Building a Data Driven Culture Through Analytics

Kurt Eisele-Dyrli
Web Seminar Editor
District Administration

Thomas Hay
Director of Data Strategy
Uplift Education (Dallas, Texas)

The web seminar will start promptly at 2 p.m. ET.
There will be no audio until the presentations begin. Thank you.

DA District Administration

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Welcome!

Web Seminar for K12 Leaders

Building a Data Driven Culture Through Analytics

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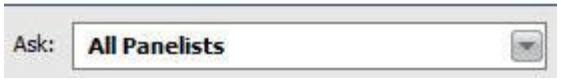

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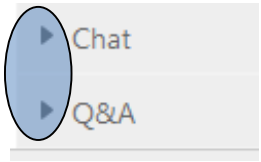

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Housekeeping

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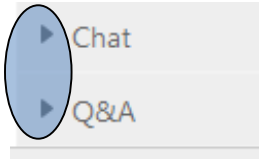

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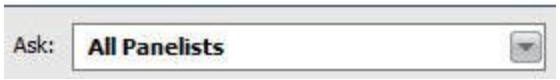

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Building Data Driven Culture Through Analytics at a K-12 District: A Case Study with Uplift Education

Thomas Hay
Director of Data Strategy
Uplift Education

Agenda

What is Uplift Education?

Uplift’s Data and Data Needs

How We Got Here

Uplift’s Data Model/Architecture

Using Tableau to Drive Collaboration

Tour of our Tableau Server Implementation

Lessons Learned

Q&A with the Team

What is Uplift Education?

Uplift Education is a free public charter school network serving over 14,000 students at 34 schools on 17 campuses in the Dallas-Fort Worth region.

Uplift's mission is to create and sustain public schools of excellence that empower students to reach their highest potential in college and the global marketplace and that inspire in students a life-long love of learning, achievement, and service in order to positively change their world.

What is Uplift Education?

Our Focus is on High Needs Students

59% of Uplift Middle School Students entered the School Year below grade level

33 Title 1 (High Number/Percentage of Low-income Students) Schools

80% of Uplift Students Will be the First in their Family to Attend College

Results

100% of Uplift Graduates are Accepted into College

A 3.3 Point Annual Increase in ACT Scores in the Junior Classes Over the Last 3 Years

60% of Middle School Students are Growing Faster Than National Average on Nationally Normed Assessments

Uplift Data and Data Needs

Student Data

Assessments (Standardized Tests): Network-wide, State, and National
Grades
Attendance
Discipline
Demographics
Zip-code
Classes Taken
Education Technology Data
Growth Goals
Social-Emotional Learning Survey Data

Uplift's Data and Data Needs

Teacher Data

Teacher Observations and Evaluations
Education/Certification Program
Years of Experience
Teacher Surveys

