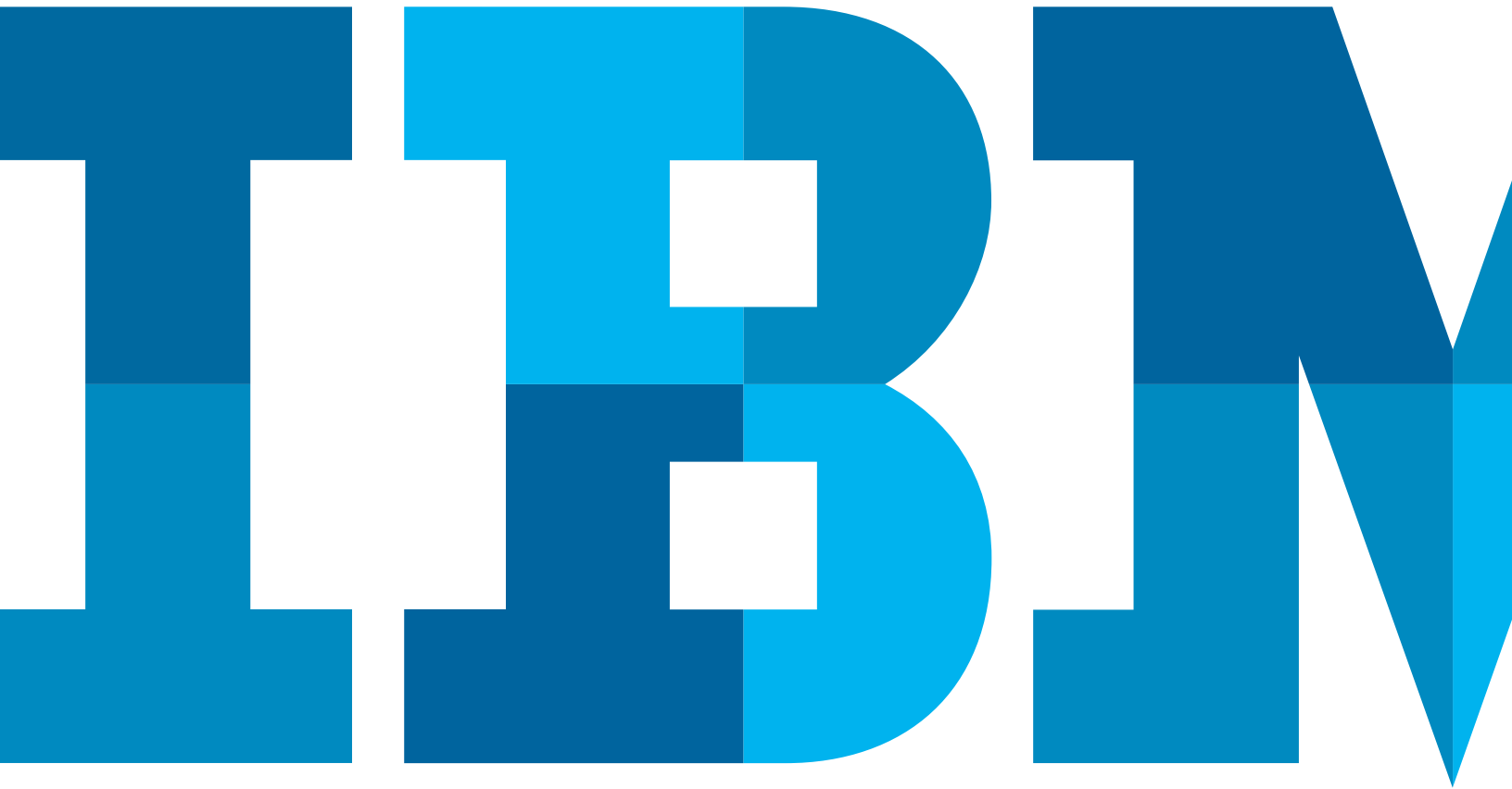


# Smarter schools: 12 reports for primary and secondary education

*Making the grade, from schools to the department of education*



## Abstract

Educational organizations can help improve student outcomes by connecting data systems and discovering new intelligence. This intelligence will help schools, boards, districts and departments deliver smarter education by identifying patterns, intervening with struggling students, following student lifecycles, improving curriculum, developing teacher skills and improving the many other factors that contribute to student success.

