

DPI's Education Data Reporting Solution

An Introduction

State Superintendent's Parent Advisory Council
August 22, 2011

Today

- DPI's data and reporting vision
- DPI's plans for a business intelligence tool
 - Tools
 - Implementation & Timeline
 - Who's involved
 - Why business intelligence?
- Introductions
 - Data Warehousing
 - Business Intelligence Tools
- Brief Demo
- Working towards the vision: the future of reporting
- Questions

Every Child a Graduate Agenda Overview

Standards & Instruction

- *What and how should kids learn?*

Assessments and Data Systems

- *How do we know if they learned it?*

Accountability – systems and individuals

- *How do we support improvement if they don't?*

School Finance

- *How should we pay for schools?*



A Vision for Data & Reporting

- A single reporting portal
 - Administrators
 - Teachers
 - Parents, students
- Include local data
 - Daily attendance, local assessments, GPA, etc.
- Timely reporting
 - Almost real-time
 - Early warning systems
- Part of a comprehensive picture of standards, assessment, high quality instruction, and data-informed decisions
- Result: improved educational outcomes for students, identification of appropriate professional learning for educators

Data Access & Reporting at DPI

- DPI has purchased a suite of Business Intelligence (BI) tools
 - Data Model & Dashboard from VersiFit Technologies
 - Based in Appleton
 - Serves MMSD, MPS, Chicago Public Schools, Oregon State, Hawaii, etc.
 - Focus on business intelligence solutions specific to education
 - Contract signed 02/16/11
 - ETL and Reporting tools from Microsoft

Why Business Intelligence?

DPI's Goal

- Provide an integrated educational analysis and reporting system to support
 - School and district staff making decisions to improve student achievement
 - Parents and community members learning more about their schools
 - Accurate and timely data reporting to meet Federal, State, and local requirements
 - Diagnostic and policy-relevant research
- Ultimately, we aim to increase data-informed decision-making at the state, district, school, classroom, and student level

The VersiFit solution will provide

- Education **data model** structured to enable smart, reporting on education data
- Role based **data access & dashboards**
- **Public & secured reporting** through the same technology to a wide variety of users with a wide variety of data needs
- **Simple ad hoc reporting** functionality (choose a district, choose a demographic)
- **Advanced reporting** capabilities for a limited number of power users at the district and state level to create customizable reports
- Documentation, including professional development resources such as pre-made **workbooks to guide understanding** and use of dashboards and reports

Data Access & Reporting at DPI

- The many components of implementation
 - Architecture – servers, software, etc.
 - Data warehouse – moving data into the new data model
 - Security, access, and administration – role-based access, authentication
 - Communication – empowering users
 - Analysis and Reporting – building useful, easy-to-use dashboards and reports

Implementation Timeline

- An ongoing process
 - Initial release: Fall 2011
 - Dashboards
 - Enrollment, Assessment (WKCE, WAA-SwD, ACT, AP), Attendance, Growth
 - Student Profile
 - Future releases
 - Update and improve existing dashboards
 - Classroom-level reporting
 - Public reporting
 - Eventually...parent log-in

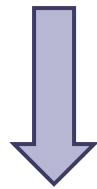
Defining Business Intelligence

What does a BI solution mean for DPI and the state?

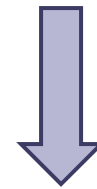
What are Business Intelligence Tools?

"A broad category of applications and technologies that gather, store, analyze, share and provide access to data to help enterprise users make better business decisions."

– Gartner



In other words...



Tools that transform data
into information

Reporting with Business Intelligence

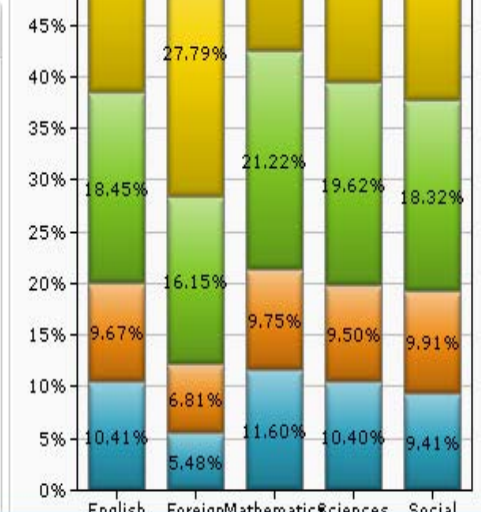
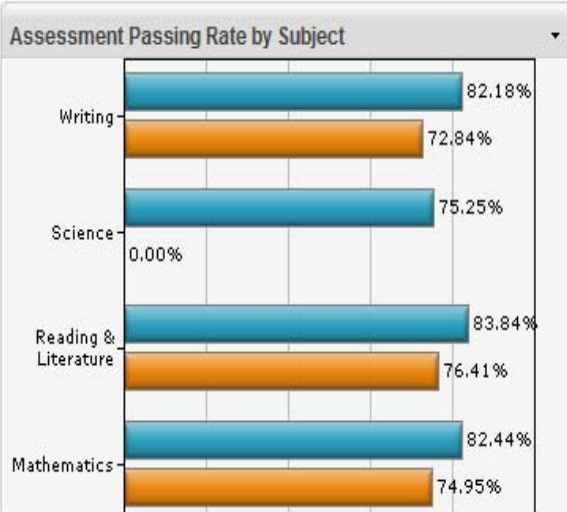
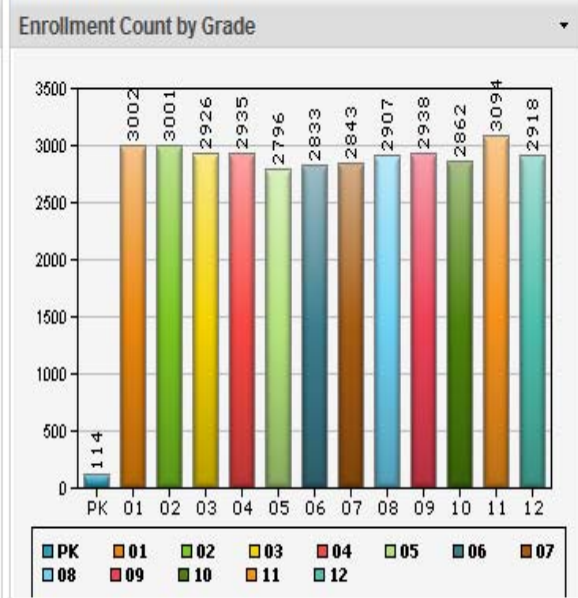
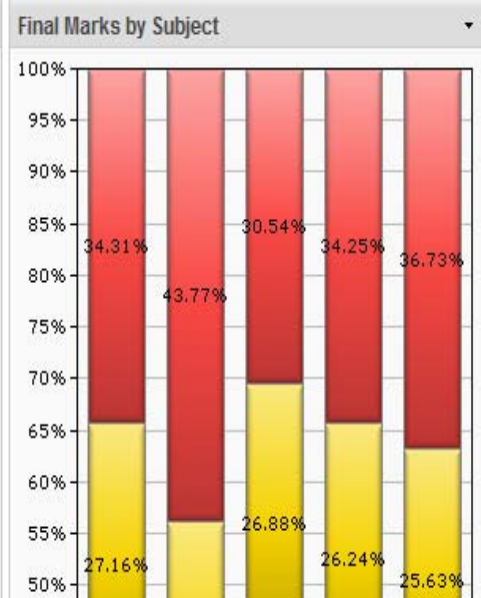
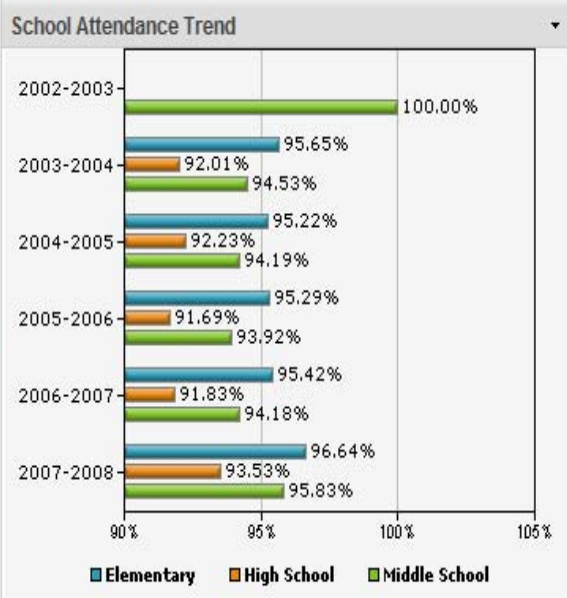
Example Reports & Dashboards