Finance Data

Budgeted Enrollment/Attendance vs Actual Enrollment/Attendance
School Budgets

Operations Data

Surveys
School Nutrition Program Data

Uplift's Data and Data Needs

Unified Picture of a Student

Integration of Multiple Data Sources – Tests, Grades, Attendance

FERPA Compliant

Unified Picture of a Teacher

Scores of Students

Compliance with Entering Grades

Observation and Evaluation Scores

Action Steps based on Observation and Evaluation Scores

Deep Dives into Assessments

Understanding How Students Scored at a Network, School, and Classroom Level

FERPA Compliant

School Trends/Teacher Trends/Demographic Trends

Uplift's Data and Data Needs

Predictive Analytics

Integration of Multiple Data Sources – Tests, Grades, Attendance

FERPA Compliant

Ability to See Trends

Understanding How Students Scored at a Network, School, and Classroom Level

FERPA Compliant

Understanding Perception of Staff

Post-Training Surveys

End of Quarter Surveys

Annual Great Places to Work Survey

All of This Needs to Be Easily Accessible

How We Got Here

2011/12: Grant to Build an Interactive Data Platform

Michael and Susan Dell Foundation Sponsored

After Research, Tableau and Tableau Server Selected as our Platform

2012: First Forays into Dashboards

Standards Tracking Dashboard – First Dashboard Created

National Assessment Dashboards – Measures of Academic Progress

Dashboards deployed in SharePoint iframe

2013: Begin Integrating Data Sources via Tableau

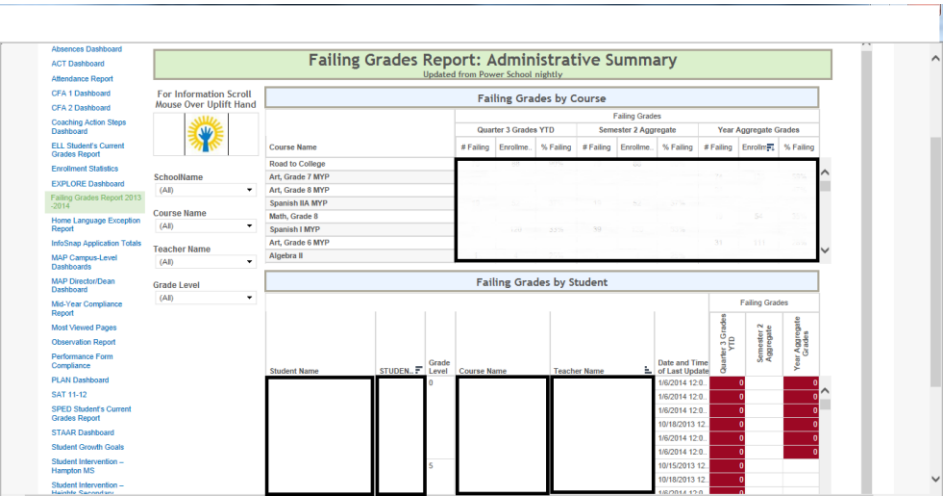
Common Assessment Dashboards

Failing Grades Report

Measures of Academic Progress Dashboard

EXPLORE, PLAN, ACT Dashboard

How We Got Here: 2013

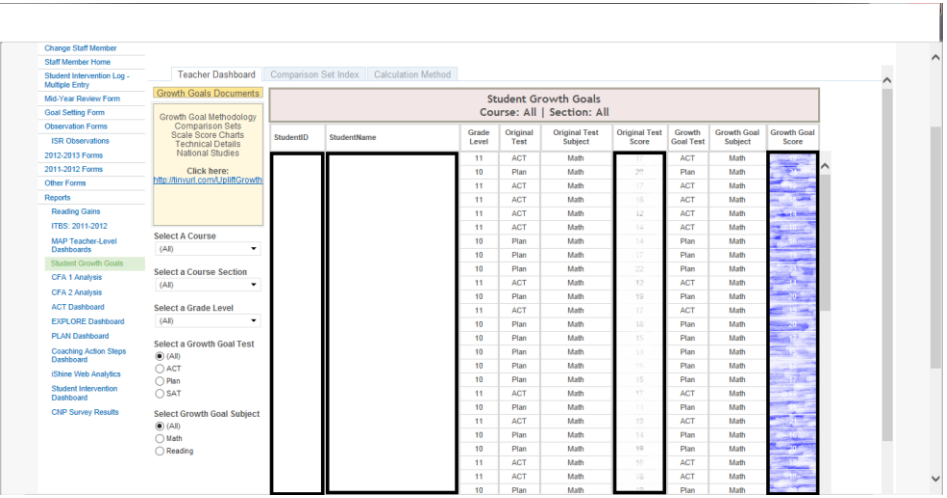


This is the initial version of our Failing Grades Report

We originally put our dashboards in an iframe within SharePoint

However, the user experience was limited and precious screen space was taken up.

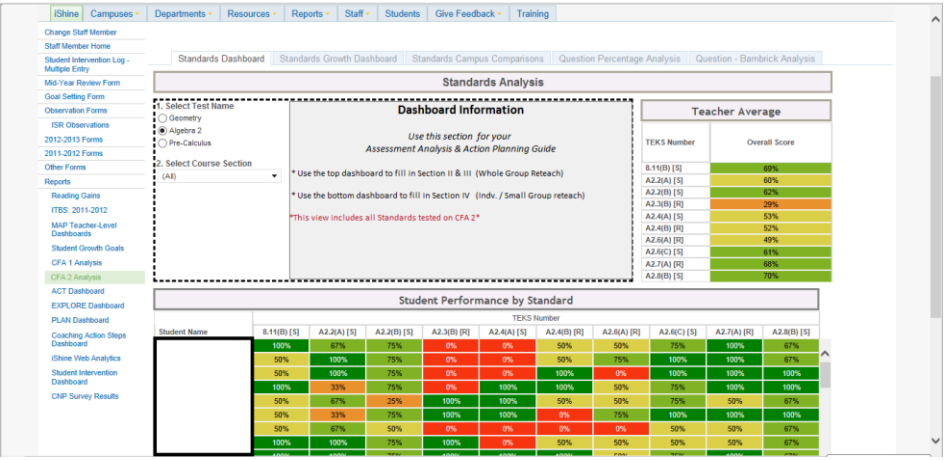
How We Got Here: 2013



This is the initial version of our Student Growth Goals Dashboard

We started with boxy dashboards that were really more like filterable tables

How We Got Here: 2013



This is the initial version of our Common Assessment Dashboard

We took advantage of the coloring and filtering properties to brighten things up, but were using Tableau as a snazzier version of excel

How We Got Here

2014: Using the Power of SQL to Integrate Data Sources and Unleashing Tableau Server

Creating Custom SQL Queries, Views, and Stored Procedures to Improve Dashboard Performance