## Overview

In many countries, primary and secondary educational reform is more the norm than the exception. On England's ongoing educational tinkering, one education expert complained: "Politicians here seem to think that a day without an education announcement is a day wasted."<sup>1</sup> While reform continues apace, the education world's beacon of student success is, ironically, Finland: a country that chose a direction for education 30 years ago and has not deviated since.

Politicians may debate and budgets fluctuate, but school staff soldier on, doing what they must to help kindergarten to grade 12 students succeed. But despite ongoing reform and teachers' best intentions, educational outcomes are declining in many parts of the world. While high school completion in the U.S. has crept steadily up over the past 30 years,<sup>2</sup> college and university professors attest that many students now graduate without the required level of writing and math skills. Opinions differ on why this is so.

Fortunately, technology is now supporting the intuition and experience of educational experts. Analytics and performance management software is helping schools spot patterns, identify critical thresholds and monitor for signs of struggle. This new intelligence is helping schools take advantage and make sense of their rich data to monitor performance levels against scarce funds, all the while freeing up principals to lead and teachers to teach.

This paper looks at the different ways in which educational organizations are using analytics to make wise decisions and act quickly to achieve their most important goal: student success.

## Business problem

While teachers, schools, boards, districts and departments are held accountable for student performance, little hard information is available to meaningfully change outcomes. What are the factors driving success and failure? Do they differ from place to place, or from grade to grade?

Most educational organizations, having always focussed on education and less on business processes, tend to be ill equipped to gather and analyze data or report on it internally or externally. Spreadsheets and paper-based data, silos and manual linkages between student, instructional, financial and human resources information all preclude the monitoring and reporting needed for this level of performance knowledge.

## Educational intelligence

But for many institutions and departments, answering questions on educational performance is getting easier as they supplement the intuition and observations of experts with new intelligence gleaned from their rich store of data.

IBM® is helping education providers in California collect and report on statewide educational information and follow key indicators. It is helping North Carolina and China improve access to education through distance-learning portals that provide the same opportunities to all students, whether rich or poor, rural or urban. It is helping New York City parents access their children's school records online through ParentLink.

This is smart education. It includes:

- Interconnecting data from disparate systems.
- Analyzing key factors from the student level all the way up for a broader view.
- Establishing persistent student records throughout the educational path.
- Running predictive analytics to model curriculum, discipline events and attendance.
- Using this insight for action, such as for preventing high-risk student drop-out.
- Ensuring all students are meeting expectations.
- Helping struggling students before they fall behind.

Bringing together such data as student results, attendance, discipline incidents, teacher qualifications, program spending, and curricula is the first step. Understanding the relationships among these areas is the next. This new intelligence can back up the voice of experience, help uncover surprising insight and guide planning for student success.

## Business drivers

Boards and districts can start solving the puzzle of success and failure by combining and analyzing their own data and asking such questions as:

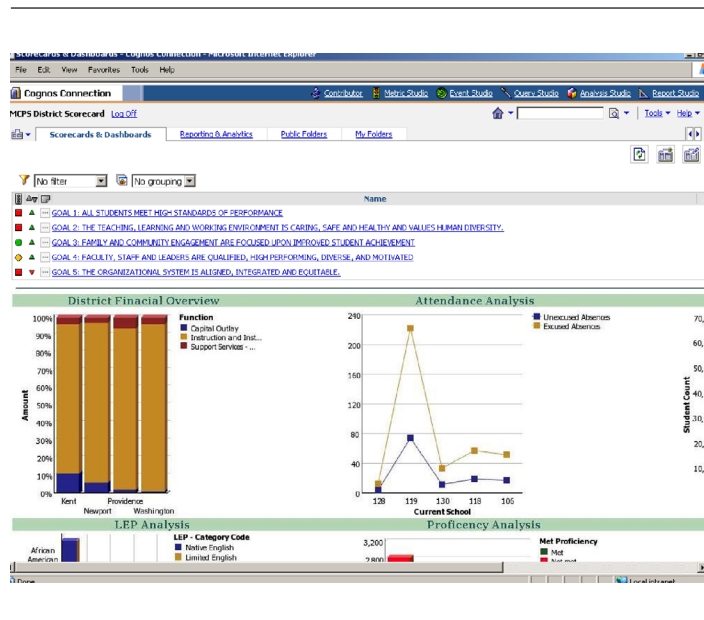
- Which programs or other factors tend to lead to student success?
- What are the leading indicators of low performance?
- How do assessment results relate to discipline events?
- Does attendance factor into standard test performance?
- How do standardized test results relate to classroom grades?
- Which investments are improving results and how much more can we invest?

