



istricts must hire “highly qualified teachers” to implement “research-based best practices” using “data-driven decisions” to positively impact student achievement.

The No Child Left Behind Act (NCLB) of 2001 has provided educators a whole new set of catch phrases. As states, districts, and educators work to define and implement processes to comply with these terms, educational technology companies are developing products to help districts wrap their arms around NCLB. Arguably, one of the largest areas to be tackled is accountability.

State-required standardized tests have always provided educators with student achievement data; however, as the stakes rise on the state tests, districts are implementing processes to collect student achievement data throughout the school year. The state standardized test in April is too late to discover a student’s skill gaps—especially in states such as Texas, where student success on the state reading test in third and now fifth grade determines student promotion to the next grade level.

Teachers and other education leaders need comprehensive, easily accessible, student-specific information to promote student success.

The alignment of curriculum, instruction, and assessment is critical in a complete system of accountability. Districts should provide the following:

- Curriculum that is broken-down in assessable increments such as six- or nine-week periods
- Professional development that focuses on instructional strategies aligned to the curriculum
- Standardized tests aligned to the district curriculum’s content and timetable
- Instant, easy access to comprehensive, student-specific test results and other formative assessments.

“The educational technology market has been flooded since the release of NCLB with products to help teachers and districts collect and disseminate student data.”

This is where technology fits in. The educational technology market has been flooded since the release of NCLB with products to help teachers and districts collect and disseminate student data. Technical resources are helping educators facilitate the testing process, disaggregate the data, and report the data in a meaningful format for instructional decision making.

From hand-helds, to Web-based portals, to interactive wireless response pads, technology is enabling teachers to spend more time monitoring and adjusting instruction and less time calculating and grading student assessment results.

District leaders, teachers, parents, students, and other stakeholders should collaboratively develop their plan for data-driven decision making using technology. The group needs to decide what data to collect, how to report it, and how it will be accessed so that teachers may use it to plan instruction. This process should become a regular routine as teachers come to rely on the information for instructional planning.

Technology and Assessments

Managing assessments has become a full-time position in many schools and districts. Creating, printing, disseminating, scoring, and reporting assessments are now elements of the job description for many testing coordinators and assessment directors across the country. Managing those tasks often requires full-time focus, and technology products are helping to make this feasible.

Several tools on the market interface grading scanners that score bubble sheets with a networked computer. As long as the assessments are multiple-choice, teachers can scan in their students’ bubble sheets and the software will disaggregate the data by student, teacher, grade level, student group, and school.

Many software companies provide the option to customize reports to meet a school or district’s needs. Depending on the software, the reports may be Web-based and password protected or may be processed and generated locally for dissemination. This type of assessment allows a district to give teachers a small

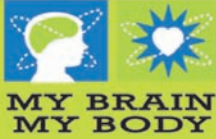
After administering the TPRI on a handheld computer using mCLASS software, teachers transfer the data to a secure Web site, discuss class results, and plan instruction tailored to students' needs. Photo courtesy of Wireless Generation.



Data to Action

Technology's Role in Accountability

By Staci Kalmbacher



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window to test all students and scan bubble sheets to produce reports on student results. If the curriculum reasonably defines what is to be taught during that time frame, the teacher teaches that curriculum at an appropriate pace, and the assessment aligns to the curriculum, then the assessment should accurately reflect student understanding of those concepts as well as multiple choice tests can assess.

Technology is also making teachers' lives easier on more in-depth forms of assessments. The Texas Primary Reading Inventory (TPRI) is a performance-based reading test that measures such skills as phonemic awareness, reading accuracy, fluency, and comprehension.

In cooperation with the Texas Education Agency and the University of Texas, Wireless Generation, Inc., created a software application for administering the TPRI on a handheld device called mCLASS™: TPRI (www.wirelessgeneration.com). A teacher uses the handheld with the mCLASS software to record the student's responses while the student reads from printed TPRI materials. After assessing the students' reading on the handheld device, the teacher transfers information to a secure Web site. The Web site instantly reports results by student, class, school, and district.

Without mCLASS, teachers could spend hours disaggregating data and filing reports based on this assessment. Substitutes were often hired to assist in this process since it was so time-consuming. This technology has saved teachers time and has increased their instructional effectiveness by providing more timely results.

For teachers who want a more informal snapshot of student understanding, student response systems are an option. When teachers pose questions to a large group, we often look at the total number of hands in the air to quickly assess overall understanding. We then call on a few to check for accuracy.

Student response systems use interactive wireless response pads interfaced with a computer and projector so that all students may answer questions using a remote control type of device. Teachers display questions through a presentation software and collect students' responses as they select their answers on the infrared remote control device. The product generates a report at the end of each group of questions.

Teachers may assign a specific remote control to a specific student to receive student-specific information. This type of product enables teachers to quickly check for accurate comprehension without a formal test. Because a presentation type of display is used for exhibiting questions, teachers who use detailed graphics—such as art and math teachers—find these products helpful.

Student response systems are often fun and engaging for students to use and may also be used for polling at staff or community meetings. One local school district used a student

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response system at a community-based committee meeting to set budget priorities.

Technology and Data Warehousing

More than just testing results should be considered in effective instructional decision making. Most districts already have valuable student information stored electronically in various systems. Data such as absences, tardies, health records, discipline, and cafeteria purchases can be integrated into reports so that teachers may get a complete profile of their students as well as track some trends in students and/or student groups. A data warehouse brings all the different data together into one easily accessible format and resource.

Imagine being able to login to one secure Web site or networked database and see all the information ever collected on a student in one place. A teacher may be able to see trends in a student behavior based on the information, providing more opportunities to meet that student's needs. For example, a teacher might observe that a student's discipline referrals go down and grades increase when the student eats breakfast in the cafeteria before school.

Typically, teachers are not able to make these connections because they do not have easy access to this information in one place. The drawback to this is that it is easier said than done, as most of this information is usually kept in separate technical systems that do not interface with each other easily. Creating a data warehouse is expensive; however, many districts are investing in them to ease teacher access and increase student success.

Technology and Professional Development

Of course the purpose of having easily accessible student data and information is to provide teachers a tool to monitor and adjust instruction to better meet student needs and improve student achievement. Data and information must be supported with professional development that helps educators learn how to read the data, make decisions, and act on the information.

This should not be a silver-bullet professional development approach; a one-time workshop at the beginning of the year explaining student and teacher reports will not create an environment where data is openly shared and used as an instructional tool.

It is common for districts to spend a portion of every professional development day sharing data, analyzing trends, and providing teachers time to collaborate and explore best instructional strategies based on student success. This is best followed-up by regular teacher meetings to review data and strategies.

Talking about data and showing data to teachers is not enough to make an impact on student achievement. Teachers must view and use it as an instructional tool and instructional leaders must weave the use of data into the fabric of their schools.

Technology and Teaching

Technology is making it possible for teachers to spend more time monitoring student understanding and collaborating on best instructional practices. Gone are the days of disaggregating data with a calculator and straight edge. Despite the debate about the efficacy of standardized testing, collecting and analyzing data about students does help teachers plan instruction.

A teacher of the year in our district, Eddie Wood stated, "The instant data I have at my fingertips in a timely matter has made me a better teacher. I don't know how I would teach without it." ■

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