Summary Dashboard

School: [All Schools] | Grade: [All Grades] | Ethnicity: [All] | Gender: [All] | SPED: [All] | ELL: [All]

PK
K

- Sample Reports**
- [Absence Analysis](#)
 - [Achievement Summary](#)
 - [Dropout Profile](#)
 - [Operating Performance vs. Budget](#)
 - [Operating Performance vs. Budget Detail](#)
 - [Students Not on Track](#)
- Other Links**
- [Administrative Home](#)
 - [Teachers Home](#)
 - [School Enrollment Report](#)
 - [Google for Educators](#)



Program Participation by School

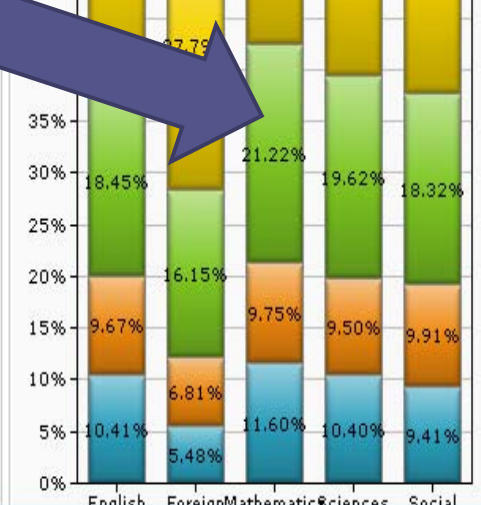
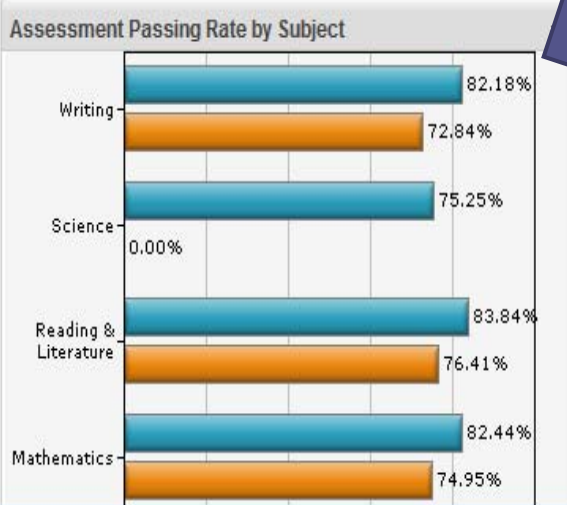
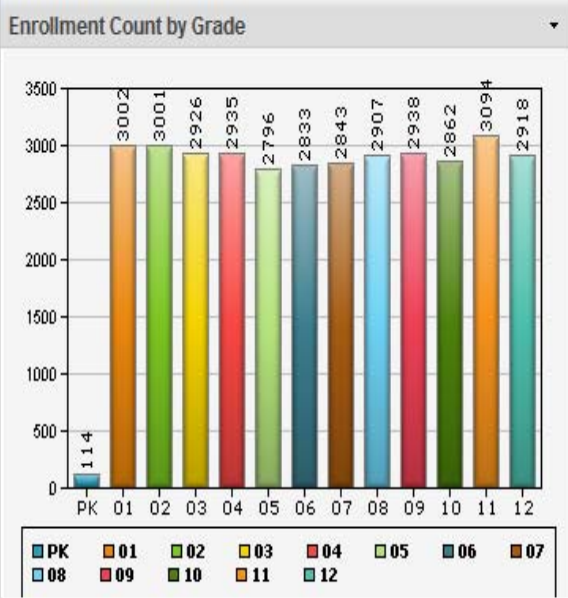
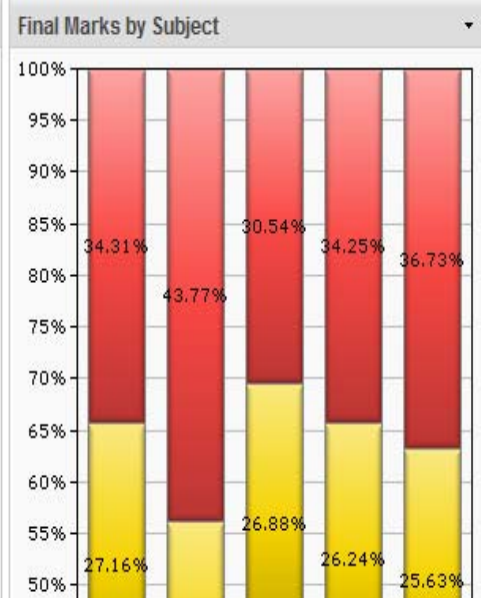
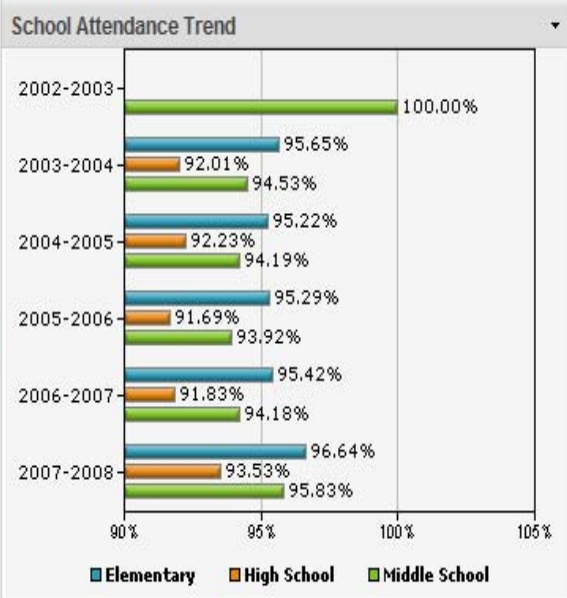
School	FARM	SPED	TAG
District Total	31.28%	10.89%	11.08%
Charter School	57.53%	21.92%	0.91%
Elm Park Middle	25.51%	12.47%	16.44%
Errol Flynn Elementary	24.26%	12.22%	5%
Faraday Elementary	55.48%	14.29%	3.09%
Forrest Mt. Elementary	9.63%	13.61%	5.96%
Fox Hills School	32.93%	18.16%	5.99%
Frahm Middle	12.75%	9.29%	16.48%
Frankford Middle	40.15%	14.74%	20.97%
Ghandi Elementary	80.2%	8.6%	1.3%