Answering questions from a wide range of areas, from student performance through attendance, teacher development and expenditures can help provide the insight needed to keep what works and make meaningful changes to what does not.

### Overall performance

Performance management systems provide powerful analysis and query tools that help answer these kinds of complex questions involving multiple variables. By combining and analyzing multiple dimensions from different realms, education organizations can start to see the cause and effect behind performance results. Historical data tracking can show how results are trending over time.

While analysis and query open the door to deeper understanding, scorecards are a way of combining different kinds of high-level information for monitoring goals and tracking results at a glance.

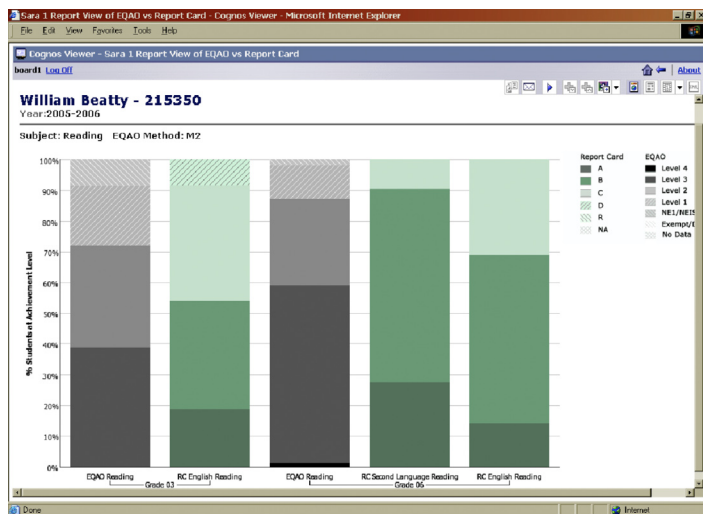


*This scorecard lets districts follow such critical metrics as progress against strategic goals, spending and attendance, and drill down to details on each metric.*

### Student performance

When schools can view the performance of students and groups across multiple testing events, they gain insight. When they can compare student, school, district or board and national marks, when they can view and track progress by cohort, teacher, course or program, they gain insight. Finding insight in performance information can help unlock student potential.

Records for individual students containing marks and standardized testing results over a number of school years can give teachers or analysts valuable information on a student's progress and trends, class versus test results, and most and least proficient subjects. Different levels of security access can allow students and parents to view their information when needed.



A student performance record comparing report card marks to standard test marks.

**Class and curriculum performance**

With individual student performance records combined, teachers can understand how their students are performing in comparison with other students in different classes or schools. This view helps them make informed decisions about what is working in the classroom. Using such quantifiable information, teachers can collaborate effectively to replicate and standardize classroom success.

Using performance management, principals can rapidly identify classrooms that are succeeding and those that are struggling. They can take steps to copy successful programs in other classrooms. Parents can understand how their children are achieving in relation to their peers and how the school district is meeting their needs.

**CRCT Class Growth with Grades**

2007  
 Williamsburg Elementary  
 Teacher ID 7299-121  
 Teacher Full Name JORDAN, HARRY  
 Long Name Mathematics/Grade 5  
 Section ID 01  
 CRCT Subject: MATH  
 Prior Year: 2006 Recent Year: 2007

