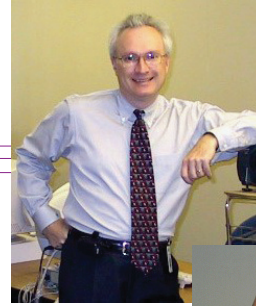# Delivering on the Student Performance Mandate:

Expanding the Curriculum Outside the Classroom

By Phil Hopkins, Executive Director of Information Technology, Pasadena Unified School District, and Terence Atkinson, Director of Public Sector Solutions, Cognos®

Phil Hopkins

Terence Atkinson

In educating our children, the United States spent $10,240 per student from elementary school through to college in 2000. This figure is higher than the average of most countries.

However, a recent report from the Organization of Economic Cooperation and Development (OECD) found that American students are in the middle of the pack when it comes to mathematics, reading, and science. The "No Child Left Behind Act of 2002" was designed to hold states and schools accountable for the academic achievement of all students, and demands continuous performance improvement from student and teachers. Technology will be a critical component in managing the success of this mandate and will be a key weapon in the fight to improve student performance.

Over the past 10 years, education has become increasingly data driven, as parents, educators, and lawmakers place a high degree of scrutiny on student, teacher and school performance, particularly in low-income school districts where there are systematic problems with academic achievement. Increasingly, teachers and administrators are being held accountable for student performance, as measured by standardized test results, school ratings, school report cards, and the tying of school funding to performance. Students are also held accountable. They must pass standardized tests to be promoted to the next grade level, earn credits, and graduate.

At the heart of this is ensuring that children get the best education possible. We validate this by measuring student performance and comparing results against state standards and national norm-referenced benchmarks.

While everyone supports this goal, the challenge for most educational institutions is determining and understanding the critical drivers of student performance. With such insight, educators can make decisions about directing resources to successful initiatives and rapidly identifying when the system is not meeting the needs of individual students.

Clearly, school districts cannot afford not to make an adequate investment in education—with the word "investment" being key. The answer is not just to throw money at schools. Rather, it is to make strategic investments in technology and programs with an aim for continuous and steady improvement. To this end, school administrators and educators need the tools to:

- Continuously monitor and analyze student, teacher, classroom and school performance;
- Understand the contributing factors to improving student performance;
- Understand where incremental program investments will have the most impact on student performance;
- Illustrate and communicate, through rich data and rigorous analysis, how the school is effectively meeting the needs of the children;
- Easily report school and district educational performance to governing bodies in accordance with state and federal requirements;
- Rapidly identify children that are falling behind or classrooms with persistent problems;
- Track qualification levels and the training of teachers to assure that future expectations will be met;

- Provide efficient and secure access, most likely Web-based, to performance information to school administrators and principals, as well as parents, sometimes across geographically dispersed regions.

To address these challenges, school districts are turning to business intelligence and performance-management solutions. The Pasadena Unified School District (PUSD) is introducing a performance-management strategy based on Cognos®. PUSD will provide teachers, school administrators, and parents with the ability to access and analyze class performance, with the goal of tuning individual student performance based upon assessments correlated with state standards.

Previously, PUSD used publisher-provided assessment tools accompanying state-approved literacy products like Open Court to assess student comprehension levels. Although effective for basic reporting, PUSD school administration wanted to be able to drill deeper into the data to uncover and monitor trends, and pinpoint and immediately address problems with individual students or classrooms.

With business intelligence, PUSD is able to look at data multidimensionally, drawing information from an Oracle data warehouse, which aggregates a multitude of data sources, including data on student demographics, human resources, facilities, finance, student attendance, grading, and food services. The ability to aggregate and analyze data means PUSD is able to quickly and easily answer complex questions from the federal government relating to NCLB legislation. In addition, the ability to correlate classroom size, teacher's qualifications, and even student participation in reduced-cost

lunch programs to student performance, is now instantly accessible. Previously, educators were unable to even begin to answer questions that take into account such disparate information.

To protect the privacy of students and teachers, PUSD aggregates this data into a series of charts and tables, eliminating the need for paper reporting, and uses the information for trend analysis or forecasting.

Using business intelligence to forecast student performance

How will students perform on standardized assessments this year? What if, today, you could anticipate a student's mastery of specific educational skills on test day? What would you do differently between now and then to improve learning and raise achievement for each student?

As the federal government and more states attach high stakes, such as mandated sanctions, to their assessments, these questions become increasingly important to teachers and administrators eager to help their students and schools succeed in today's accountability-driven environment.

Beginning with the class of 2006, all PUSD students must pass the California High School Exit Examination (CAHSEE) to earn a high school diploma. The purpose of the CAHSEE is to ensure that students who graduate from high school can demonstrate competency in state academic content standards adopted by the State Department of Education.

With Cognos®, PUSD will extend a secure portal to parents and teachers, which can forecast a student's probable level of achievement on standardized tests, based on historical performance, administrative data, and current achievement. This will enable educators to easily identify children that are falling behind, and to empower parents to take specific actions, without having to wait for a formal report card to indicate where students are struggling academically. The benefits, among others, are in the continual monitoring of progress and the opportunity to identify students who need specific interventions to improve.

For K-12 educators in California, and across the United States, improvement in student performance is comparable to profit and ROI in commercial organizations. The ability to reach the statewide average of 70 percent in proficiency is the equivalent of a successful fiscal quarter. Performance within the guidelines of NCLB legislation means investing in the areas that will help students the most. It means identifying the students who are falling behind, tracking and managing budgets and accessing reliable data, rigorous analysis, and reporting back tangible results.

Through programs like the California Technology Assistance Project (CTAP), a statewide educational technology leadership initiative that provides assistance to schools and districts to integrate technology into teaching and learning, K-12 educators have a unique opportunity to impact change. Through dedication to professional development and instructional resources for teachers, high-quality training and curriculum materials, and an investment in the right performance assessment technologies, children will be assured of receiving the education that they deserve. ∎

19