A single vantage point: IBM Cognos education performance management

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Abstract

Initiatives such as No Child Left Behind have increased accountability on educators and put greater emphasis on tracking student and school achievement. IBM Cognos® education performance management tools can assist with the data collection and analysis necessary to help school districts advance and prove the new standards are being met.

Overview

As the No Child Left Behind Act begins its seventh year, student performance and school accountability are again at the forefront of the nation's educational agenda. The NCLB requires state departments of education, school districts, schools, and even individual teachers to meet accountability standards, which are determined from standardized test scores. And while some may argue that standardized tests don't sufficiently gauge true student achievement, schools must continue to adhere to NCLB mandates.

In efforts to improve student performance on standardized testing and meet federal achievement requirements, state education departments, school districts, and schools have implemented new programs and initiatives. But in order to accurately measure these efforts, educational organizations must find a more effective method of data collection and analysis.

Business problems

Just how do local, district, and statewide entities track the data necessary to determine whether performance initiatives are flourishing? Although most organizations may keep spreadsheets and reports that track the usefulness of organization-wide initiatives and programs, the data is often difficult to access and compile into a single and accurate report, becoming laborious and time consuming.

Many districts try to perform educational performance management solely through their student information system. Some believe the answers lie in tying their instructional management system to their student information system. This still does not provide the district, school, parent, or student with a holistic 360-degree view of what is impacting a student's performance. That is the essence of the IBM Cognos education performance management. It provides a holistic view of both student and district performance.
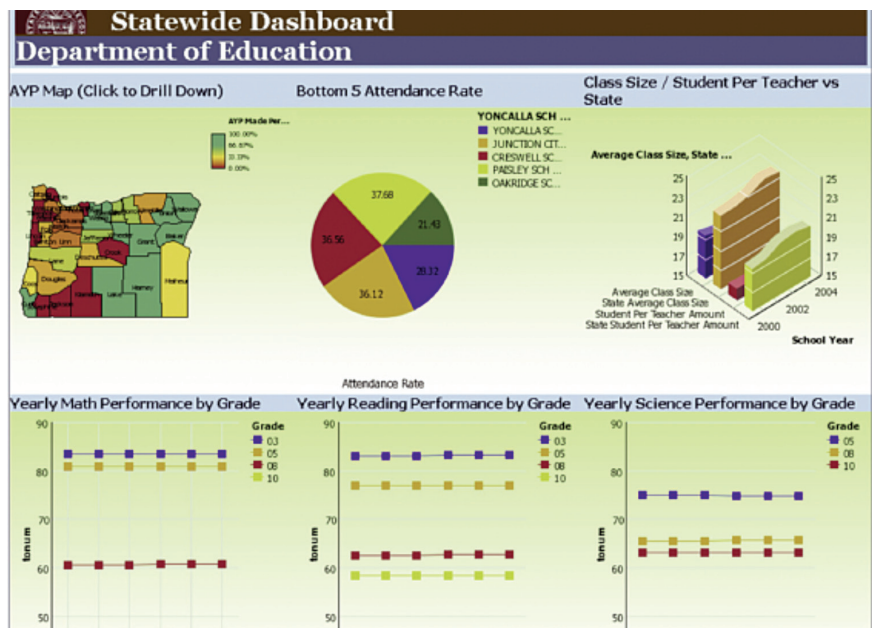
must manually enter data from different silos into one system for multi-variable analysis. Improving student performance through evaluation and assessment requires the ability to see and analyze relationships — between attendance, student behavior, program spending, teacher qualifications, special programs, test scores, grades and curricula, among others — all from a single vantage point. Education performance management from IBM does just that. It lets education organizations determine critical performance indicators, measure and cross-compare these indicators, and then analyze them, all from one system, making report generation quick and manageable.

IBM Cognos education performance management stands on three pillars:

I. Scorecarding

II. Reporting and analysis

III. Budgeting and planning

Business drivers

Providing a holistic view of student and district performance

These three facets provide education organizations with an integrated platform for tracking and analyzing performance in multiple areas of the education system.

I. Scorecarding is a way to comprehensively view key performance indicators, which consist of data representing the progress of goals or targets.