Student ID	Student Full Name	Gender	Ethnicity	FAPMS	SPED	LEP	2006 Proficiency	2007 Proficiency	2006 Scale	2007 Scale	Scale Change	% Growth	9WK 1 Grade	9WK 2 Grade	Sem 1 Grade	9WK 3 Grade	9WK 4 Grade	Sem 2 Grade
1064915209	ARCE SANTANA, ALEXANDRIA	M	Hispanic	F		N	Proficient	Proficient	312	300	-12	-4%	86	91		88		
357945220	DELVA, PHILLIP	F	Black	F	S	N	Proficient	Proficient	327	330	3	1%	92	90		91		
371105880	GONZALEZ, PATRICK	M	Black	F	S	N	Proficient	Proficient					83	67		75		
370052780	JACOBETTI, MEGAN	F	Black	F	N	N	Proficient	Proficient	314	309	-5	-2%	77	70		73		
330115040	JONES, TYON	M	Black	F	S	N	Proficient	Proficient	300	269	-31	-10%	89	78		84		
368084160	JUNE, MICHAEL	M	Black	F	S	N	Proficient	Proficient	304	269	-35	-12%	72	64		68		
372041280	LOPEZ, MICHAEL	M	White	F	N	N	Proficient	Proficient	258	318	60	23%	77	68		72		
369041280	MARGOTTA, HEATHER	M	Black	F	S	N	Proficient	Proficient	332	306	-26	-8%	78	80		79		
369090280	NICOLAS, WILLIE	F	Black	F	S	N	Proficient	Proficient	267	263	-4	-1%	84	69		77		
365063200	PALMER, JANAY	F	Black	F	S	N	Proficient	Proficient	325	296	-29	-9%	71	66		68		
372092660	PURROY, BRENDEN	M	White	F	N	N	Proficient	Proficient	336	313	-23	-7%	85	85		85		
370081380	QUENTANA, GONZALO	M	Multi	F	N	N	Proficient	Proficient	309	296	-13	-4%	72	67		70		
370084000	SALZ, SHALONKA	F	Black	F	N	N	Proficient	Proficient	311	275	-36	-12%	70	64		67		
371105640	SMALL, EMILY	M	Black	F	S	N	Proficient	Proficient	300	260	-40	-13%	90	82		86		
371087200	VERNO, CRAIG	F	White	F	G	N	Proficient	Proficient	330	316	-14	-4%	84	82		83		
368102500	WALTON, JAVARIS	M	White	F	S	N	Proficient	Proficient	274	263	-11	-4%	88	88		88		
91132100	WELTON, CYNTHIA	F	White	F	N	N												

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Teachers can view math performance for their class, sorted by name, to see year-over-year progress and identify students whose results are trending down.

**Attendance and interventions**

Repeated absences and disciplinary actions can be leading indicators of falling performance results. The ability to analyze these patterns in individuals, classes, schools or districts can help schools take immediate remedial action to address what could become a serious problem. They can plan for and put in place proactive intervention strategies to restore students' attendance and get them back on track for learning.

Spotting absence problems can also help schools alert parents or guardians who may be unaware of the growing absences of their children. By involving parents, the remedial action becomes stronger.

**Detailed Absence Report**

Student ID	Gender	Special Ed	LEP	Free/Reduced Lunch	Full Name	Event Type	Date
549883	Male	Regular Ed	Native English	No	STENNES, AMANDA	A	9/25/03
549580	Male	Regular Ed	Native English	No	NEWBY, FELIX	A	9/25/03
549456	Male	Special Ed	Native English	Yes	GIRALDO, OMISHA A	A	9/25/03
549241	Female	Regular Ed	Native English	Yes	JOHNSON, LUIS ALEX	A	9/25/03
549243	Female	Regular Ed	Native English	Yes	FRIEDLANDER, GIOVANNI	A	9/25/03
549234	Male	Special Ed	Native English	Yes	COLEMAN, WAYNE	A	9/25/03
549198	Female	Regular Ed	Native English	Yes	BELL, JACOB C	A	9/25/03
549139	Male	Regular Ed	Native English	Yes	COHEN, ALEXANDER D	A	9/25/03
549120	Male	Regular Ed	Native English	Yes	JACKSON, JESSICA K	A	9/25/03
549117	Male	Regular Ed	Native English	No	RIGHTMIRE, WALEWSKA L	A	9/25/03

*Follow students with multiple absences to find patterns and determine the appropriate intervention.*

Combine views of attendance patterns with other behaviour incidences and disciplinary actions to gain a big picture of a school or district. As a leading indicator of a safe school and student success, this picture needs careful monitoring.

**SCHOOL INTERVENTION MONTHLY REPORT**

SCHOOL NAME	GRADE	POPULATION	% OF ATTENDANCE	% OF TARDY	% OF SUSPENSION	% OF DROPOUT	% OF STAFF ATTENDANCE	% OF STAFF LEAVE	% OF STAFF OUT OF FIELD	% OF PRACS	% OF FCAT
0641 - BUNCHE PARK ELEMENTARY	PK	20	3.63	1.55	0						
	00	46	1.58	2.48	0						
	01	49	4.26	2.13	0						
	02	67	2.6	3.37	1						
	03	53	2.46	4.73	0						
	04	43	4.72	2.12	1						
	05	49	0.63	1.67	0						
TOTAL		325	2.73	2.76	2		93.79	100	0	8.82	5.36
										1	0
										33.82	8.82
										57.35	19.12
										16.1	

*View attendance and incidence by school as a leading indicator of performance and school safety.*

### Monitoring the exceptions

Beyond the average primary and secondary student lay those who fail and those who excel beyond their level. Students falling behind and students speeding ahead both need early intervention in order to, respectively, mitigate failure and encourage a continued interest in learning.