Customizing Tableau Server and Utilizing Active Directory for FERPA

2015: Predictive Analytics, Standards Level Data, and Student Growth Goals

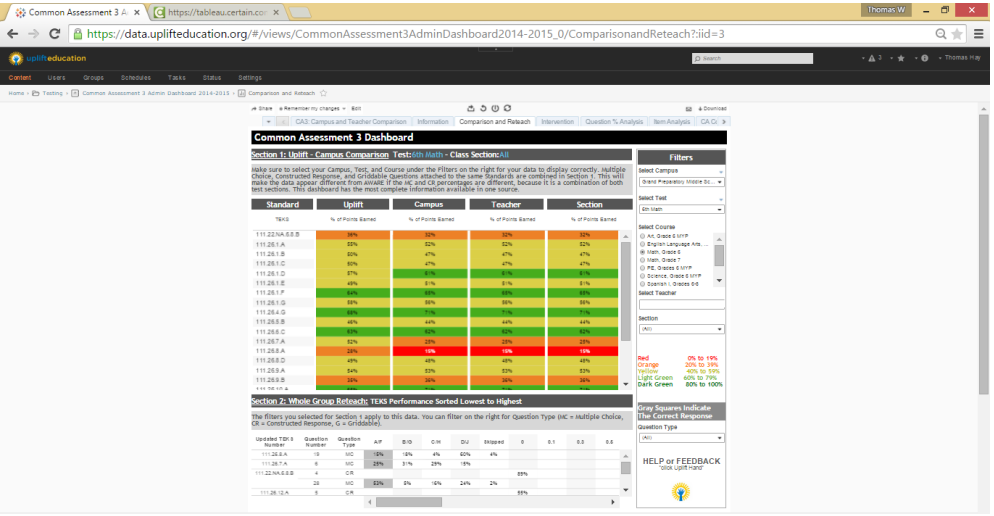
Dashboards to Display Student Test Predictions

Scholar Profile Dashboard

Student Growth Goals Dashboard

2015: Partnership with A Local School District to Display Data for a Subset of Their Teachers

How We Got Here: 2014

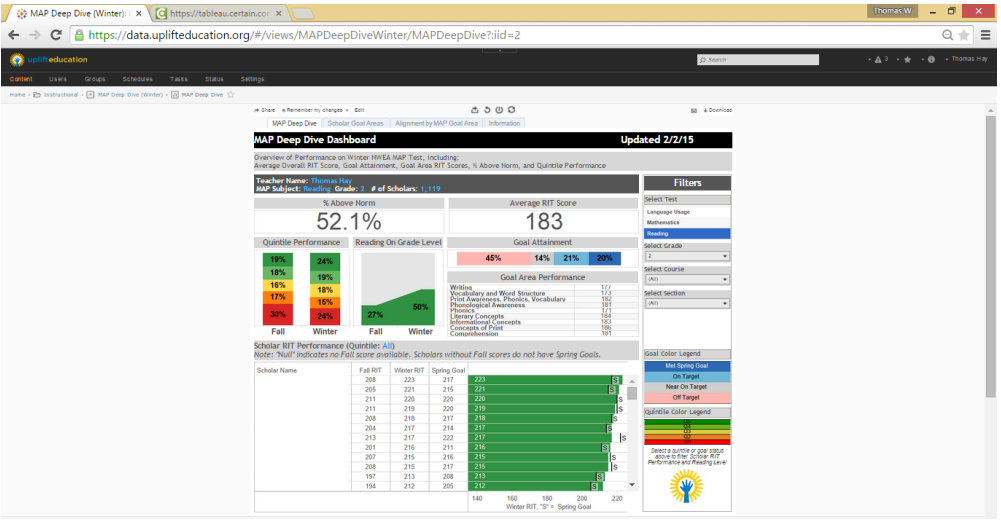


This is an updated version of our Common Assessment Dashboard

We redirected our teachers directly to Tableau Server, improving their user experience and dashboard size

We created a standardized format for our filters, which we have continued to improve