Summary Dashboard

School: [All Schools] | Grade: [All Grades] | Ethnicity: [All] | Gender: [All] | SPED: [All] | ELL: [All]

Grade dropdown options: PK, K

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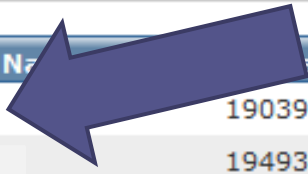
Final Marks by Subject Details

School: [All Schools] |
 Grade: [All Grades] (PK, K) |
 Ethnicity: [All] |
 Gender: [All] |
 SPED: [All] |
 ELL: [All]

Course Type: Mathematics |
 Mark: C

Total of 1000 row(s) with 1000 Row Limit

Student Name	Student ID	School Name	Grade Level Current	Course Type	Mark	GPA	Count
Sample Student	190397	Sunrise High	10	Mathematics	C	1.36	4
	194936	Oahu High	11	Mathematics	C	2.11	1
	196687	Highland Valley Middle	08	Mathematics	C	3.00	1
	165137	Northridge High	12	Mathematics	C	3.03	2
	199444	River View Middle	08	Mathematics	C	1.50	1
	279605	Lumberton High	11	Mathematics	C	3.69	1
	258060	Meadow Creek Middle	08	Mathematics	C	2.30	1
	202953	Meadow Creek Middle	07	Mathematics	C	0.00	1
	184577	Sunrise High	12	Mathematics	C	3.52	1
	295715	Pearson High School	11	Mathematics	C	2.04	1
	274467	Lumberton High	11	Mathematics	C	1.50	1
	185570	Sunrise High	10	Mathematics	C	2.71	1
	299621	Highland Valley Middle	07	Mathematics	C		1



Student Profile

Student ID:

Name	Student ID	Current School	Grade	Status
Sample Student	Sample ID	Sunrise High	10	Active

Demographics

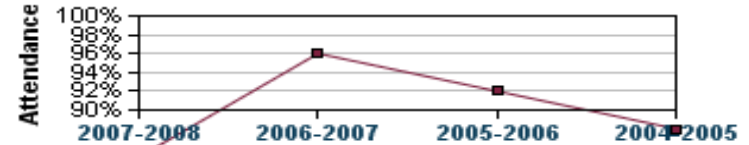
State ID	3859770
Current Homeroom	BK1
School Changes	0
Residence Changes	0
Outside Catchment	No
Gender	Female
Race	White
GPA	1.36

Program Summary

SPED	Regular Classroom with less than 21% Special Class
Gifted Year	
ESL	Not ESL
LEP	NA
Homeless	No
504	No
Indian Ed	NA
Migrant Ed	No

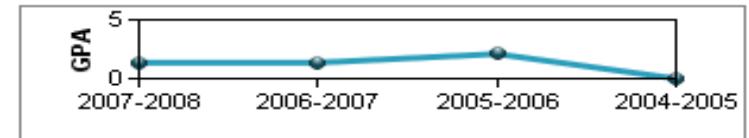
Attendance Summary

Attendance	2007-2008	2006-2007	2005-2006	2004-2005
Attendance	85.00%	96.00%	92.00%	88.00%