While good teachers and principals can instinctively spot these students, they too often lack the time and resources to follow an individual student's progress across subjects from year-to-year in relation to his-or-her peers. Monitoring performance thresholds for these exceptions at the district or board level can help back up teacher instinct and ensure these students do not fall through the cracks.

For the sake of policy and curriculum planning, it is important that schools understand the reasons behind exceptions. Leading indicators of low performance, such as disciplinary actions or attendance patterns, do not always give a good indication of why a student underperforms. At the same time, while it's clear that such factors as teacher excellence, a safe school and high attendance all contribute to positive outcomes, what other local or universal factors are at play? And how can schools ensure these factors are all in place to get students on track to success?

When schools can identify the outliers and begin to determine contributing factors, they can start to plan for proactive intervention strategies.

Educating exceptional students is a big consumer of education dollars. Education performance management can help schools follow the success of these strategies, find what's working and what's not, and compare special instructional programs to determine relative effectiveness against spend. Then you can back up your decisions to keep or scrap programs with hard data and rigorous analysis.

**PSSA Growth District Student Detail**

Subject: MATH  
 Recent Year: 2007 Previous Year: 2006  
 Grade Level: 05  
 Sorted by: Scale Growth %

Schools included shown on prompt values page  
 Includes only students with test results for both years

Student ID	Student Full Name	Home Room	Gender	Ethnicity	FARMS	LEP	SPED	Scale Growth (-)	% Growth	2006 Perf Level	2006 Scale Score	2007 Perf Level	2007 Scale Score	2007 MC Raw Score	2007 OE Raw Score
371105500	DEL AGUILA, EVELYN	418	M	White	F	N		( 46 )	-14%	Proficient	323	Below	277	26	
371105446	SMALL, EMILY	438	M	Black	F	N	S	( 40 )	-13%	Proficient	300	Below	260	18	
365105450	DESILVA, SAMANTHA	418	M	Black	F	N		( 43 )	-13%	Proficient	339	Below	296	36	
1064915200	ARCE SANTANA, ALEXANDRIA	438	M	Hispanic	F	N		( 43 )	-12%	Proficient	342	Proficient	300	38	
372082050	SALTZ, SHALONDA	438	F	Black	F	N		( 36 )	-12%	Proficient	311	Below	275	25	
364081600	JURE, MICHAEL	438	M	Black	F	N		( 35 )	-12%	Proficient	304	Below	269	22	
367050050	TEACHOUT, MARCUS	418	M	Black	F	N		( 34 )	-11%	Proficient	309	Below	275	25	
419300200	HERNANDEZ, ENOCK	434	F	White	F	N	G	( 39 )	-10%	Proficient	372	Proficient	333	51	
370110240	JONES, YVON	438	M	Black	F	N	S	( 31 )	-10%	Proficient	300	Below	269	22	
369068540	NOEL, MERELYN	461	M	Black	F	N		( 28 )	-9%	Proficient	309	Below	281	28	
367087070	BURNS, DILLON	434	M	White	F	N		( 30 )	-9%	Proficient	334	Proficient	304	40	
365061000	PALMER, JIMMY	438	F	Black	F	N	S	( 29 )	-9%	Proficient	325	Below	296	36	
371050040	BOOKER, LEAH	434	M	Black	F	N		( 29 )	-8%	Proficient	366	Proficient	337	52	
364041340	MARGIOTTA, HEATHER	438	M	Black	F	N	S	( 26 )	-8%	Proficient	332	Proficient	306	41	
704810500	SERENO, EDUARDO	461	F	White	F	N		( 28 )	-8%	Proficient	361	Proficient	333	51	
365101180	GOODMAN, ERNIE	434	F	Black	F	N		( 25 )	-7%	Proficient	336	Proficient	311	43	
372084720	MATEO, KRISTINA	434	M	Black	F	N		( 23 )	-7%	Proficient	311	Below	288	32	
531582080	PICO, SOFIA	461	M	Black	F	N		( 22 )	-7%	Proficient	318	Below	296	36	
372085600	PURPOY, BRENDEN	438	M	White	F	N		( 23 )	-7%	Proficient	336	Proficient	313	44	
367067780	HILL, CORY	461	F	White	F	N		( 21 )	-7%	Proficient	309	Below	288	32	
366105980	ZEVENBERGEN, MARIA	434	M	White	F	N		( 23 )	-7%	Proficient	341	Proficient	318	46	
369110820	JONGRUI, JIMESH	418	F	Black	F	N		( 23 )	-7%	Proficient	353	Proficient	330	50	
365083870	MUNOZ, HEATHER	461	M	Black	F	N		( 21 )	-6%	Proficient	330	Proficient	309	42	
366101360	TUNECKI, AMANDA	418	F	Black	F	N		( 19 )	-6%	Proficient	307	Below	288	32	
372089220	NESBITT, SERENA	461	F	White	F	N	G	( 20 )	-6%	Proficient	341	Proficient	321	47	