How We Got Here: 2014

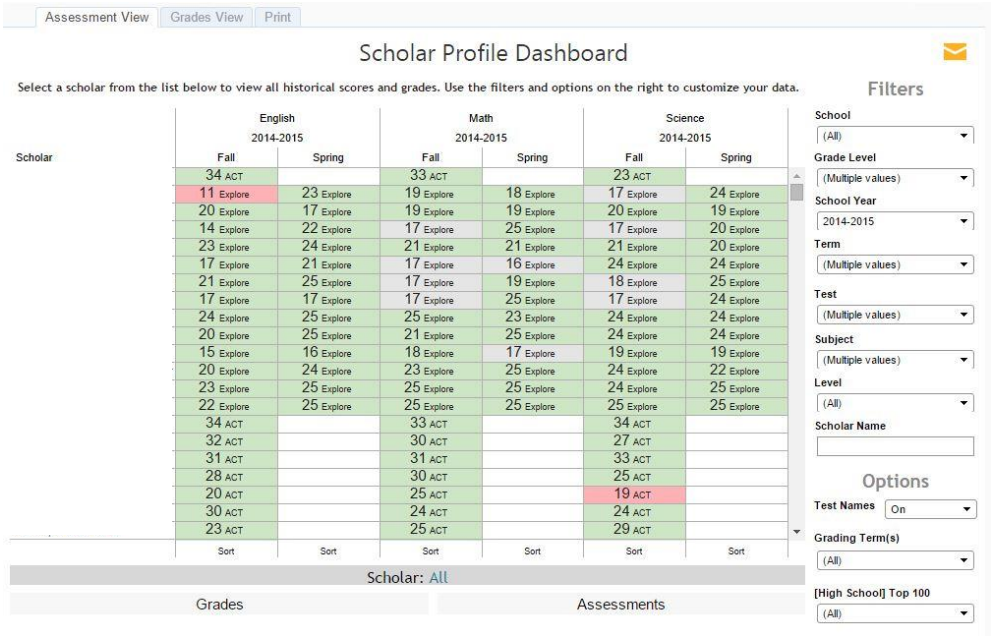


This is an updated version of our Measures of Academic Progress Dashboard

More color coding, Less Excel Like, and easier for our teachers to use and understand

We also began utilizing action filters

How We Got Here: 2015



This is an updated version of our Scholar Profile Dashboard

Cleaner displays have won over teachers and easy export/print features have become standard

Adding the “Apply” options to our filters to improve performance and only filter when prompted

How We Got Here

2016: Algorithmic Recommendations and JavaScript API

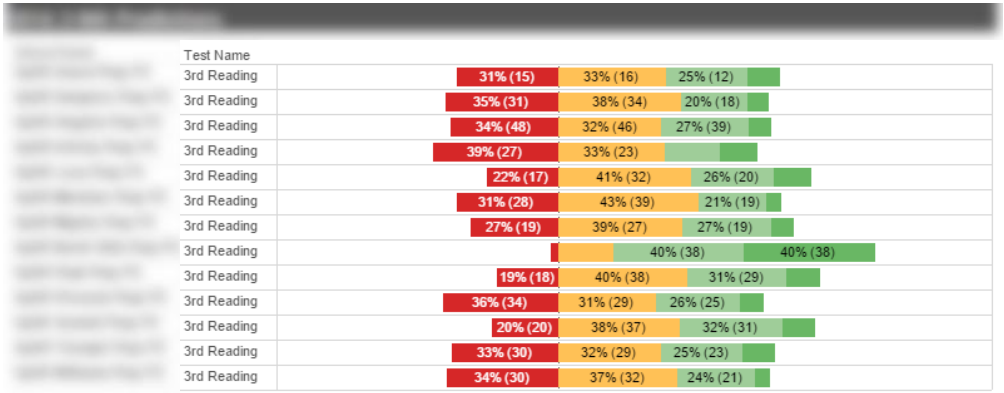
Dashboard to Link Student Test Predictions with Highest Value Teachable Standards

Dashboard to Predict School Level Accountability

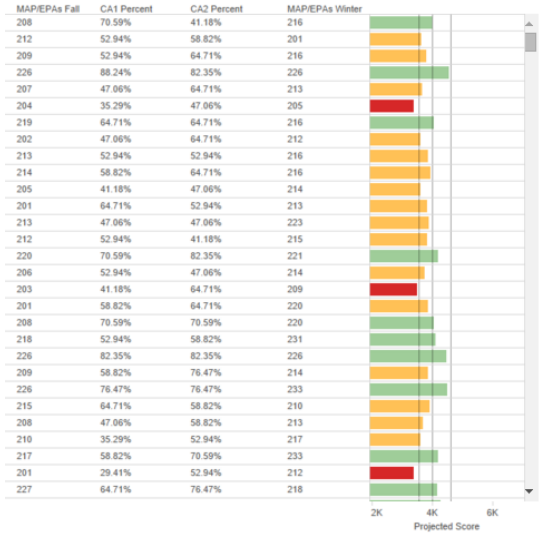
Recommendations based on Student and Teacher Data

Using the JavaScript API to customize UI and add automated batch printing functionality

How We Got Here: 2016



Test Name			
3rd Reading	31% (15)	33% (16)	25% (12)
3rd Reading	35% (31)	38% (34)	20% (18)
3rd Reading	34% (48)	32% (46)	27% (39)
3rd Reading	39% (27)	33% (23)	
3rd Reading	22% (17)	41% (32)	26% (20)
3rd Reading	31% (28)	43% (39)	21% (19)
3rd Reading	27% (19)	39% (27)	27% (19)
3rd Reading		40% (38)	40% (38)
3rd Reading	19% (18)	40% (38)	31% (29)
3rd Reading	36% (34)	31% (29)	26% (25)
3rd Reading	20% (20)	38% (37)	32% (31)
3rd Reading	33% (30)	32% (29)	25% (23)
3rd Reading	34% (30)	37% (32)	24% (21)