Cumulative GPA History

GPA	2007-2008	2006-2007	2005-2006	2004-2005
GPA	1.3571	1.3571	2.0943	0.0



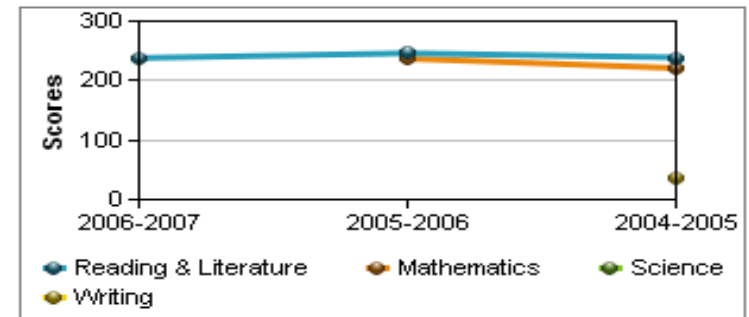
Discipline Incidents Summary

Discipline	2007-2008
Discipline	4



Test Score Summary

Subject	2006-2007	2005-2006	2004-2005
Reading & Literature	238	246	239
Mathematics		237	221
Science		246	
Writing			37



Student Profile: Enrollment

Student Profile	Contact Information	Attendance	Schedule	Enrollments	Immunizations	Transportation	Dis
Program Membership	Final Marks	Period Marks	Test Scores	Student History	Diploma Requirements	Tests v	

Enrollments

Student ID:

Name	Student ID	Current School	Grade	Status
Sample Student	Sample ID	Sunrise High	10	Active

Begin	End	School	Year	Admission Reason	Withdraw Reason
		<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
01/01/0001	01/01/0001	Johnny Walker Elementary	@ERR	E1-No Prev US Curr Yr	PM-Promote
01/01/0001	01/01/0001	Johnny Walker Elementary	@ERR	E1-No Prev US Curr Yr	PM-Promote
01/01/0001	01/01/0001	Johnny Walker Elementary	@ERR	E1-No Prev US Curr Yr	PM-Promote
01/01/0001	01/01/0001	Johnny Walker Elementary	@ERR	E1-No Prev US Curr Yr	PM-Promote
09/03/2002	06/13/2003	Johnny Walker Elementary	2002-2003	E1-No Prev US Curr Yr	PM-Promote
09/02/2003	06/17/2004	Elm Park Middle	2003-2004	E1-No Prev US Curr Yr	PM-Promote
09/08/2004	06/18/2005	Elm Park Middle	2004-2005	E1-No Prev US Curr Yr	PM-Promote
09/06/2005	06/17/2006	Elm Park Middle	2005-2006	E1-No Prev US Curr Yr	PM-Promote
09/05/2006	06/19/2007	Sunrise High	2006-2007	E1-No Prev US Curr Yr	PM-Promote
09/04/2007	06/13/2008	Sunrise High	2007-2008	E1-No Prev US Curr Yr	OPEN ADMISSION

Student Profile: Assessment History

Student Profile	Contact Information	Attendance	Schedule	Enrollments	Immunizations	Transportation	Discipline
Program Membership	Final Marks	Period Marks	Test Scores	Student History	Diploma Requirements	Tests v	

Test Scores

Student ID:

Name	Student ID	Current School	Grade	Status
Sample Student	Sample ID	Sunrise High	10	Active

Year	Grade	Test Class	Subject	Test Group	Score	Test Result
2006-2007	09	Composite	Reading & Literature	Lexile	1105	Not Specified
2006-2007	09	Composite	Reading & Literature	Total	238	Meets
2006-2007	09	Strand	Reading & Literature	Eval Comp	241	Meets
2006-2007	09	Strand	Reading & Literature	Infer Comp	240	Meets
2006-2007	09	Strand	Reading & Literature	Lit Comp	227	Does Not Meet
2006-2007	09	Strand	Reading & Literature	Lit Forms	244	Meets
2006-2007	09	Strand	Reading & Literature	Loc Inform	247	Meets
2006-2007	09	Strand	Reading & Literature	Word Meaning	239	Meets
2005-2006	08	Composite	Mathematics	Total	229	Does Not Meet
2005-2006	08	Composite	Mathematics	Total	237	Meets
2005-2006	08	Composite	Reading & Literature	Lexile	1250	Not Specified
2005-2006	08	Composite	Reading & Literature	Lexile	1125	Not Specified
2005-2006	08	Composite	Reading & Literature	Total	239	Exceeds
2005-2006	08	Composite	Reading & Literature	Total	246	Exceeds
2005-2006	08	Composite	Science	Total	245	Meets
2005-2006	08	Composite	Science	Total	246	Meets
2005-2006	08	Strand	Science	Earth Sci	247	Exceeds
2005-2006	08	Strand	Science	Earth Sci	244	Meets
2005-2006	08	Strand	Science	Life Sci	239	Meets
2005-2006	08	Strand	Science	Life Sci	242	Meets
2005-2006	08	Strand	Science	Physical Sci	250	Exceeds
2005-2006	08	Strand	Science	Physical Sci	251	Exceeds
2004-2005	07	Composite	Mathematics	Total	221	Not Specified
2004-2005	07	Composite	Reading & Literature	Lexile	1125	Not Specified
2004-2005	07	Composite	Reading & Literature	Total	239	Not Specified
2004-2005	07	Composite	Writing	Total	37	Conditionally Meets

Summary Dashboard

School:
 Grade:
 Ethnicity:
 Gender:
 SPED:
 ELL:

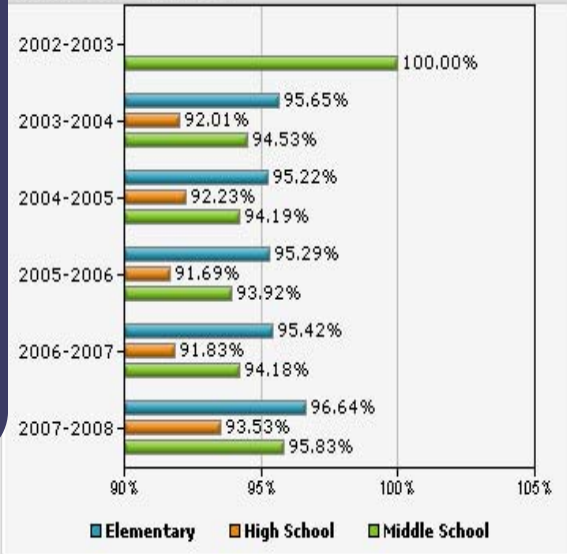
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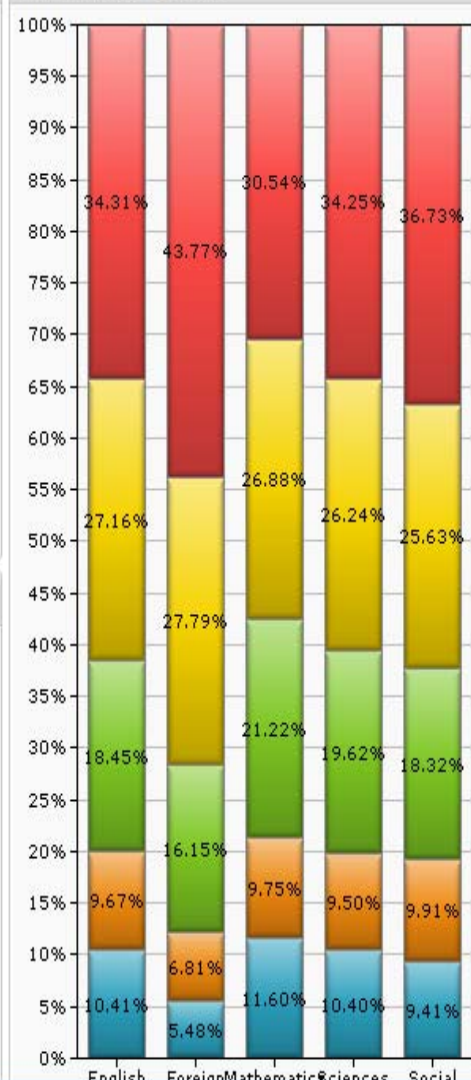
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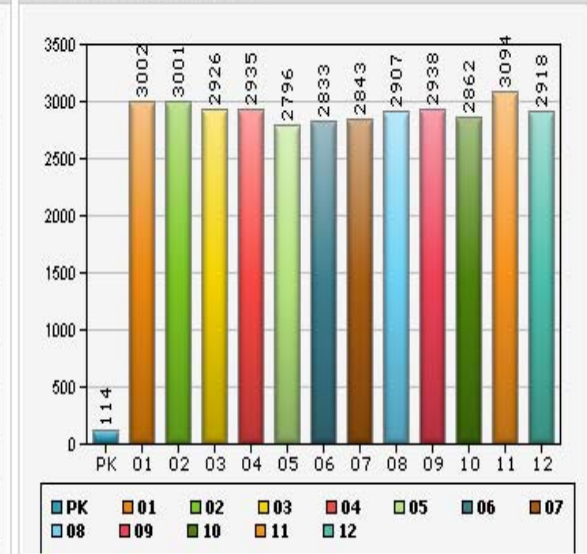
School Attendance Trend



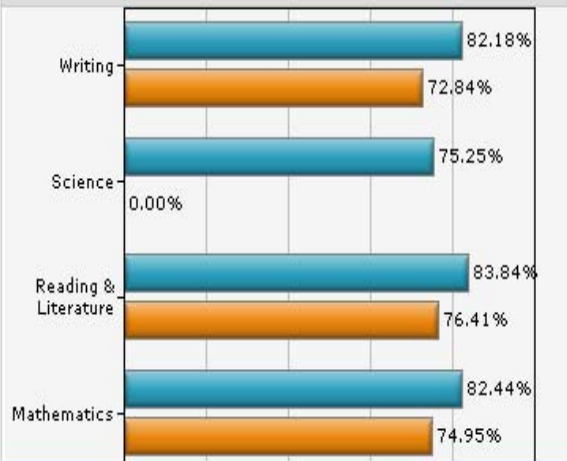
Final Marks by Subject



Enrollment Count by Grade



Assessment Passing Rate by Subject



Program Participation by School

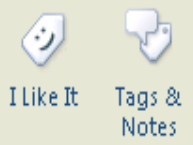
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Reporting with Business Intelligence

Additional (Non-DPI) Example Reports & Dashboards



District Dashboard ▸ Administration Dashboard



K12 Administration : **Administration Dashboard** | District Attendance Report | District Software Budget | District System Status

School Year:

District Test Scores ▾

	Math Score		Reading Score	
	Actual	Target	Actual	Target
African American	236.75	300 -21%	238.00	300 -21%
Asian	414.00	300 38%	500.00	300 67%
Hispanic	262.77	300 -12%	238.56	300 -20%
White	310.79	300 4%	332.29	300 11%

District Test Score Detail

Currently Enrolled School	School.Fac Name	Math Scale Score	Reading Scale Score
MAPLE RIDGE MIDDLE SCHOOL		299.33	322.61
OAK PARK HIGH SCHOOL		278.23	273.06
RED CREEK ELEMENTARY		307.73	307.73

District AYP

	Actual	Target	
MAPLE RIDGE MIDDLE SCHOOL			
<input type="checkbox"/> Meets AYP	347	330	5%
OAK PARK HIGH SCHOOL			
<input type="checkbox"/> Meets AYP	382	330	16%
RED CREEK ELEMENTARY			
<input type="checkbox"/> Meets AYP	320	330	-3%

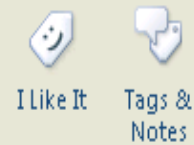
District Absence By School

	Absence Pct		
	Actual	Target	
MAPLE RIDGE MIDDLE SCHOOL	6.68%	6.0%	-11%
F	6.70%	6.0%	-12%
M	6.65%	6.0%	-11%

- Dashboards
- Data Connections
- Libraries
- K12Excel
- PerformancePoint Content
- Recycle Bin
- All Site Content