*This report shows teachers and school officials the grade 5 students to monitor by highlighting those with the largest percentage drop in marks.*

**Finland: Beacon for education success**

An analysis of Finland's most recent PISA (Programme for International Student Assessment) results highlights "only one big policy element that could easily be replicated elsewhere: early and energetic intervention for struggling pupils."

*"Top of the class" The Economist June 2008*

**Reporting up, reporting out**

Reporting of student performance at the department of education or national level is a common requirement for educational organizations. Whether a function of law, funding or public relations, school boards and districts must be able to gather and report test results, often by demographic slices such as gender, economic status or language proficiency.

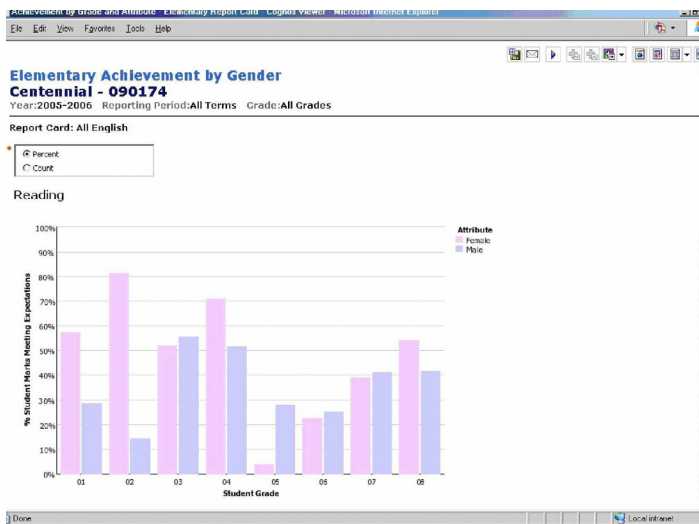
While some higher authorities may provide systems for student results reporting, many boards and districts must take this task on—not an easy one when spreadsheets and paper-based reports are the norm.

Uniting student performance in a data warehouse can lend consistency and accuracy to this mountain of data. An educational performance management system can ensure a unique and individual record for every student, linking all information from results to attendance. Such a system lets analysts drill into special population segments or explore individual attributes. They can analyze processes or understand factors in the success or failure of an educational initiative.

Educational performance management helps make mandatory compliance reporting significantly easier, especially as it relates to obtaining state and federal funding.



Viewing student progress in terms of demographics can help school officials plan programs to help groups that may be falling behind.



*Analysis by such demographics as gender is made simple.*

### Standardized testing

Standardized and post-secondary entrance examinations are fertile ground for performance management. Many of these tests undergo continual adjustment to improve their effectiveness at testing knowledge and understanding. With test questions and results from multiple years across multiple students united in a single dimensional database, much can be analyzed, changed and tested.

Test results can be united and segmented for analysis over a larger area or time period. Analysts can:

- Track performance progress against goals over time.
- Compare results of common demographics across districts or boards.
- View a single student's results across multiple tests.
- Identify student populations that need extra tutoring.

### Developing teachers

Among the factors affecting student performance, teacher performance is high on the list. A teacher's satisfaction and qualification can play a major part in the effect that teacher has on students.

When schools can tie student and teacher information together, they can see how teachers are performing in relation to their peers within the school, the district or board, the county, province or state, or nationwide. Lower performance across a standard curriculum may indicate problems with the curriculum itself.

One of the most useful applications of tracking teacher success is being able to understand what teacher qualities and qualifications lead to student success. When this is well known, within a region or a school, all teachers have the opportunity to adopt these qualities and replicate these qualifications in their own careers.