Ed Zaiontz, executive director of Information Services for Round Rock Independent School District in Texas, uses scorecarding to compare attendance rate with disciplinary actions.

"One of our high school campuses was looking at second year ninth-graders, because administrators wanted to track a specific group of students," says Zaiontz. "They wanted to look at that group of students against the overall student level in terms of attendance and discipline."

By comparing the attendance and disciplinary incidents, school administrators will be able to help these students achieve the ideal attendance and disciplinary state of their cohorts, balancing key performance indicators and improving scholastic achievement.

II. Reporting and analysis from IBM lets users create many report types from a single data source. The uniformity of data styles allows for the viewing and dissection of multiple data sets across variables to determine trends. This gives users a multidimensional view of institutional operations and simplifies complex data analysis.

"We had data from staff development, human resources, and business finance — all in different systems. The idea here was to bring it all into one area to generate reports," says Zaiontz.

III. IBM Cognos budgeting and planning software helps users define goals; create models; align finances with the operation of the departments and schools it supports; disseminate strategies across departments; and make adjustments to goals, strategies, and funding allocations.

"We carry five years of financial information in a data warehouse. We also have both finance and budget cubes from Cognos that our district staff uses for analysis," says Victor Diorio, director of Technical Architecture for Miami-Dade County Public Schools.

With IBM Cognos budgeting and planning software, Miami- Dade County Public Schools has combined the business and student information systems to track funding allocations in relation to the progress of programs and goals that they support.

The three pillars of education performance management represent the key components necessary to help education organizations make decisions about planning and implementing high quality education for students. The education performance management system is comprehensive, providing reliable and consistent data from one source. This creates continuity across analytical reports. Read on for an in-depth look at each pillar of IBM Cognos education performance management.

The solution

Scorecarding

Scorecarding is a tool used to monitor performance against specific targets; a way to quickly and easily see where performance is improving and what factors are influencing that improvement. Scorecarding allows for measuring and managing the performance of an organization, a team, school or district employees, single students, groups of students or even an entire student body.

Scorecarding is initiated by identifying key performance indicators, or metrics, that make up the performance data. These are measured against target goals set by DOEs, districts, and schools.

"Our warehouse has been designed to accept different data sets, each with its own set of metrics," says Maureen Chew, chief information officer for the Massachusetts Department of Education. "For users who upload and include this data, they have the ability to use these metrics to provide answers … The future of the warehouse will include many more data sets to allow for greater comparison."
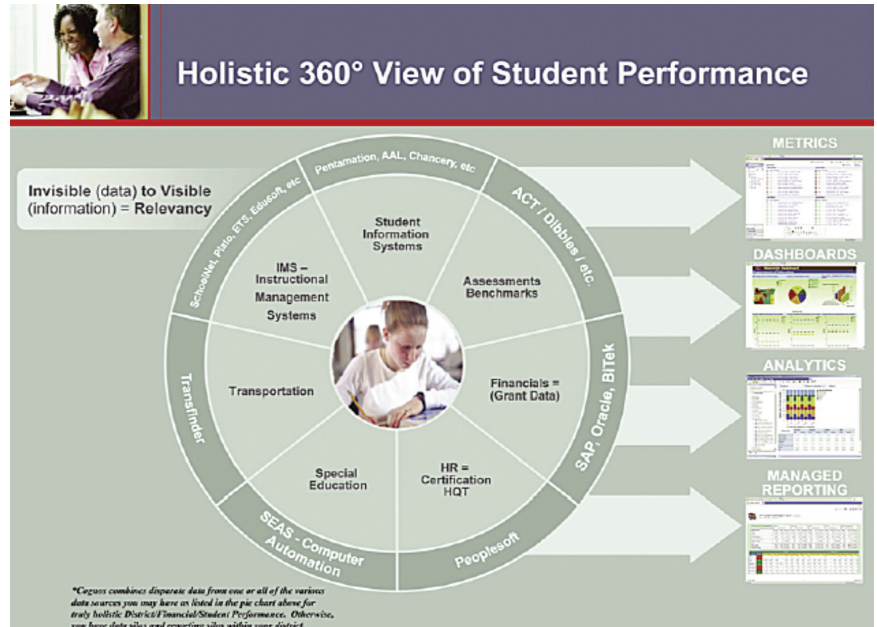
Victor Diorio is taking full advantage of IBM Cognos scorecarding capabilities.