MAP/EPAs Fall	CA1 Percent	CA2 Percent	MAP/EPAs Winter
208	70.59%	41.18%	216
212	52.94%	58.82%	201
209	52.94%	64.71%	216
226	88.24%	82.35%	226
207	47.06%	64.71%	213
204	35.29%	47.06%	205
219	64.71%	64.71%	216
202	47.06%	64.71%	212
213	52.94%	52.94%	216
214	58.82%	64.71%	216
205	41.18%	47.06%	214
201	64.71%	52.94%	213
213	47.06%	47.06%	223
212	52.94%	41.18%	215
220	70.59%	82.35%	221
206	52.94%	47.06%	214
203	41.18%	64.71%	209
201	58.82%	64.71%	220
208	70.59%	70.59%	220
218	52.94%	58.82%	231
226	82.35%	82.35%	226
209	58.82%	76.47%	214
226	76.47%	76.47%	233
215	64.71%	58.82%	210
208	47.06%	58.82%	213
210	35.29%	52.94%	217
217	58.82%	70.59%	233
201	29.41%	52.94%	212
227	64.71%	76.47%	218

2K 4K 6K
Projected Score

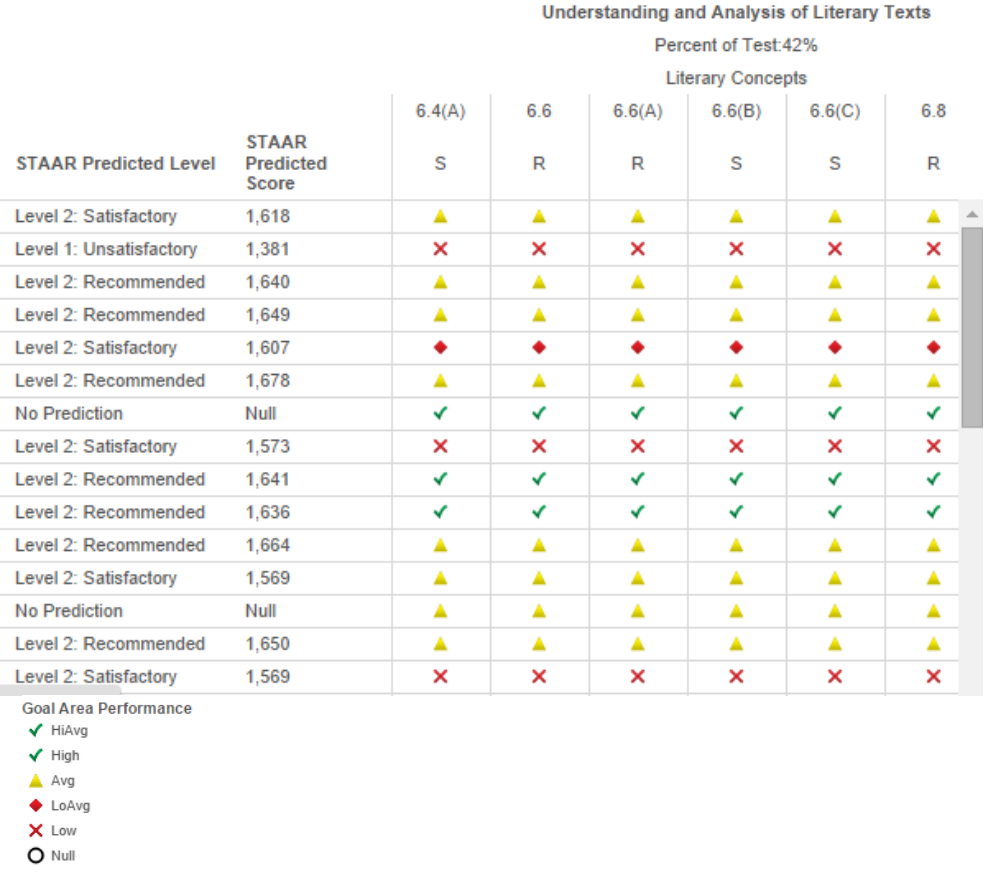
STAAR Predictions Dashboard

Clean Display of the Percentage of Students Expected to Pass

We include a Student List of Predictions that Highlights Where We Predict Our Students Are At

We Are Encouraging Our Teachers and Principals to Use this Information to Focus Instruction

