Data Analysis Report
Committee
February 27, 2019

Agenda

• Ed law 2-d and Data Privacy Regulations- Dr. Madalyn Romano
• Cognos Analytics (Version 11)
• School Climate Survey
• Visualization Tools
Cognos Analytics (Version 11)

- Completely new reporting environment
- Designed for more visual representations
- Competing with Tableau, Power BI, Qlikview
- Report creation tools
- Dashboard creation tools
- Gradual release of new features

## 2.1 Grade 3 ELA Building Benchmark (Curriculum) Analysis

**2017-18 School Year**

**Objective:** Provide a clear understanding of student performance in reading literacy and informational text.

### Standards

<table>
<thead>
<tr>
<th>Standard</th>
<th>% of Questions (%)</th>
<th>Literacy (W)</th>
<th>Reading Informational Text (W)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RL.3.3 Describe characters in a story (e.g., their traits, motivations, or feelings) and explain how their actions affect the events in the sequence of events</td>
<td>51%</td>
<td>27%</td>
<td>13%</td>
</tr>
<tr>
<td>RL.3.3 Describe the main idea of a text, recount the key details, and explain how they support the main idea</td>
<td>42%</td>
<td>50%</td>
<td>22%</td>
</tr>
<tr>
<td>RL.3.4 Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 3 topic or subject area</td>
<td>56%</td>
<td>33%</td>
<td>23%</td>
</tr>
<tr>
<td>RL.3.1 Use information gained from reading (e.g., notes, photos, diagrams) to demonstrate understanding of the text (e.g., where, when, why, and how key events took place)</td>
<td>50%</td>
<td>50%</td>
<td>50%</td>
</tr>
<tr>
<td>RL.3.2 Summarize main ideas, including details, facts, and quotes from diverse cultures; determine the central message, lesson, or moral and explain how it is conveyed through</td>
<td>51%</td>
<td>51%</td>
<td>51%</td>
</tr>
</tbody>
</table>
Testing Cognos 11

• Please let us know if you would like to participate in testing the new system over the next few weeks.
• Contact:
  Mark Samis  msamis@lhric.org
  or
  Steve Liu  sliu@lhric.org
New York State’s School Climate Survey Pilot

- 2016-17 School Year Testing Pilot
  - 6 school districts (Buffalo, Rochester, Schenectady, Skaneateles, West Genesee, Niskayuna)

- 2017-18 School Year Pilot
  - Approximately 40 school districts and charter schools participating

- 2018-19 School Year Testing Pilot
  - 105 school districts and charter schools participating

- 2019-20 School Year
  - All districts will administer school climate surveys

ED School Climate Surveys (EDSCLS)

- NYSED- suggested survey (mandatory under ESSA regs)
- This is a Federal Education Department Survey
- Administered at the convenience of the district
- Formal introduction letter templates available on website
- For Students, Instructional Staff, Non-Instructional Staff, Parents
- All Surveys administered online
- Reports immediately available and based on Federal rubric
MEASURING 3 DOMAINS AND 13 TOPICS

ENGAGEMENT
- Cultural and Linguistic Competence
- Relationships
- School Participation

SAFETY
- Emotional Safety
- Physical Safety
- Bullying
- Substance Abuse
- Emergency Readiness Management

ENVIRONMENT
- Physical Environment
- Instructional Environment
- Physical Health
- Mental Health
- Discipline

SURVEYING STUDENTS, STAFF, AND PARENTS

IMPLEMENTATION OPTIONS

VARIANCE BETWEEN OPTIONS

<table>
<thead>
<tr>
<th>OPTION 1</th>
<th>OPTION 2 &amp; 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED PLATFORM</td>
<td>VENDOR PLATFORMS</td>
</tr>
</tbody>
</table>

IMPLEMENTATION SETUP
- ED Platform: Vendor Hosted
- Vendor platforms: Vendor Hosted

CONCURRENT USERS
- ED Platform: Unlimited
- Vendor platforms: Unlimited

REPORTS
- ED Platform: USDE Reports
- Vendor platforms: USDE Comparable Reports, Vendor Partner Developed Reports, Possible Regional Reports

ANALYTICS
- ED Platform: December 2017 R Code and Psychometric Benchmarking Enhancements
- Vendor platforms: EdVista's, LinkHub: December 2017 R Codes and Psychometric Benchmarking Enhancements, Unknown for Other Vendors(s)

STATE REPORTING
- ED Platform: Not Required at this Time
- Vendor platforms: Not Required at this Time

FISCAL PLANNING
- ED Platform: License Fees (Backloaded Over Three Years)
- Vendor platforms: Account Administration (Staff, Students, and Parents), Survey Administration Training, Data Analysis Support

Readiness concerns and option limitations are highlighted in red.
What are the Expected Outcomes?

