such as how to interpret data and use it for instructional planning or how to use the available data systems effectively.

Fourth, the case study districts recognize the limitations of annual assessments and are making greater use of more frequent, interim and formative assessments to inform instructional decisions. Nevertheless, the case study districts are still finding their way in determining the best strategies for regularly administering these assessments and using the results.

Finally, lack of time presents perhaps the biggest challenge to schools and districts in Southwestern Pennsylvania as they pursue DDDM. Teachers and principals struggle to find the time to study and think about the data that are available to them. They lack adequate time to collaborate in analyzing and interpreting data, and to develop interventions to address students’ learning needs.

Based on a review of the literature and the findings of this study, several recommendations can be made for actions that schools, districts, and other stakeholders can take to help advance the implementation of DDDM in SWPA.

Recommendations regarding state and district policy

- The state, possibly with the help of external funding agencies, should expand its efforts to build the capacity of the intermediate units to assist districts with DDDM.
- The state should create a statewide student achievement data system, with longitudinal student-level data.
- School and district office staff should send clear and consistent signals to teachers concerning expectations for DDDM.
- Schools and districts in the early stages of DDDM should focus first on setting goals and objectives for using data and on taking an inventory of data they already have.
- District curriculum planners must ensure that instruction, the curriculum, assessments, and the state standards and assessment anchors are well aligned.
- Districts should ensure that schools have the tools they need for effective DDDM.
Recommendations regarding data sources

- Schools, districts, and the state should make better use of the Pennsylvania Value-Added Assessment System.
- Schools and districts should combine assessment data with demographic information and data on student behavior and school processes.
- District staff should focus more on the quality of the data than on the quantity.
- In adopting interim assessments, schools and districts should recognize that they are designed to be used for diagnostic purposes, not high-stakes purposes.

Recommendations regarding technology resources

- Districts should adopt integrated student-level electronic data systems.
- Districts should invest in technology that allows teachers to give more frequent, formative assessments.

Recommendations regarding development of a data-driven decisionmaking culture

- Schools and districts should either develop or adopt a process for DDDM.
- School leaders or data teams should identify a specific list of questions they want to answer with data.
- Schools and districts should ensure that teachers receive useful feedback reports on interim and other assessment data they provide to the data system.
- Districts should invest heavily in professional development in DDDM for teachers and principals.
- Districts should make greater use of curriculum specialists such as math and reading coaches to instruct teachers on how to use student achievement data to guide instruction.
- Schools and districts should seek creative ways to give teachers time to examine data and collaborate.
- District and school leaders should consider teachers’ input in the selection of assessments, technology, models of continuous quality improvement or other processes for routinely analyzing data, and other key decisions related to DDDM.
- School and district staff should encourage teachers and parents to use the web-based and paper resources provided by the Grow Network.
- Schools and districts should investigate ways to share more data with parents.