How We Got Here: 2016



Understanding and Analysis of Literary Texts

Percent of Test:42%

Literary Concepts

STAAR Predicted Level	STAAR Predicted Score	6.4(A) S	6.6 R	6.6(A) R	6.6(B) S	6.6(C) S	6.8 R
Level 2: Satisfactory	1,618	▲	▲	▲	▲	▲	▲
Level 1: Unsatisfactory	1,381	✕	✕	✕	✕	✕	✕
Level 2: Recommended	1,640	▲	▲	▲	▲	▲	▲
Level 2: Recommended	1,649	▲	▲	▲	▲	▲	▲
Level 2: Satisfactory	1,607	◆	◆	◆	◆	◆	◆
Level 2: Recommended	1,678	▲	▲	▲	▲	▲	▲
No Prediction	Null	✓	✓	✓	✓	✓	✓
Level 2: Satisfactory	1,573	✕	✕	✕	✕	✕	✕
Level 2: Recommended	1,641	✓	✓	✓	✓	✓	✓
Level 2: Recommended	1,636	✓	✓	✓	✓	✓	✓
Level 2: Recommended	1,664	▲	▲	▲	▲	▲	▲
Level 2: Satisfactory	1,569	▲	▲	▲	▲	▲	▲
No Prediction	Null	▲	▲	▲	▲	▲	▲
Level 2: Recommended	1,650	▲	▲	▲	▲	▲	▲
Level 2: Satisfactory	1,569	✕	✕	✕	✕	✕	✕

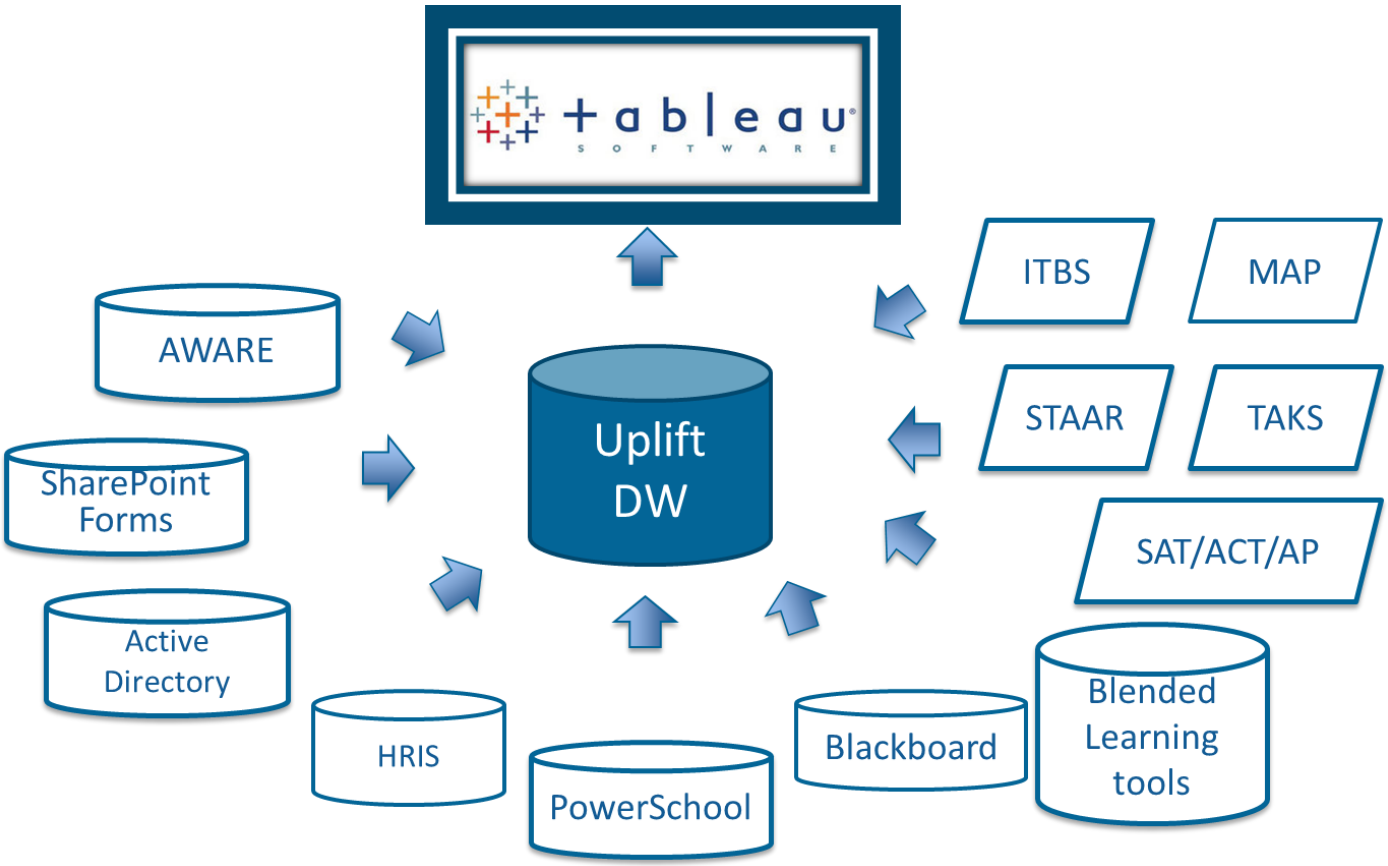
Goal Area Performance

- ✓ HiAvg
- ✓ High
- ▲ Avg
- ◆ LoAvg
- ✕ Low
- ○ Null

We Have Just Rolled Out An Alignment of Predicted Scores to Skills Mastery, Based on a Student's Historical Assessment Data