District Dashboard ▸ District Attendance Report

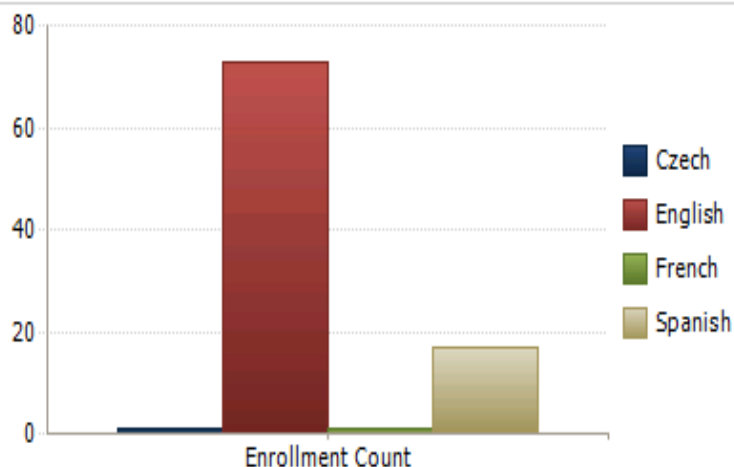


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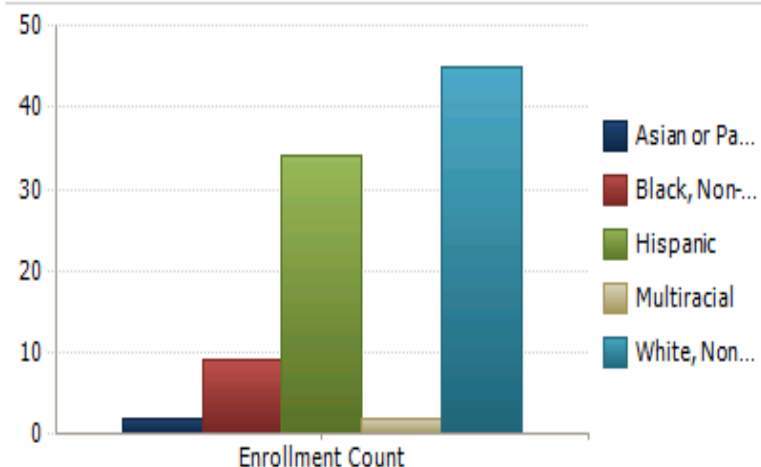
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K12 Administration : Administration Dashboard | **District Attendance Report** | District Software Budget | District System Status

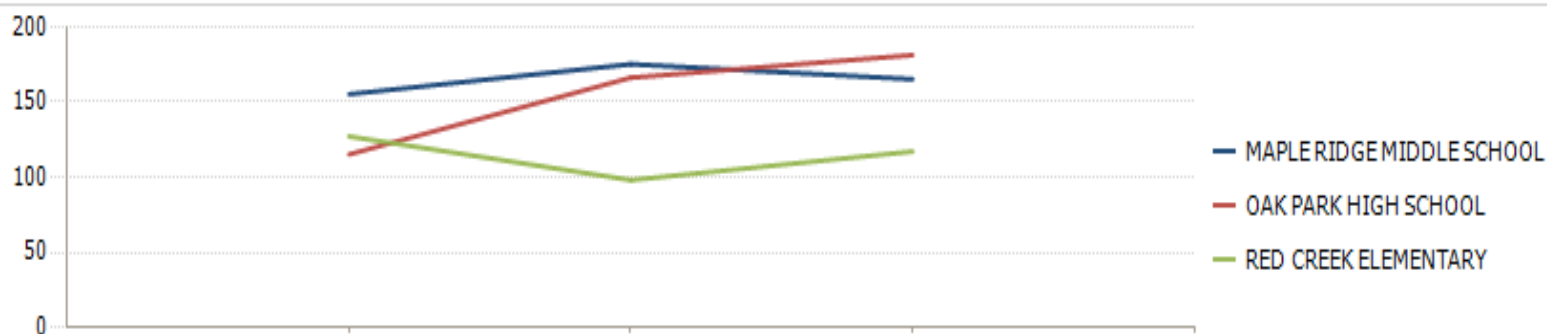
District Enrollment Primary Language



District Ethnic Enrollment

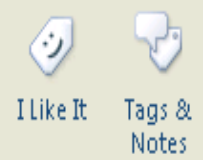


Unexcused Absences Chart by School





District Dashboard > District Software Budget



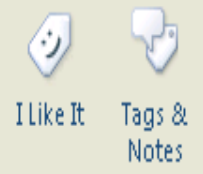
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K12 Administration : Administration Dashboard | District Attendance Report | **District Software Budget** | District System Status

District Software Budget

	A	B	C	D	E	F	G	H	I
Contoso K12 Annual Software Budget									
1									
2	Sum of SchoolBudget								
3		E	HS	MS	Grand Total				
4	+ Art	342,342	171,171	210,672	724,185				
5	+ Career Technology	424,242	212,121	261,072	897,435				
6	+ ESOL	50,778	25,389	31,248	107,415				
7	+ Foreign Language	24,024	12,012	14,784	50,820				
8	+ Health/PE	54,054	27,027	33,264	114,345				
9	+ Language Arts	45,318	22,659	27,888	95,865				
10	+ Math	450,450	225,225	277,200	952,875				
11	+ Media Services	152,334	76,167	93,744	322,245				
12	+ Music	54,054	27,027	33,264	114,345				
13	+ Other	482,664	241,332	297,024	1,021,020				
14	+ Science	279,006	139,503	171,696	590,205				
15	+ Social Studies	180,180	90,090	110,880	381,150				
16	Grand Total	2,539,446	1,269,723	1,562,736	5,371,905				

Category	Blue Segment	Red Segment	Green Segment	Total
Art	342,342	171,171	210,672	724,185
Career Technology	424,242	212,121	261,072	897,435
ESOL	50,778	25,389	31,248	107,415
Foreign Language	24,024	12,012	14,784	50,820
Health/PE	54,054	27,027	33,264	114,345
Language Arts	45,318	22,659	27,888	95,865
Math	450,450	225,225	277,200	952,875



