

Web Summary for “Scaling Up' Data Use in Classrooms, Schools, and Districts,” by Stringfield, Wayman, & Yakimowski

The No Child Left Behind Act (NCLB) is greatly increasing the gathering and use of student data. However, decades of research indicate that data are most helpful when the purpose extends beyond mechanical accountability to the types of decision-making that enhances the educational experiences of individual students. This necessarily involves getting student data in the hands of teachers and administrators.

In this chapter, we examine the issues surrounding “scaling up” software to provide school personnel with fast, easy access to relevant student data that has the potential to enhance educators’ efficacy. Known as “Information Management” and “Data Based Decision Making,” using data to improve decisions is common in non-educational settings, where sophisticated technologies capably deliver data to those in position to use it. Adequate data for decision-making is *available* for school use, since educational systems typically collect huge quantities of data on students, staff, and organizations. Rarely is this data *accessible* to the majority of professionals for improved educational decision-making.

We believe the last major impediment to widespread implementation of data use for educational decisions exists at the software level. Because of technological advances in data warehousing, the increasing number of software vendors in the market, and accountability measures such as NCLB, this situation is rapidly changing, and highly integrated computerized analytic systems for student data are an emerging reality.

Software is currently available to facilitate Information Management in schools, but today’s programs target specific areas and are not comprehensive tools for school data analysis. Today’s software nonetheless provides valuable support for schools aiming to use data to inform educational decisions. Elsewhere, we have reviewed commercially available software which

schools can buy to warehouse student data and make it available to teachers and administrators for analysis. Updated reviews are also available online at (www.csos.jhu.edu/systemics/datause.htm).

That a comprehensive solution for widespread data use in education is not yet in the market presents a unique opportunity for school stakeholders and educational researchers to help shape the future of this technology. We believe there are features and conditions which will be necessary in a comprehensive, scaled-up student data analysis tool. These include:

- A scaled-up data analysis product will be one which intuitively provides a set of data analyses to the user, thus *promoting* data access and increasing educator desire to pursue the substantial range of information available in student data.
- A scalable data product must provide student data analysis for teachers and principals, in addition to central administrators, in order to meaningfully inform professional practice.
- The presentation of the data and the quality of the data are inextricably connected. Thus, a scalable program should either provide the capacity to enable reliable underlying data, or be seamlessly compatible with a separate, affordable product that can provide clean data. The company producing such a program necessarily must understand and assist schools and districts with the problems inherent in school data.
- Such a program would be web-accessible so school personnel may have data access to the fullest extent, and such a program would provide a response speed which enables further and deeper data querying.
- Data query tools should be simple to use and unrestrictive, allowing access to a wide range of data and the ability to provide simultaneous analysis of many variables. Broad “drill-down” capabilities (e.g., the ability to query a school-level finding to efficiently

examine a subset of data at a grade, classroom, or student level) are important features that provide maximum user ease, flexibility, and interpretability.

- Online student work samples should be available. School personnel should be able to access not only numeric data on a student, but also see samples of every student's writing and other products online.
- Scalable software must be affordable to schools and districts. Schools and districts most in need of the information such systems can provide are often fiscally disadvantaged, operating with few resources.

To summarize, we have assumed a proposition that is prevalent in both the business management literature and school effects research: that creating more nearly data- and information-rich classrooms and schools will raise student achievement. Both research and our own observations indicate that being "data-driven" is a phenomenon more often observed in the breach than in the basic structure of the typical school. We believe that the absence of data-informed decision-making is not due to educators' aversion to being informed. Rather, the wealth of data potentially available in schools is stored in ways that are virtually inaccessible to most teachers and principals, and generally far from analysis-friendly.

The situation surrounding school data represents an opportunity for a timely, cost-efficient innovation in education. Given that the current situation intersects with the rapid advances in both data warehouse development and data analysis/presentation software, the stage is set for widespread and beneficial use of student data to inform educational decisions at the building and classroom levels. Such innovations have improved productivity in areas such as business, and we believe such innovations can assist practical educators in their efforts to become more effective in assisting their students.