This Should Allow Our Teachers and Principals to Act Strategically – Moving Beyond a Prediction and to Action Based on Data

Uplift's Data Model/Architecture



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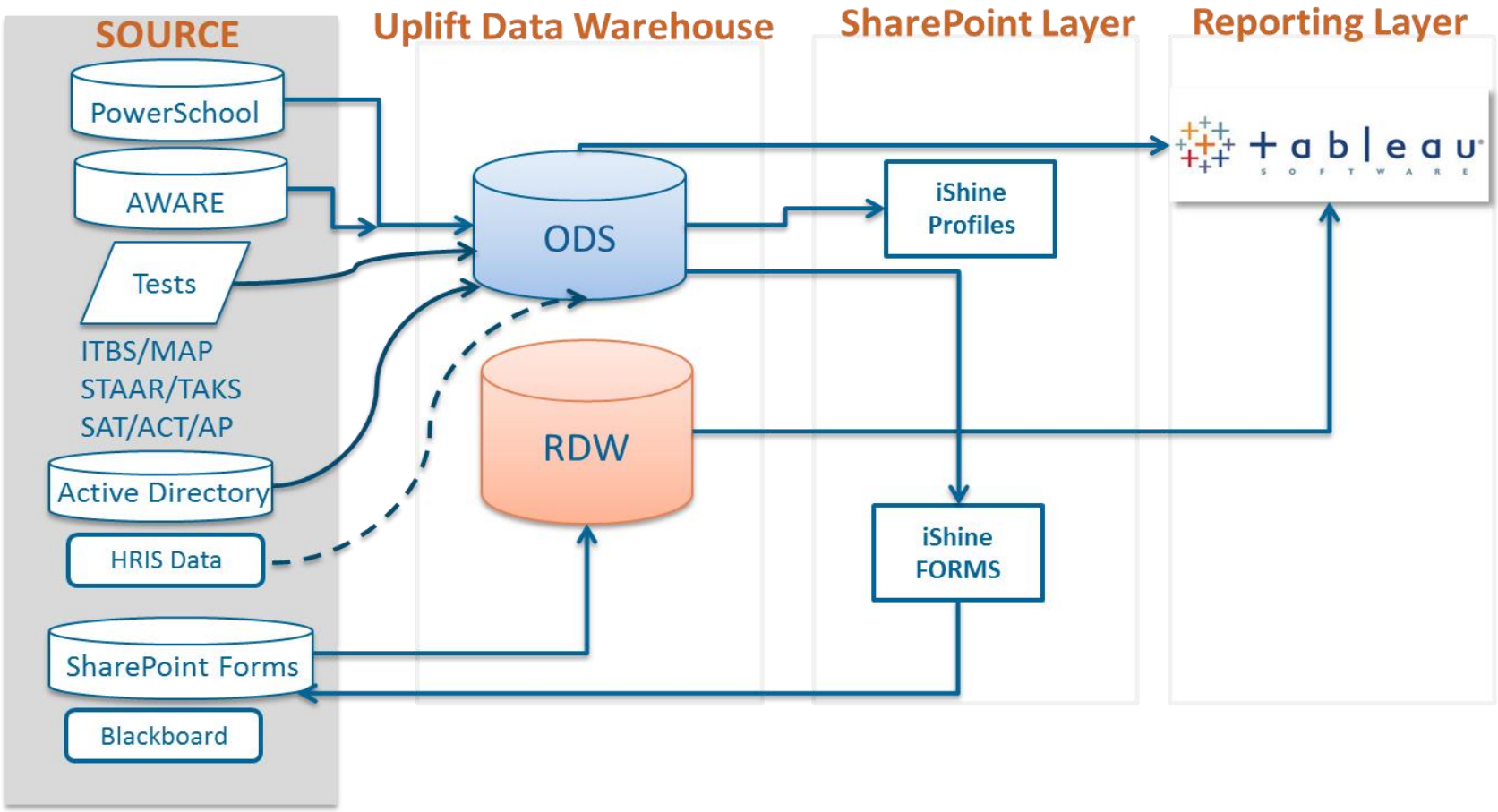

Using Tableau to Drive Collaboration

Three Times a Year All Uplift Instructional Staff Come Together

Review Data via a Dashboard on Student Performance

Almost Every Subject/Teacher has a Data View

Over the Course of Collaboration Day, 800 Teachers are Viewing Data

Sometimes Hundreds Simultaneously

This Experience is Made Possible By Tableau and Tableau Server

Originally, We Used an External Vendor Product to Display the Data

After Trial and Error, We Were Able to Use Tableau to Display the Data

We Created an FTP with the Data Source so Data Within This Dashboard Updates Hourly as New Data Comes In