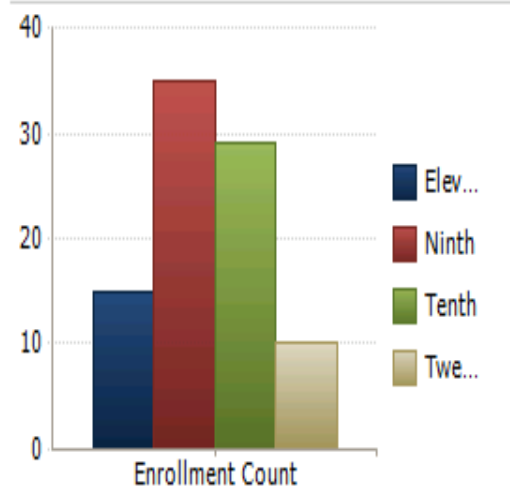
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K12 Principal Dashboard : **Principal Dashboard** | Oak Brook SAT Ranking | System Status | HS Software Budget

Principal AYP

	Actual	Target		
Academic Performance	988	900	● 10%	
Attendance Standard	93.66%	94.5%	▲ -1%	
Test Participation	94%	90%	● 4%	

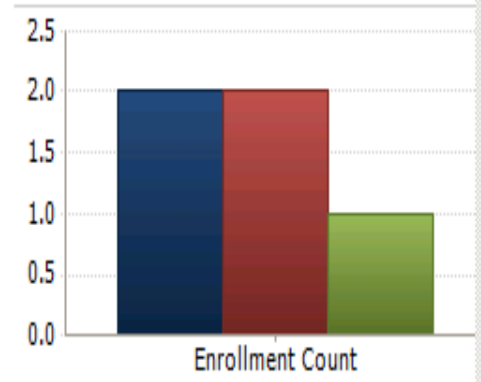
Total Enrollment



High School Test Scores

	Math Score		
	Actual	Target	
African American	247.14	300	◆ -18%
Asian	414.00	300	● 38%
Hispanic	263.77	300	◆ -12%
White	313.60	300	▲ 5%

ESOL Students





I Like It



Tags & Notes



Dashboards

Data Connections

Libraries

K12Excel

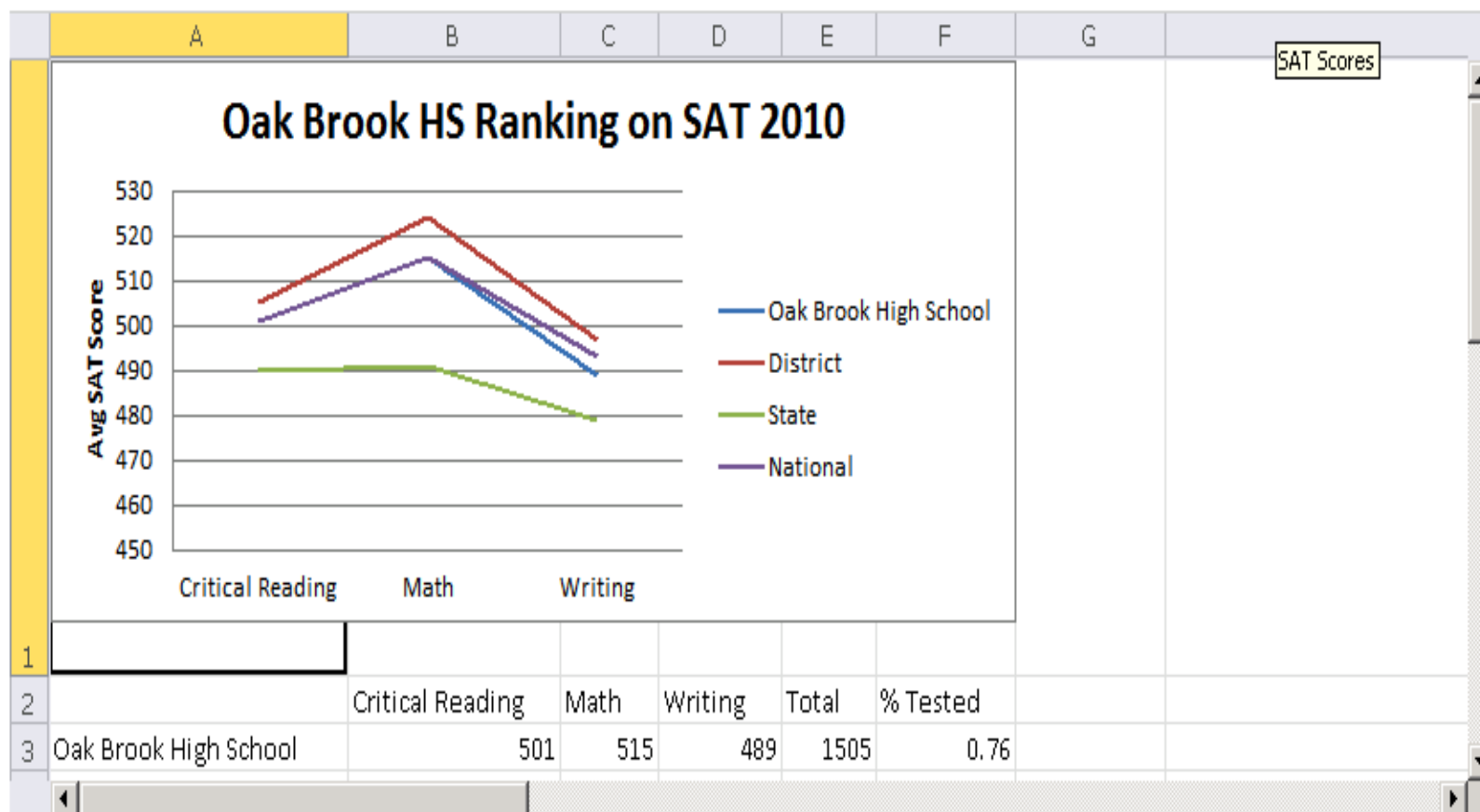
PerformancePoint Content

Recycle Bin

All Site Content

K12 Principal Dashboard : [Principal Dashboard](#) | [Oak Brook SAT Ranking](#) | [System Status](#) | [HS Software Budget](#)

SAT Scores



1						
2		Critical Reading	Math	Writing	Total	% Tested
3	Oak Brook High School	501	515	489	1505	0.76



- Dashboards
- Data Connections
- Libraries
- K12Excel
- PerformancePoint Content
- Recycle Bin
- All Site Content