- Increased awareness of areas of need in school or district
- Increased dialogue between students, staff, parents about school culture and climate
- Data to inform policy and improvement
- Ultimately, better engaged and happier students, staff and parents – resulting in improved student outcomes

https://safesupportivelearning.ed.gov/edscls
Survey Question Counts

• Student ..........................73
• Instructional Staff ..........83
• Noninstructional Staff ......92-104 (Principal)
• Parent ..............................43

Survey Questions:
US Department of Education (USDE)  
Sample Questions Student School Climate Survey

9. Adults at this school treat all students respectfully.
   - Strongly Agree
   - Agree
   - Disagree
   - Strongly Disagree

10. People of different cultural backgrounds, races, or ethnicities get along well at this school.
    - Strongly Agree
    - Agree
    - Disagree
    - Strongly Disagree

US Department of Education (USDE)  
Sample Questions Parent School Climate Survey

18. My child is safe at this school.
    - Strongly Agree
    - Agree
    - Disagree
    - Strongly Disagree

19. Racial/ethnic conflict among students is a problem at this school.
    - Strongly Agree
    - Agree
    - Disagree
    - Strongly Disagree
Procedure

- Request survey from LHRIC (msamis@lhric.org) via form:
- Please provide number of Students, Instructional Staff, Noninstructional Staff and Parents
- You do not need to survey all these groups
- You can survey only those who you would like to survey but it is recommended that for valid reports, you survey at least 25 people in a single group unless you are just sampling or testing.
- Survey tickets with logins will be emailed to you
- Survey is anonymous
Student Survey Results from a Buffalo Middle School
Environment/Mental Health Subdomain

The USDE surveys summarize student survey results by subdomain and student gender, race/ethnicity, and grade.

Student Survey Results from a Buffalo Middle School
All Subdomains

Schools may compare the results of the USDE surveys across all subdomains, for all students, or for student subgroups.
2018-19 Pilot: Expectations

- **Pilot Districts should:**
  1. Develop a school climate mission statement and choose a School Climate Framework
  2. Establish a Community Engagement Team that is focused on school climate improvement
  3. Administer the US Department of Education school climate surveys to students, staff (instructional and non-instructional), and parents in Spring 2019
  4. After the close of the survey window, generate reports that summarize the survey response data, review and analyze the survey data (and other pertinent data such as chronic absenteeism data, school discipline or violent incident data, etc.) with the Community Engagement Team
  5. Create and implement an action plan and framework with the Community Engagement Team to address areas of need

The purpose of the school climate index is to give school administrators a tool to use to better understand how students, staff and parents feel about your school and how to improve the school climate so students are ready to learn and succeed.

Suggestions on How to Start ........

- Establish a District / School Framework and Mission Statement
- Assemble Survey Planning Team
- Decide upon desired platform to administer the Climate Survey
  - Regional Information Centers can provide information about options for administering the School Climate Survey (if desired)
- Establish Community Engagement Team
- Identify Communication Methods
- Identify necessary resources
District Planning and Decision Making

**Survey Planning Team**

- The Survey Planning team determines how best to administer the survey in the district, given the resources of the district and schools, and the characteristics of the students, staff and parents being surveyed. This team also determines the need and cost for outside resources.

- An example of the Survey Planning Team would be:
  - District and School Leadership
  - District Survey Administrator (or Administrative Team)
  - School Survey Coordinator(s)

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**Survey Results**

District Survey Administrator or Administrative Team

After survey window closes, the District Survey Administrator generates results and meets with School/District Leadership to discuss the survey outcome.

- **Reporting**
  - Understand the reports provided with the application and how to capture the survey results from the database
  - Determine the necessary staff resources, cost, and timeframe to produce reports

- **Communication**
  - Communicate results to School/District Leadership
  - School/District Leadership communicates results to Community Engagement Team
  - Analyze the survey data (and other pertinent data such as chronic absenteeism data, suspension and dropout data, violent incident data, etc.) with the Community Engagement Team
  - Create and implement an action plan and framework with the Community Engagement Team to address areas of need (Social Emotional Learning, Trauma Informed Practices, Restorative Practices, PBIS etc.)
Data Visualization Applications

Edward Tufte:  http://edwardtufte.com

https://www.youtube.com/watch?v=AdSZJzb-aX8
Visualization Tools: GapMinder

https://www.youtube.com/watch?v=BPt8ETQxMjg
https://www.youtube.com/watch?v=jbkSRLYSojo

https://www.gapminder.org/tools/#chart-type=bubbles
Anonymizing your Data- https://mockaroo.com/

Mock your back-end API and start coding your UI today.