Teachers are sometimes called upon to teach courses or groups they are not qualified to teach, creating undue stress in the classroom. Determining where they are falling behind can help teachers direct their careers appropriately, finding the best training options to enrich both their own and the students' experience.

Status	Trend	Actual	Target	Variance	Owner	Last updated
▲		-1.17	0.00	-1.17	George Washington	

Staff Name	Cert Type Cat	Cert Type Key	Cert Area Cat	Cert Area Desc	Cert Type Desc
Jones, Shively	3	477		Specialty Area K-12	Instructional Leader License (9 Yr), Lvl
McAlister, Carol	0	463		Secondary 7-12	Substandard License, 1 Yr Certificate of
Location: ALTA VISTA MIDDLE					
Staff Name	Cert Type Cat	Cert Type Key	Cert Area Cat	Cert Area Desc	Cert Type Desc
Bradley, Anita	3	477		Secondary 7-12	Instructional Leader License (9 Yr), Lvl
Carpenter, David	3	477		Specialty Area K-12	Instructional Leader License (9 Yr), Lvl

*Having teacher certification on hand can help schools determine the best qualifications for individual positions.*



Finally, just as districts and boards should track student attendance as a lead indicator of low achievement, so must they track teacher absenteeism as a leading indicator of low job satisfaction and the effect of this on student success.

### Following expenditures

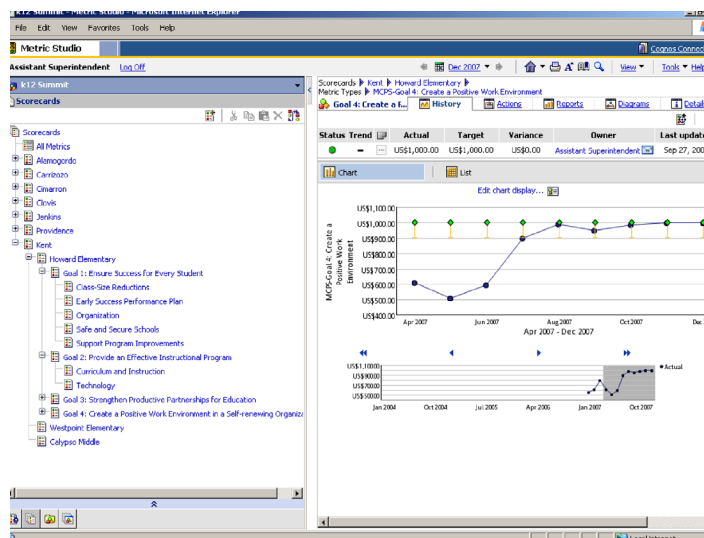
Education budget planning can be challenging, given annual budgets that ebb and flow with performance success and the political tide. Tracking expenditures against budget throughout the year can be further complicated by unexpected financial outputs to respond to student performance issues.

Performance management systems include budgeting, planning and forecasting tools that let organizations plan budgets and follow expenditures throughout the year while making the necessary budget adjustments. Organizations can even go beyond basic budgeting and link budget planning to strategy and measurement against goals. Or they may decide to track the complex relationship between investment and performance by tying financial data to the corresponding key performance indicators.

One of the most critical questions in any educational organization is whether you are funding the right programs.

When superintendents and administrators can see the results of programs and the cost of these results—per student, per year, per grade increase—they can make data-driven decisions about the future of these programs. Simply put, cost effective and successful programs get funded and replicated across the district, while ailing, expensive programs get cut.

Furthermore, discontinuing programs with an ineffectual history is much easier to justify when the decision is backed by the cold facts.



*Track the progress of a key goal against the financial investment you have made in it.*

## The solution

### The value of information

Teachers and school administrators need help in answering the demands of governments, the public, students and myriad other stakeholders. IBM Cognos® analytics and performance management software is developed specifically for educational organizations, and it helps them make sense of and report on performance data, meet standards and answer reporting demands.

Pre-built models, scorecards, reports and a warehouse were created in partnership with education leaders and optimized for educational organizations. You can choose modules relevant to your current infrastructure and grow as needed. Flexible open source technologies let you match specific needs and adapt to new legislation or accountability changes.