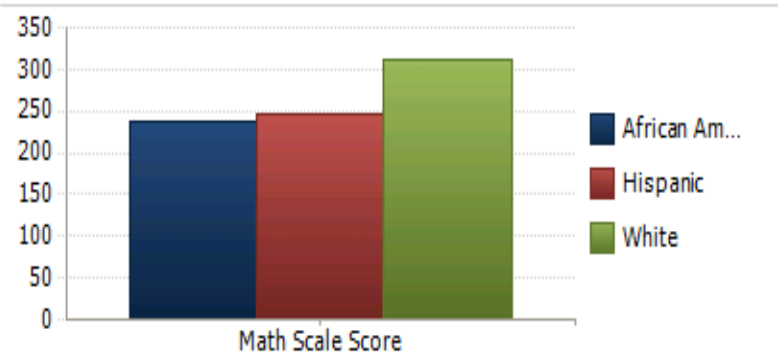
K12 Teacher Dashboard : K12 Teacher Dashboard | **Teacher Math KPI Dashboard**

Math Detail Scorecard

School Year:

	Actual	Target
Math Score KPI	289.97	300 -3%
Algebraic Thinking KPI	4.58	5 -8%
Data Analysis KPI	3.85	5 -23%
Geometry KPI	4.19	5 -16%
Measurement KPI	4.12	5 -18%
Number Sense KPI	5.08	5 2%

Math Test Scores - Ethnic



Math Test Scores: Algebra

Race Desc, Student Full Student Name	Math Scale Score	Math - Algebraic Thinking	Math - Possible Algebraic Thinking Score
African American			
HENRIK P JENSEN	312.00	4.00	14.00
JIAN SHUO WANG	100.00	2.00	14.00
JUNMIN D HAO	288.00	3.00	12.00
KATHERINE BERGER	247.00	3.00	14.00
Hispanic			
BORTS A SCHOU	100.00	1.00	12.00

Briefing Books

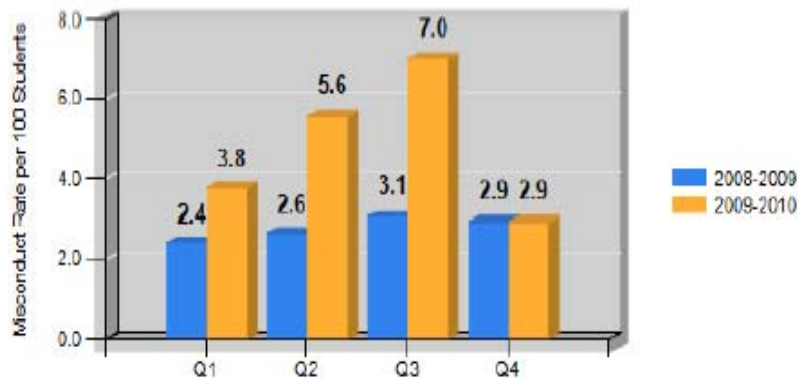
Guided Analysis to Support Professional
Development

Briefing Book

All High Schools Data Worksheet

What is our school-wide misconduct rate per 100 students?

Overall School Misconduct Rate (Level 4-6), by Quarter



	Q1	Q2	Q3	Q4
School Rate (2008-2009)	2.4	2.6	3.1	2.9
School Rate (2009-2010)	3.8	5.6	7.0	2.9
Area Rate (2009-2010)				
District Rate (2009-2010)	1.7	2.6	3.6	1.5
School Misconducts (2009-2010)	2370	3555	3076	2752

Reflections on This Data

- How has our misconduct rate changed since last year?

- _____
- _____
- _____

- How has our misconduct rate changed throughout this year?

- _____
- _____
- _____

- What other aspects of student behavior may be contributing to misbehavior (eg, low grades, chronic absenteeism, etc.)?

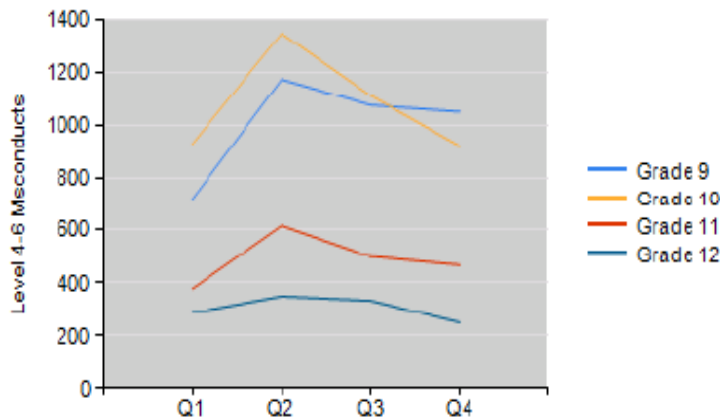
- _____
- _____
- _____

Briefing Book

All High Schools Data Worksheet

At each grade level, how many misconducts changed over time?

Number of Misconducts (Level 4-6) by Grade Level, by Quarter



Grade	Number of Misconducts			
	Q1	Q2	Q3	Q4
9	722	1173	1076	1051
10	930	1347	1112	922
11	377	615	498	466
12	287	349	333	250

Reflections on This Data

- Do any grades show declining trends? Do any grades show increasing trends?

1. _____
2. _____
3. _____

- Are we using any strategies to affect behavior in particular grade levels right now? Are they working?

1. _____
2. _____
3. _____

- What new strategies might we use to improve behavior in struggling grade levels?

1. _____
2. _____
3. _____

Questions?



Working Toward the Vision

The Future of Reporting

Game Changers

- A Statewide Student Information System
 - Same data management system across districts = more efficiencies, faster exchange of data
 - Moving away from “snapshot” reporting – toward almost real-time
 - Implications: faster, broader reporting capacity; true early warning systems
- SMARTER Balanced Assessment System
 - Next Generation of Assessment - Online
 - Multiple assessment types: daily/weekly, benchmark, and end-of-year
 - Multiple item types: adaptive, performance task, technology based
 - Result: more information for teachers and families

Our Questions for You

- What are your first impressions of this new reporting system?
 - When available, would you use it?
 - How can we at DPI make it more accessible to parents? In other words – what data do you most want to see and how?
- How can you advocate within your own districts for use of such a tool?
- What else do you want to know?

Thank you!!

Laura Pinsonneault

Office of Educational Accountability

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