Using Tableau to Drive Collaboration

Uplift Does Collaborative Data Analysis Using Tableau Where Appropriate and Useful

All Leaders View Data Together via Tableau Dashboards at our Bi-Annual Leadership Academy and our thrice yearly Intersession

Grade Level Teams or School Can Use Dashboards During Planning

Meetings within the Organization Include Data Dives to Examine Data and Analysis Contained in our Dashboards

We Have Unleashed the Power of Data Analysis

Teachers Can Analyze Data Together and Share Best Practices

Teachers Can See Performance Benchmarks

We Have Begun Including Predictions of Student Scores on Year End State Tests, Adding More Data for the Teachers to Use

DEMO

Lessons Learned

Change Management is the Key to Success

Tableau is an Amazing Dashboarding and Analysis Tool

Don’t Treat It as a Change Management Tool

You Have to Show Your Users Why They Should Go To Tableau Server – And How It Makes Their Lives Easier

Train Your Users

The Dashboard Seems Intuitive to You because You (or a Teammate) Made It

Our Team Has to be Data Coaches in Addition to Data Analysts

We Spend 10% to 20% of our Time on Campuses, Working with Teachers and Leaders to Review Data, Train Them Up on New Dashboards, or Gathering Requirements Based on User Feedback

Lessons Learned

Show Your Users How to Export Data

Teachers are going to want to Export Data from whatever system you are using, so you might as well train them in the right way to do it

The User Experience Matters

Our Users Don’t Have Time to Watch The Wheel Spin as Data Loads, Data Needs to Load Within 5 Seconds or Less of a Click, or it won’t be Used at All.

Filters Must Be Intuitively Placed

If Not, Filters Effectively Don’t Exist and Won’t Be Used

Tell Users When You Are Making Updates

They Appreciate Knowing When the Format is going to Change, or if their Favorite Feature is Going Away

Lessons Learned

Know Your Server Capacity

Forcing 800 Teachers onto Your Server All At Once Will Crash It When You Only Have Capacity for ~100 Simultaneous Users

Keep Your Active Directory Up to Date

Or Else The Row Level Security You Have Put In Place Might Not Work the Way You Intended – No One Can See Anything

This is FERPA Compliant, but not Particularly Useful

Test, Test, Test, Test

Less Surprises from Users is Better Than a Deluge of Emails

In Some Instances, A Static Display is Better Than A Dynamic Dashboard

It's Up to You to Determine When That is, but you Learn Quickly from Experience

Q&A

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Building a Data Driven Culture Through Analytics Q&A

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(Please stay tuned following the Q&A session for additional slides with important resources and Web seminar archive access information.)

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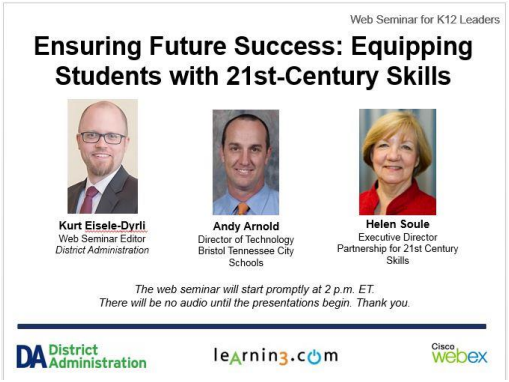
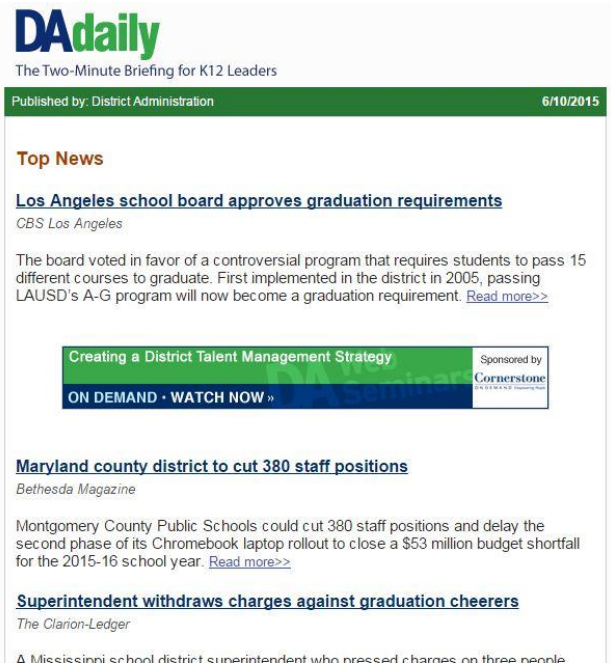
District Administration is the leader in editorial coverage of the current trends and pressing issues facing leaders of K12 education.

Magazine

Online



Web Seminars



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