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### Fast insight

In three to five weeks, your organization can begin using Cognos to:

- 1. Monitor key metrics with a scorecard.** Whether your main concern is grade 11 attendance, test results in language immersion or disciplinary actions in your most vulnerable school, you can set up your scorecard to follow the metrics most important to your goals. Drill down from a metric to a detailed report.
  - 2. Analyze and report on trends across diverse areas.** The data uniformity in the Cognos system lets you understand trends across complex data sets such as student results, finance and staff training. It lets you communicate your findings in a single report that can meet multiple user needs.
  - 3. Match your financial resources to your goals.** Cognos budgeting and planning software lets you define goals, create models and disseminate strategies. It lets you track the success of programs against funding allocations.
- 

### Consistent data

Cognos performance management software unites data from all of your current systems into one reliable, consistent and robust dimensional data warehouse. It ties together disparate data sources such as HR, finance, student information, assessment and teacher certification. Departments of education using Cognos software can integrate district data into their data warehouse for analysis and reporting, whether from pre-built Cognos extracts or local data systems.

### Scorecards

Set your own key performance indicators to match goals and measure your progress against them. You can drill through from scorecards to further analyze the data behind your results.

### Query

Easily query data to track trends, understand results and create customized reports. Track individual students or groups of students from year-to-year to determine how their performance changes over time. Pinpoint where students are falling behind as a group or as individuals and make instructional changes.

### Security

Teachers, principals, administrators and even parents can access information through the Web with complete security. Flexible and robust security ensures that teachers can only look at their students against an aggregate of classrooms in that grade, or that parents only see the details on their child against an aggregate.

### Timely information

Manually assembling information from various sources makes educational reporting difficult and time-consuming. Cognos makes it easy to create and share intuitive reports for automatic, scheduled distribution. Accurate information on hand means more time to analyze results and make sound instructional decisions.

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### Save time and effort

Cognos predefined education reports include:

#### Student profile

- Basic and detailed summary
- Student multi-test summary
- Discipline history
- Current student schedule, downloadable

#### Standardized tests

- Student records with date, scaled score and level with conditional highlighting
- Categories and demographics filtered on school, grade or teacher
- Performance level summaries
- Current versus prior comparisons

#### Student performance

- Aggregated performance reviews
- Movement of students across standard testing performance levels
- Graphical scatter-plot analysis

#### Attendance and behaviour

- Enrollment reporting and analysis
- Absence reporting and analysis
- Discipline reporting and analysis

#### Finance

- Expenditures and encumbrances
- Revenue

#### Standard compliance reporting

- Adequate yearly progress
- Limited language proficiency programs

#### Detailed transaction-level reporting.

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## Conclusion

From the teacher to the department official, education experts at all levels need access to interconnected and intelligent systems to bring the highest quality of education to children. Most agree that helping children reach their full potential in the education system leads them to contribute to society in positive ways and attain economic well-being.

### Cognos and the Information Agenda: a roadmap for success

Ideally, educational organizations should follow a strategy in setting up this information foundation. IBM's Information Agenda sets out an approach for defining and implementing an information-led transformation within educational organizations. With a proven track record of helping organizations quickly adapt to unpredictable, up-to-the-minute changes, the Information Agenda approach will help you develop a customized roadmap in a matter of weeks.

Vital to this approach is IBM Cognos analytics and performance management capabilities, including software and services that let you make better decisions through planning, budgeting, forecasting, measuring, monitoring, reporting and analysis capabilities.

### Smarter education

Approximately 4,000 school districts of all sizes and 18 departments of education worldwide rely on Cognos software to track the performance of over 10 million students. Seven of the top 20 school districts in the U.S. are monitoring, reporting and improving results using Cognos.

To find out more about IBM Cognos solutions for education, visit [www.ibm.com/cognos/education](http://www.ibm.com/cognos/education).

## About IBM Cognos BI and Performance Management:

IBM Cognos business intelligence (BI) and performance management solutions deliver world-leading enterprise planning, consolidation and BI software, support and services to help companies plan, understand and manage financial and operational performance. IBM Cognos solutions bring together technology, analytical applications, best practices and a broad network of partners to give customers an open, adaptive and complete performance solution. Over 23,000 customers in more than 135 countries around the world choose IBM Cognos solutions.

### For more information

For further information or to reach a representative:  
[www.ibm.com/cognos](http://www.ibm.com/cognos)

### Request a call

To request a call or to ask a question, go to [www.ibm.com/cognos/contactus](http://www.ibm.com/cognos/contactus). An IBM Cognos representative will respond to your enquiry within two business days.



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#### Endnotes

<sup>1</sup> "Top of the class" The Economist, June 2008

<sup>2</sup> "America's children in brief" by Federal Interagency Forum on Child and Family Statistics, July 2008



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