It's hard to put together a meaningful UI prototype without making real requests to an API. By making real requests, you'll uncover problems with application flow, timing, and API design early, improving the quality of the end user experience and UI. With Mockaroo, you can design your own mock API, control the UI's responses, and error conditions. Paradigm UI and API development, and just delivering better applications faster today!

The New York Times

Brazil 2014

THE CLUBS THAT CONNECT THE WORLD CUP

By GREGOR JUSCH  JUNE 20, 2014

The best national teams come together every four years, but the global tournament is mostly a remix of the professional leagues that are in season most of the time. Three out of every four World Cup players play in Europe, and the top clubs like Barcelona, Bayern Munich and Manchester United have players from one end of the globe to the other.

Brazil vs. Argentina
Microsoft Power BI
The EDM District Enrollment Dashboard displays enrollment totals by a variety of categories. Most can be used as interactive filters for insight. Key Performance Indicators (KPIs) like "At Risk" direct attention based on predefined goals.

For more information: bigdata@doll.com

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Compare student trends against the class, campus or district & spot outliers in assessments, grades or attendance. For example, a high average daily attendance might hide a problem at the period level.

For more information: bigdata@doll.com
Dell Education Data Management
Alium Middle School | Instructor Profile

ARNICLO, KEITH
Teacher Name
DA419
Teacher ID

Grade Avg
70.2
Grade 70.0: D

Attendance
94%
Goal: 95%, 657

At Risk
5.2%
Goal: 0.3, 0.3

Student Count
50

Cumulative Class Average

<table>
<thead>
<tr>
<th>Course</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algebra 1 A</td>
<td>65.4</td>
</tr>
<tr>
<td>Func Math 4</td>
<td>65.8</td>
</tr>
<tr>
<td>Geometry A</td>
<td>67.4</td>
</tr>
<tr>
<td>Geometry M</td>
<td>70.2</td>
</tr>
</tbody>
</table>

For more information: tagsdata@dell.com

Dell Education Data Management
South East High School | Student Success Explorer

Explorer views display students with several filter & sort options. The
table below helps find students At Risk, or those having a high probability
of not graduating on time. Contributing factors to this model are also displayed.

For more information: tagsdata@dell.com
Tableau

<table>
<thead>
<tr>
<th>Grade</th>
<th>Gender</th>
<th>Race</th>
<th>Guardian</th>
<th>Phone Numb</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>Male</td>
<td>White</td>
<td>N. Leavon</td>
<td>909-222-3</td>
</tr>
</tbody>
</table>

### Student Performance This Year

- **Growth and** Loss since January
- **English**
  - January: 73.5%
  - March: 86.7%
  - April: 85.1%
- **Math**
  - January: 66.7%
  - March: 74.3%
  - April: 72.0%
- **Science**
  - January: 66.7%
  - March: 71.2%
  - April: 68.3%

### Student Performance Since 2012

- **English**
  - 2012: 66.7%
  - 2013: 66.7%
  - 2014: 66.7%
  - 2015: 66.7%
- **Math**
  - 2012: 74.0%
  - 2013: 66.7%
  - 2014: 66.7%
  - 2015: 66.7%
- **Science**
  - 2012: 66.7%
  - 2013: 66.7%
  - 2014: 66.7%
  - 2015: 66.7%
Visualizations in Excel: Map 3D
NOAA: SOS Explorer
Get SOS Explorer Lite

https://sos.noaa.gov/sos-explorer/download-sos-explorer-lite/
What will Students Need as Skills for this Century?

• The world is going to be inundated with data. And as a result, most occupations will continually evolve in unpredictable ways.

• “Knowing how to ask provocative questions, use data to make decisions, and evaluate imperfect information will be increasingly valuable,” he said. “And going forward, learning can’t be something you do only in the first couple decades of your life.”

    Michael Chui, Partner, McKinsey Global Institute

Thank you!

The LHRIC Data Analysis Team