"We tie students to their teachers' information and to the school information," Diorio says. "We enhance student attendance information by adding the school location to the attendance event so our reporting at the school level is very accurate. We can tie student performance to factors outside the student information, such as staff attendance and certification level."

Users can create a scorecard that combines financial data with key performance indicators in order to view relationships between funding invested and level of performance. In doing so, education organizations turn strategies into definable and measurable goals. The scorecarding system is user friendly, assigning each metric its own color scheme which indicates whether a measurement is above or below the specified target — automatically identifying upward or downward performance trends.

"By adding Cognos scorecards we are able to present school administrators with a quick view of how they are doing on key performance indicators (KPIs)," says Diorio.

"In addition, each KPI automatically invokes detailed reports that permit the administrator to drill down from the school level all the way to detailed profile information. It is a one-stop shop for performance related information that is integrated into our portal."

Reporting and analysis

Reporting from IBM lets users create and dispense various report types from a single data warehouse. Consolidating data creates continuity between reports as all data sets, no matter the type, share data definitions. Integrated data sources allow users to create and disseminate reports quickly over a multitude of devices including the Web, mobile devices, and interfaces such as Microsoft® Office.

"District personnel are using the data warehouse to support data driven decision-making by using a variety of interrelated data such as student performance data," says Chew. "Through the provided data warehouse solution, our users can access data, develop reports, and perform analysis with ease."

IBM Cognos analysis lets users interpret data sets from different KPIs at their convenience by district, department, school, class, student, or teacher. Education organizations can view trends over the course of years, months, weeks, or days. They can see the relationship among KPIs.

"Districts also have the ability to upload local data from their systems to link to the SIMS (student information management systems) and MCAS (Massachusetts Comprehensive Assessment System) data for greater reporting and longitudinal analysis," says Chew.

Chew goes on to explain that Massachusetts school districts can upload data that includes course, grade, assessment, student, staff, and student schedules.

"Our warehouse has brought together two of our main areas of analysis: student and state assessment," says Chew. By analyzing the two together through a common tool, Chew adds, the school districts can achieve a level of consistency and accessibility not previously possible.

Budgeting and planning

Budgeting and planning from IBM helps education organizations translate their strategies and goals into dynamic models that incorporate targets, funding, and forecasts. This aspect of the education performance management solution allows education organizations to:

• Define goals

• Create models of hypothetical scenarios

• Coordinate funds to the corresponding departments' performance

• Adjust targets, plans, and resource allocations

"Our users can access data, develop reports, and perform analysis with ease."

Maureen Chew
Chief Information Officer
Massachusetts Department of Education

Diorio, of Miami-Dade schools, described the budgeting and planning facet of the education performance management solution as a compelling factor for adoption.

"Operational efficiency and cost reduction without impacting services is always a necessity for public organizations," says Diorio. "Especially school systems whose budget changes from year to year from state funding sources. Performance management facilitates the setting and attainment of these operational objectives."

Additionally, the IBM Cognos education performance management solution can be integrated with other applications, putting to use previous software investments and thereby reducing the total cost of ownership.

Conclusion

Schools and school districts use IBM Cognos performance management software to improve student performance, deliver on performance mandates, improve financial performance and enhance advancements management.

IBM Cognos education performance management helps data-rich, information-poor education organizations harness the full potential of their data. By streamlining the reporting and analysis process, DOEs, districts, and schools can create multi-variable reports with consistent data all from one data storage system. A balanced scorecard will aid education organizations in mitigating the multiple factors that impact targets and goals. And budgeting and planning allows DOEs, districts, and schools define, model, coordinate, and adjust targets and goals.

With education performance management from IBM, education proponents can find an all encompassing, cost effective solution to the K-12 accountability dilemma.

For more on how Cognos can transform education, visit www.ibm.com/software/data/cognos/solutions/education/

About IBM Cognos BI and Performance Management

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